3.1. Representation: The foundation

Overview

This series of modules explores two key concepts related to information organization: representation and metadata. Through these modules, you'll gain a deeper understanding of the power of representations to assist or inhibit users from discovering and accessing information. We'll examine several examples of representation used in libraries and other environments.

As part of this series, we'll also discuss the role of metadata as a form of representation. Metadata provides a structured approach to creating representations to organize information. We'll discuss some key metadata schemes and point you to resources for further independent investigation.

The concepts of representation and metadata allow us to think in new ways about what libraries have done for centuries. In particular, we'll emphasize how these concepts can provide a foundation for flexible and customizable information organization schemes. These modules will underscore the idea that there is no single, right representation of information objects. Rather, appropriate representations must be created that communicate to users to assist them in connecting with the information they need.

Why is the concept of representation important?

It is likely that before the beginning of this class, you never framed the activity of information organization in terms of representation. But think about your experiences in seeking information in organized (or unorganized) collections of information objects. Let's assume you realize that you need some information to answer a question or solve a problem and further assume that the beginning place to seek that information is in a library. How often do you go directly to the library stacks and select the book or journal that has the information you need?

Let's put this more concretely in terms of an assignment for this course. You have your concept briefing assignment, and you need to do some research on the concept to write your report. How do you begin to find the information that will help you complete your task? One place to begin is the Library and Information Science Resource Bibliography we offer under FAQ & Helps in WebCT. The bibliography contains a list of potentially useful resources. But the list is not the resources themselves; the entries in the bibliography are representations of the resources. For example, here's an entry for the index to Library Literature:

We can assert that the representations describe the resources.

If you choose any of the resources in the Indexes and Abstracts section of the bibliography, the use of those will bring you face to face with another level of representation. For example, the index to Library Literature represents individual articles, papers, and other information objects within the scope of library and information science. You may find by searching Library Literature on the topic of metadata an entry such as the following:

**Author(s):** El-Sherbini, Magda.  
**Title:** Metadata and the future of cataloging.  
**Source:** Library Review (Glasgow, Scotland) v. 50 no1 (2001) p. 16-27  
**Journal Code:** Libr Rev  
**Additional Info:** United Kingdom  
**Standard No:** ISSN: 0024-2535  
**Language:** English  
**Review:** Peer-reviewed journal  
**SUBJECT(S):** Metadata. MARC System -- Applications.  
**Record Type:** article  
**Article Type:** feature article

The point here is that to find a resource or information object that might be helpful to you in writing your concept briefing research report, you have already interacted with two sets of representations! When you get to the actual object, you will be interacting with a tangible recording of the author's ideas, yet another representation.

Most of the tools and technologies offered by libraries to help users find information deal with representations, and often multiple levels of representations.

**Types of representations**

The examples in the preceding section focused on representing information objects. In this course, we will focus much of our attention on this type of representation. Yet in the realm of information organization, there are several types of representations that must be considered.

We can revisit our model of information retrieval and see instances of other types of representation: representation of users' needs and representation of data for machine-processing.
Users realize information needs and attempt to represent those needs to an information system. Their ability to express the needs as **questions** may be dependent on task and domain knowledge. Their **queries**, or searches entered in the information system may be affected by their system knowledge.

Machines (e.g., information retrieval systems) manipulate bits and bytes, which when combined represent letters of the alphabet, images, sounds, etc. And as we'll examine in more detail in modules on databases and information retrieval, machines take the representation we generate of an information object and re-represent the data for processing (e.g., building inverted indexes for fast searching).

In another module, we discuss the development of representations of information objects and take a look at some examples. Ultimately, these types of representations interact when users are seeking information. Further, as we'll see in the module on creating authority control, other representations in information organization systems represent relationships among information objects.

**Summary**

In this introductory module, we examined the importance of the concept of representation for information organization by asserting that users in search of information typically interact with representations of potentially useful information objects prior to accessing the physical object. Because of the pivotal role of representations in connecting users with information, it is a foundation concept for information organization.

We identified three types of representations that need to be considered: representation of the objects, representation of user needs, and representation of data for machine processing.