Mountain West Digital Library
Dublin Core
Application Profile

Version 2.0
July 20, 2011

MWDL Dublin Core Application Profile

Version	Date	Created/Changed By	Changes Made
1	June 1, 2010	Created by Utah Academic Library Consortium Digitization Committee's Metadata Task Force (2009/10)	First release
1.1	June 7, 2010	Cheryl Walters and Sandra McIntyre	Minor edits and reformatting
2.0	July 20, 2011	Sandra McIntyre on behalf of Utah Academic Library Consortium Digitization Committee's Metadata Task Force (2010/11)	Addition of _genre_ element; changes to _date_, _subject_, _masterChecksum_; _masterCompression_; _masterCreation_; _masterExtent_; _masterFormat_; _masterMedium_; _masterOperatingSystem_; _masterQuality_; _masterSoftware_, **type.**

The Mountain West Digital Library (MWDL) provides a portal (http://mwdl.org) to digital resources in universities, colleges, public libraries, museums, archives, historical societies, government agencies, and other entities in Utah, Nevada, and other parts of the U.S. West. MWDL collection managers and metadata creators use this application profile to guide creation of new metadata records.

Metadata Task Force of the Digitization Committee of the Utah Academic Library Consortium (2009/2011)

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Contents

Introduction

Created by the Mountain West Digital Library (MWDL) Metadata Working Group in 2009/10, this profile superseded the *Metadata Guidelines for the Mountain West Digital Library (2006)*. It is intended to guide the creation of new metadata (i.e., created after June 1, 2010) by members and contributing partners of the MWDL.

The MWDL Dublin Core Application Profile consists of six sections:

I.	Best Practices for All Fields
II.	Explanation of Table Components
III.	Element Tables (in alphabetical order)
IV.	Parsed Preservation Elements about Master Archival Files (Optional)
V.	Vocabulary Encoding Schemes
VI.	Syntax Encoding Schemes

What's new in the Dublin Core Application Profile:
- New structure provides a table for each element
- More information about each element
    - Repeatability
    - How to Use
    - Harvesting implications, when needed
    - Refines/Refinements
    - Mapping for both Dublin Core and MARC
- Major changes in **date** and **identifier** fields
- **digitizationSpecifications** renamed **conversionSpecifications**
- New optional preservation fields (section IV) available for data about archival master files
- New optional elements included: **abstract**, **alternative**, **extent**, **genre**, **isPartOf**, **spatial**, **tableofContents**, **temporal**, **transcription**
- New role refinement for **contributor**
- More specific **temporal** and **spatial** elements instead of **coverage**
- More guidance on vocabularies and encoding schemes throughout, with tables for the major schemes provided in new sections (V and VI).

I. Best Practices for All Fields

Use of semicolons
Data in one field may be combined with data from another field during the harvesting/aggregating process. To retain integrity of data, put a semicolon after the last word in each field. Likewise, separate multiple entries within a single field by inserting a semicolon and a space between each two entries.

MARC mapping
MARC tags are provided in each table to clarify the type of data contained in a field as well as to facilitate mapping data from Dublin Core records to MARC records.

Requirement status
- **Required:** Field must be included in record. There are eight required fields:
    - *date*
    - *description*

- o *format*
- o *identifier*
- o *rights*
- o *subject*
- o *title*
- o *type*
- **Mandatory if applicable:** If the data is known, field must be included in record. There are two mandatory if applicable fields:
  - o *conversionSpecifications*
  - o *creator*
- **Optional:** Inclusion of field is up to the discretion of the collection manager

Adding local fields not covered by this profile

This profile does not prohibit collection managers/metadata creators from adding other fields to their metadata records as needed to serve local needs. Some examples of fields needed locally may include:

- fields for data specific to a particular discipline or user community
- tags needed for customized searching
- natural language date fields to display unformatted dates
- other optional Dublin Core elements such as *audience* or *bibliographicCitation*

Use of the term "resource"

This profile uses the term resource to refer to the digital resource provided for direct access by users and described by the metadata record. This resource may be a born-digital object, a digital object converted from another digital format, or a digital object converted from a non-digital format such as text, taped recordings, slides, film, etc.

