

## Chapter 2 Supplement

### Introduction to Resource Description and Dublin Core

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#### Questions for Review, Study, or Discussion

##### Resource Description Fundamentals

1. What is *resource description*? What are some other terms often used to designate the same process, as well as some differences in the use of these terms?
2. What are some terms commonly used to designate the things being described, cataloged, or indexed?
3. What is the difference between an *analog* resource, a *digitized* resource, and a *born-digital* resource? What are some examples of each?
4. Can a *collection* of resources be itself considered a resource for purposes of description? What is the relationship between the collection as a whole and the individual resources that comprise it?
5. What is a *complex digital object*? What example is given in the book?
6. What is the meaning of, and the relationship among, the following terms: *description*; *record*; *field*; *tag*, *element*; *property*; *value*; *property-value pair*; *statement*; *surrogate*? How do the examples in Figures 2.3 and 2.4 on pages 29-30 show each of these?
7. What does *granularity* of description mean? What is the difference between a *collection-level* and an *item-level* metadata record or description? How do the values of the elements in Tables 2.1 and 2.2 on pages 31-32 illustrate the differences between these two levels of description? What other aspects of granularity are discussed in Section 2.1.1.3?
8. What is the meaning of the term *repeatability* in the context of metadata elements or database fields? How does the handling of multiple values for a given element vary according to the software system being used? What are the implications for metadata interoperability, in general and in a Linked Data / Semantic Web context?
9. Do all metadata elements or fields serve the same kinds of functions for users of an online digital collection? How do functional requirements for a given collection impact the design of metadata fields and their allowable values? How does the selection of metadata elements/fields and decisions about the values allowed to go into those fields relate to the ability to generate fielded searching, search limits, and drop-down browse menus in user interfaces? See also the examples in Figures 2.6 through 2.10 on pages 34-37.
10. What is the difference between metadata elements/fields that contain purely or primarily descriptive information and those that are indexed? What functions does each serve for users? What is the difference between metadata values that are entered in a *free text* form and those that must be entered in a *standardized* or *controlled* form? What functions does each serve for users? Which kinds of values are meaningful for hyperlinking and navigation among resources that share common characteristics of interest to users?
11. What is the difference between local, collection-specific metadata elements, on the one hand, and elements taken from standard, sharable element sets such as Dublin Core, on the other hand? For what purposes may the standardized elements, such as Dublin Core, be used? What factors should be kept in mind and balanced against each other? Do you have experience with doing this? How do you make decisions?
12. Most digital collections consist of digital resources that are digitized versions of original analog resources. What issues commonly arise for implementers when creating metadata for these resources? What is the *One-to-One Principle*? What is the ideal and what is the most common

- actual method of dealing with recording properties and values for a digitized resource and its analog original when creating single records in digital collection databases today?
13. What is the distinction between *content* and *carrier*? How can this distinction be useful for thinking about the metadata properties and values for a given resource? How can it be useful for thinking about and realizing the One-to-One Principle?
  14. What are some problems with, and potential practical options for, maintaining the One-to-One Principle in practice in most current systems? Do you have experience dealing with these issues? What do you think about the Principle, its ideal goal, its difficulties in practice, and potential options for realizing it in whole or in part?
  15. What kinds of research do metadata creators often need to do when describing digital images and other digital resources? What kinds of sources do they often consult?

### Introduction to the Dublin Core Metadata Element Set

16. What are the DCMI and the DCMES? What are the two namespaces (web locations) for the DCMES and other DCMI metadata terms, and what is the difference between them?
17. What is the difference between Simple and Qualified Dublin Core?
18. How are the 15 simple core elements grouped for coverage in Chapters 3 and 4 of this book?
19. What specifications does the DCMI make about the use of the Dublin Core elements as to which elements are required, which are repeatable, and in what order they should be used? Who makes these determinations? How do they document their decisions?
20. What distinction can be made between the original 15 Dublin Core elements and their original element refinements, on the one hand, and elements and refinements added at a later time, on the other hand? Why is this distinction useful to make? Why are these later elements and refinements not covered in this book?
21. In what ways may Dublin Core metadata be encoded for machine readability? Are any of these inherent to, or required for, Dublin Core itself?
22. What do the following terms mean, and how are they related to each other, in relation to Dublin Core: *element*, *qualifier*, *refinement*, *property*, *subproperty*, *encoding scheme*, *syntax encoding scheme*, *vocabulary encoding scheme*? What are some examples of each?
23. For what purpose was the Dublin Core Metadata Element Set primarily first created? Has Dublin Core been implemented as originally envisioned? Why or why not? In what ways has Dublin Core been implemented, and has it been successful in these contexts?
24. What does it mean to say that Dublin Core can be used as a *mapping*, *switching*, or *pidgin* language or set of metadata elements?
25. Which pairs of Dublin Core elements are most frequently misunderstood, confused, or misused in common practice?

