Chapter 15
Significance of Metadata

K. Nazeer Badhusha
Mohamed Sathak Engineering College, India

ABSTRACT

Metadata is structured data that describes the characteristics of a resource. It shares many similar characteristics to the cataloguing that takes place in libraries, museums, and archives. The term "meta" derives from the Greek word denoting a nature of a higher order or more fundamental kind. A metadata record consists of a number of predefined elements representing specific attributes of a resource, and each element can have one or more values. The emerging trend of ICT has actively engaged the metadata harvesting protocol of the open archives initiative. The metadata harvesting initiative targets information generally inaccessible through standard browser searches, such as information stored in databases or within library online public access catalogs. The authors present this topic as an information technology-based initiative with the potential to provide information about the usefulness of metadata: in particular the Dublin Core metadata standard, but also other metadata standards, as the protocol design supports community-specific schemas as well. This represents the developers, commercial information providers, funders, and members of the scholarly publishing community. Along with the interests and concerns of each of these stakeholders and about specific applications of the protocol, the authors identify potential questions that will ultimately need to be addressed.

INTRODUCTION

Leveraging technology in order to expand and improve access to and use of information continues to be an area of active applied research in many libraries. Metadata is structured data that describes the characteristics of a resource. It shares many similar characteristics to the cataloguing that takes place in libraries, museums, and archives. The term "meta" derives from the Greek word denoting a nature of a higher order or more fundamental kind. A metadata record consists of a number of pre-defined elements representing specific attributes of a resource, and each element can have one or more values. Table 1 is an example of a simple metadata record.

DOI: 10.4018/978-1-4666-2500-6.ch015

Table 1. A simple metadata record

Description	Value Entry
Title	Web catalogue
Creator	K. Nazeer Badhusha
Publisher	Mohamed Sathak Engineering College
Identifier	http://www.msec.org
Format	Text/html
Relation	Central Library

METADATA FACILITY FOR JAVA

J2SE 5.0 introduces a new program annotation facility. With this facility, one can define custom annotations and annotate fields, methods, classes, and other program elements. These annotations do not typically directly affect the semantics of the program, but tools can inspect these annotations to generate additional constructors (such as deployment descriptors) or enforce a desired runtime behavior. Annotations can be inspected through source parsing (for example, compilers or IDE tools) or at runtime using the extended reflection. Annotations can be configured to be made available only at the source-code level, at the compiled class level, or at runtime. All annotations proposed in the JSR 181 Early Draft have a Retention Policy of RUNTIME. This marginally increases the memory footprint of the class but makes the lives of the Container Provider and JSR 181 Processor Providers much easier.

CHARACTERISTIC OF METADATA

Each metadata schema will usually have the following characteristics:

- A limited number of elements.
- The name of each element.
- The meaning of each element.

Typically, the semantics is descriptive of the contents, location, physical attributes, type (e.g. text or image, map, or model) and form (e.g. print copy, electronic file). Key metadata elements supporting access to published documents include the originator of a work, its title, when and where it was published, and the subject areas it covers. Where the information is issued in analog form, such as print material, additional metadata is provided to assist in the location of the information, e.g. call numbers used in libraries. The resource community may also define some logical grouping of the elements or leave it to the encoding scheme. For example, Dublin Core may provide the core to which extensions may be added.

Some of the most popular metadata schemas include:

- Dublin Core
- Anglo-American Cataloging Rules (AACR2)
- Government Information Locator Service (GILS)
- Encoded Archives Description (EAD)
- IMS (IMS Global Learning Consortium)
- Australian Government Locator Service (AGLS)

While the syntax is not strictly part of the metadata schema, the data will be unusable, unless the encoding scheme understands the semantics of the metadata scheme. The encoding allows the metadata to be processed by a computer program. Important schemes which includes:

- Hyper-Text Markup Language (HTML)
- Standard Generalised Markup Language (SGML)
- eXtensible Markup Language (XML)
- Resource Description Framework (RDF)
- Machine Readable Cataloging (MARC)
- Multipurpose Internet Mail Extensions (MIME)