Same field, multiple vocabularies

When an element uses two or more different controlled vocabularies (example: *subject* using both Library of Congress Subject Headings and Medical Subject Headings), use a different field for each vocabulary and identify the vocabulary in the field label -- e.g., SubjectLCSH or Subject (LCSH), and SubjectMeSH or Subject (MeSH).

Additional guidelines

For additional guidelines from the Metadata Task Force, see also the **General Guidelines for Digital Metadata** available on the Mountain West Digital Library website at http://mwdl.org.

II. Explanation of Table Components

Element Name	The unique name given to the element within the list of Dublin Core terms or elements namespace
Label	Commonly assigned name for the field in the metadata record
DC Definition	Definition as stated in the DCMI DC Metadata Element set http://dublincore.org/documents/dces/ and DCMI Metadata Terms http://dublincore.org/documents/dcmi-terms/
Is Field Required?	Indicates the extent to which this field is required in a record: • **Required:** Field *must* be included in record. • **Mandatory if applicable:** If the data is known, field must be included in record. • **Optional:** Inclusion of field is up to the discretion of the collection manager.
Is Field Repeatable?	**"No"** indicates a field may occur just once in a single record. **"Yes"** indicates a field may appear multiple times in a single record.
How to Use	Guidelines for what to put into a field and how to enter the data.
Refines/Refinement	*Refines* provides the larger element refined by the element in question. In other words, the element described by a table containing a Refines statement is a sub-property or child element of a broader, parent element. **Example:** The element *tableOfContents* is a specialized form of the *description* element. The table for *tableOfContents* would state: *Refines Description* in its *Refines/Refinement* section. A single metadata record might contain both a *description* field and a *tableOfContents* field. If *tableOfContents* is mapped to **dcterms:tableOfContents** as recommended here, when the record is harvested as Qualified Dublin Core, these two elements are harvested as two separate fields and kept distinct. If, however, an aggregator can harvest only simple Dublin Core, then the data in these two fields are combined into a single description field. The tableOfContents data loses its specificity and is mixed in with other description data (i.e., is "dumbed down"). When harvesting is limited to Simple Dublin Core, it may be advisable to omit child elements like *tableOfContents* rather than dump them into the broader parent element field with other data. To "omit" an element from a harvest, simply map the field to "none." *Refinement* lists child element(s) that may more finely describe the data contained in the field. Example: The *title* table lists in its Refines/Refinement section: *Refinement: alternative.* Another table profiles the element *alternative* and indicates in its Refines/Refinement section: *Refines title.*
Schemes	Identifies controlled vocabulary or format convention used to structure the data contained in the field; these are called schemes. For more information about a mentioned scheme, click the scheme name.

	Section V: Vocabulary Encoding Schemes of this profile provides tables for the most commonly encountered vocabulary encoding schemes while Section VI: Syntax Encoding Schemes provides tables for format conventions for languages and dates. The last row of each table provides a link to a list of controlled vocabulary terms or explanation of a format convention such as how to structure dates or language codes. A few controlled vocabulary schemes do not have tables in this profile; for these, an external link to more information is provided.
DC Mapping	Lists the Dublin Core element to map to for harvesting purposes. Some element tables provide two different mappings, one for harvesting using Simple Dublin Core (simple DC) and the other for harvesting using Qualified Dublin Core (QDC).
MARC Mapping	Tag in the MARC record to which this element is normally mapped. This information is provided to help metadata creators conversant in MARC better understand the contents of this field.

III. Element Tables (in alphabetical order)

Element Name	*abstract*
Label	Abstract
DC Definition	A summary of the resource.
Is Field Required?	Optional
Is Field Repeatable?	No
How to Use	
Refines/Refinement	Refines *description*
Schemes	None
DC Mapping	**dcterms:abstract**
MARC Mapping	520

Element Name	*alternative*
Label	Alternative Title
DC Definition	An alternative name for the resource.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Possible sources for alternative titles include spine, inverted title, cover, etc.
Refines/Refinement	Refines *title*
Schemes	None
DC Mapping	**dcterms:alternative (QDC); do not map (simple DC)**
MARC Mapping	246, subfield a and b; also, may use 210, 222, 240, 242, 243, and 247

Element Name	*contributor*
Label	Contributor
DC Definition	An entity responsible for making contributions to the resource.
Is Field Required?	Optional
Is Field Repeatable?	Yes

How to Use	Use for other people or entities who contributed to making the intellectual content of the resource, but who are not covered in the *creator* field. Examples include illustrators, editors, translators, etc.
	