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## Recommended Readings and Resources for Reference or Further Study

### Readings

- DCMI. "DCMI Frequently Asked Questions (FAQ)." 2003. <http://dublincore.org/resources/faq/>.
  - (This FAQ is undergoing revision and will be replaced with a new version later in 2011.)

### Websites and Web resources

- Dublin Core Metadata Initiative (DCMI) website. <http://dublincore.org/>.
- DCMI. "Metadata Basics." <http://dublincore.org/metadata-basics/>.
- DCMI. "Metadata Training Resources." <http://dublincore.org/resources/training/>.

- Hillman, Diane. 2005. "Using Dublin Core."  
<http://dublincore.org/documents/2005/11/07/usageguide/>.
  - (This User Guide is under revision and will be replaced with a new version later in 2011.)
- Woodley, Mary S. 2005. "DCMI Glossary."  
<http://dublincore.org/documents/usageguide/glossary.shtml>
  - (This Glossary is under revision and will be replaced with a new version later in 2011.)

#### Technical documents / official Dublin Core namespaces

- DCMI. "DCMI Metadata Terms." <http://dublincore.org/documents/dcmi-terms/>.
- DCMI "Dublin Core Metadata Element Set, Version 1.1."  
<http://www.dublincore.org/documents/dces/>.

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## Exercises

### Recommended Exercises

1. Look at one or more records from one of the digital collections you found. Print the record and identify the metadata *properties*, *values*, *statements*, and *record* by circling and labeling each. Identify the information *resource* about which the statements are being made, and note how the metadata about that resource is distinct from the resource itself. Review Section 1.1, "What Is Metadata" on pages 1-5, and Sections 2.1.1.1, "Resources," and 2.1.1.2, "Metadata Descriptions and Records," on pages 26-31 of the text.
  - Note: This is the same exercise as Chapter 1 Exercise 2. It may be used with either chapter or with both, reemphasizing the importance of these fundamental metadata building blocks.
  - In addition, for Chapter 2: be aware of, and able to articulate, how the terms *item*, *content item*, *object*, *original object*, *digital object*, *information resource*, *bibliographic resource*, *property-value pair*, *description*, *representation*, *surrogate*, *element*, and *field* overlap with and/or complement the terms *resource*, *property*, *value*, *statement*, and *record*.
2. Find example of diverse kinds of functionality enabled within different digital collections. What options does the collection offer users for such functions as basic keyword searching, fielded searching, application of search limits, browsing, hyperlinking, indexing, and navigation? For this exercise, review especially Section 1.3, "What Does Metadata Do?" on pages 9-10, and Section 2.1.1.5, "Element Functionality" on pages 34-37 of the book.
  - See also the companion website document titled "[Metadata Application Profiles, Records, Functionality, and Quality Examples](#)."
  - In many online collections, the only browse function enabled is alphabetical browsing by title. Can you find a collection that allows browsing by means of meaningful categories such as topical subject, geographic areas, time periods, resource types, and the like? How does the structure and content of the metadata enable this functionality, to the best of your ability to discern that by looking at a few metadata records? What other kinds of richer browsing functionality could be added to one of the collections you selected?
  - Which metadata properties (elements or fields) appear to require values from a controlled vocabulary or entered according to a standardized convention? How does this affect and enable certain kinds of functions for users?
  - In many online collections, you will notice variations in the hyperlinking of words in the metadata records. What types of words do you think should be hyperlinked, which not,