	When possible, refine the contributor name by including the role the person or entity played in contributing to the resource. Prefer form of name as verified in the Library of Congress Name Authority File (LCNAF). If name is not listed there, give name in the following format: Last name, First name, Middle initial with period, year of birth and/or death if known, separated by a hyphen. Add a comma and space, then the role of the person or entity in this work.
	Some examples:
	    Dickens, Charles, 1812-1870, author;
	    Davies, Andrew W., 1936-, author of screenplay;
	    Cameron, Julia Margaret, 181 5-1879, photographer;
	
	For further help in formatting names not found in LCNAF, consult a cataloging resource such as the *Anglo-American Cataloguing Rules* (AACR2), Resource Description and Access (RDA), or *Describing Archives: A Content Standard* (DACS).
	
	When adding a role, use a role term from MARC Relator Codes list and use the spelled-out role rather than the code. Example: ***author of screenplay*** not the code ***aus.***

Refines/Refinement	May refine with *role* as described above.
Schemes	Library of Congress Name Authority File (LCNAF) MARC Relator Codes
DC Mapping	**dcterms:contributor**
MARC Mapping	700, 710, 711, 720 (Added Entry – Personal name, Corporate name, Conference name, Uncontrolled Name). Enter the role in subfield e.

Element Name	*conversionSpecifications*
Label	Conversion Specifications
DC Definition	None
Is Field Required?	Mandatory if applicable
Is Field Repeatable?	Yes
How to Use	This field is needed if resource originally existed in a different format and has been converted. Describe the process, equipment and specifications used to convert the resource into its present format. This is a local field that supersedes the field formerly called *digitizationSpecifications*. To facilitate preservation of master archival files, collection managers may choose to describe archival master files (such as TIF and WAV files) using separate preservation elements in addition to or instead of providing this data in a **conversionSpecifications** field. Tables for these separate preservation elements are located below in **Section IV. Parsed Preservation Elements About Master Archival Files** and consist of *masterChecksum*; *masterCompression*; *masterCreation*; *masterExtent*; *masterFormat*; *masterMedium*; *masterOperatingSystem*; *masterQuality*; *masterSoftware*.
Refines/Refinement	None except for describing archival master files (See Section IV)
Schemes	None
DC Mapping	None
MARC Mapping	538

Element Name	*coverage*
	Use specific refinements *spatial* and/or *temporal.*

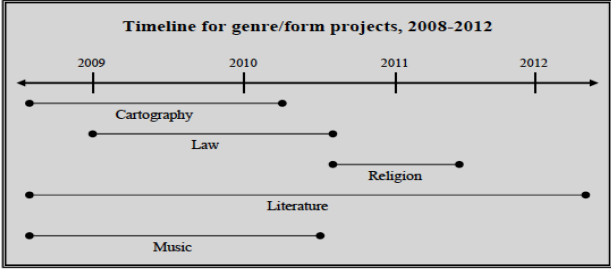| Element Name	*creator*
Label	Creator
DC Definition	An entity primarily responsible for making the resource.
Is Field Required?	Mandatory if applicable
Is Field Repeatable?	Yes
How to Use	Person or entity responsible for creating intellectual content of resource such as a person, organization or service. Prefer form of name as verified in the Library of Congress Name Authority File (LCNAF). If name is not listed there, give name in the following format: Last name, First name, Middle initial and period, year of birth and/or death if known, separated by a hyphen. For further help in formatting names not found in LCNAF, consult a cataloging resource such as the *Anglo-American Cataloguing Rules* (AACR2), Resource Description and Access (RDA), or *Describing Archives: A Content Standard* (DACS).
Refines/Refinement	None
Schemes	Library of Congress Name Authority File (LCNAF)
DC Mapping	**dcterms:creator**
MARC Mapping	100 1# (Main Entry--Personal Name), or 110 2# (Main Entry--Corporate Name), 111 1# (Main Entry--Conference Name) or 700/710/711