- and why? How should names and subject terms, including precoordinated subject headings with subdivisions, be linked? By individual words or as a complete string of characters? Why? What functionality is enabled or disabled by the way in which words are hyperlinked?
- Find examples of metadata properties and values used for description versus indexing, and of metadata entered in free-text versus standardized or controlled forms, and note the differences in functions for users between the two.
  - See if you can discern some likely functional requirements for the metadata for a given collection, based on the structure of the records and the functionality enabled.
3. Find one or more examples of metadata records that mix statements (properties and values) about an original and a digital resource in the same record.
    - Optionally also: (a) note and/or discuss the ideal and value of the One-to-One Principle, (b) the far more common practice of creating single records with values applicable to both the original and the digital resource, (c) some reasons why most practitioners do this, and (d) some possible options for maintaining the One-to-One Principle in current single-record implementations.
  4. Take one or more metadata records and identify which statements (property-value pairs) apply only to the original physical carrier of the intellectual/artistic content of the resource being represented, which apply only to the digital carrier of that content, and which would seem to apply to the intellectual/artistic content itself, regardless of physical or digital carrier.
  5. Take an example of a set of local, collection-specific elements, or an existing metadata record containing such elements, and map them to the correct or most appropriate Dublin Core elements. Or take the metadata in a MARC record or in some other non-DC metadata scheme, and map it to Dublin Core. In this case, you could imagine that you have a digitized version of the analog resource represented by the MARC record and are creating DC metadata for the digital object.
    - Refer to the information given in Chapter 2, Section 2.2.1 and especially Table 2.10, and also Table 2.12 as an additional aide. You might also wish to refer to the DCMI website.
    - Optionally, also include DC element refinements in your mapping, using the sources above plus Section 2.2.2 and Table 2.14. You may choose to follow the example given in Table 2.15 on page 55 for representing Qualified Dublin Core in a table format.
    - You might also try including some encoding schemes in your mapping, but in many cases they might be difficult to know with certainty.
    - Note: exercises for chapters 3 and 4 will delve deeply into the application of each of the DC elements and refinements and many encoding schemes; this exercise is only a first attempt to dive in and start to gain some initial familiarity with Dublin Core.

### Suggestions for Instructors

- Consider providing students with your own selected records and examples, whether real or invented, for any of the exercises above.
- For Exercise 5, consider providing students with one or more real or invented metadata record(s) consisting of local, collection-specific elements and their values for one or more digital resource(s). You might provide this in a table format in a Word or .rtf document, with columns for the DC mappings left blank, and which students can fill in. You may choose to follow the example given in Table 2.15 on page 55 for representing Qualified Dublin Core in a table format, leaving the middle three columns blank, or some variation on this as suits your teaching purposes. Have your own mapping “answers” prepared for sharing with students, noting where there is ambiguity and/or where more than one DC element or refinement could validly be used. This is also a good

opportunity to reinforce the idea that local institutions decide which qualifiers to use, and that any of these qualifiers may be omitted and the DC metadata will still stand as valid DC.

### Additional Exercise Ideas

1. Examine the supplementary material on the book's companion website titled "[Metadata Application Profiles, Records, Functionality, and Quality Examples](#)." Respond to one or more of the questions in that document for the first scenario. Discuss how the design of a metadata scheme, its documentation in an application profile, and the resulting metadata records enable certain kinds of functionality for end users of these three hypothetical digital collections.
  2. Looking at one or more metadata records, identify which statements (property-value pairs) serve a primarily administrative rather than a primarily descriptive function.
  3. Find one example of a digital collection that uses a single set of broad, general metadata elements applied to a variety of its collections and one example that uses collection-specific elements tailored to the specific content of each specific collection. Compare and contrast the two.
  4. Make a first attempt at creating one or more original simple Dublin Core records for a resource of your choosing for which metadata has not already been created. You might take an analog resource that you own and imagine a digitized version of it. [Instructors might choose to select or invent such a resource.] Use the information given in Chapter 2 Section 2.2.1 and especially Table 2.10, and also Table 2.12 as an additional aide, as well as the DCMI website if you wish. [Note: exercises for chapters 3 and 4 will delve deeply into the application of the DC elements; this is only an informal first attempt to dive in and get your feet wet.]
  5. Make a first attempt at creating a qualified Dublin Core record using the sources above plus Section 2.2.2 and Table 2.14. Follow the example given in Table 2.15 for representing QDC in a table format.
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