Element Name	*date*
Label	Date
DC Definition	A point or period of time associated with an event in the lifecycle of the resource.
Is Field Required?	**Required**
Is Field Repeatable?	No
How to Use	A resource may have several dates associated with it. The **date** covered by this table refers to creation of the *original* resource, that is, when the resource was first created, before undergoing any conversion. • For resources created in a non-digital format and converted to digital format, use the date the non-digital resource was first created -- e.g., for print books, use the publication date of the print book. • For resources that have always been in digital format and never converted, use the date the digital resource was created -- e.g., PDF document uploaded as a PDF document. • For resources that were first created in one digital format, then converted to another digital format -- e.g., audio file recorded in WAV format, then converted to MP3 format -- use creation date of the first digital format -- e.g., WAV. Additional types of dates (see refinements) are allowed, though only one date (i.e., date of the original) should be mapped to dcterms:date to prevent confusion in harvesting environments that use only simple DC. If the date is unknown, specify an estimated date or date range. See **General Guidelines for Digital Metadata** for more information about types of dates.
Refines/Refinement	Other specialized Dublin Core elements can refine **date** but are less frequently used. Optionally, these fields may be used in addition to the required **date** field described above. These include: • *available* (date, often a range, that the resource became or will become available) • *dateAccepted* (date a thesis or article was accepted for publication) • *dateCopyrighted* (date of copyright) • *dateSubmitted* (date of submission) • *modified* (date when the resource was changed) Consult http://dublincore.org/documents/dcmi-terms/ for definitions.
Schemes	W3C Date Time Format profile of ISO 8601 (W3CDTP):
DC Mapping	**dcterms:date**
MARC Mapping	260 ## subfield c (Date of publication, distribution, etc.)

Element Name	*description*
Label	Description
DC Definition	An account of the resource.
Is Field Required?	Required
Is Field Repeatable?	Yes
How to Use	Anything significant about the digital resource not covered elsewhere. Use standard punctuation and grammar to describe the item's history, physical appearance, contents, abstract, etc. For text or handwritten objects that have full-text searchable transcriptions associated with them, provide the full-text in a local field called **Transcription** or **Full Text** (See *transcription*).
Refines/Refinement	Refinements: *abstract* and *tableOfContents*.
Schemes	None
DC Mapping	**dcterms:description**
MARC Mapping	520, 545, 300, 500

Element Name	*digitizationSpecifications*
	Superseded by *conversionSpecifications*.

Element Name	*extent*
Label	Extent
DC Definition	The size or duration of the resource.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Describe the file size and, if applicable, duration of the digital object: Examples: 109,568 bytes; 00:16 minutes; To describe extent of a master archival digital file, see *masterExtent*. To describe extent (e.g., number of pages) of original object before it was digitized, use the *description* field. For help in converting file sizes, see http://en.wikipedia.org/wiki/File_size
Refines/Refinement	Refines *format*
Schemes	None
DC Mapping	**dcterms:extent**
MARC Mapping	300 subfield a

Element Name	*format*
Label	Format
DC Definition	The file format, physical medium, or dimensions of the resource.
Is Field Required?	**Required**
Is Field Repeatable?	Yes
How to Use	Describe the file format of the resource using the Internet Media Type (IMT) scheme. Use of the scheme will imply the software needed to display or operate the resource. Some examples: audio/mp4 image/jp2 application/pdf Some digital objects may involve more than one format. For example, an oral history interview may consist of both an audio file (audio/mp4) and text transcription (application/pdf). In these cases, list both formats (audio/mp4; application/pdf;). New media types and applications are always emerging. If the resource format being described is not yet part of the MIME type list, follow the MIME convention by selecting a broad category of object format (audio, video, application, etc.) for the first part of the MIME type. For the second half of the MIME type, use the file extension that is usually attached to files of this format. Optionally, collection managers may describe file size and/or duration using the more refined *extent* field (See *extent*).
Refines/Refinement	Refinement: *extent*
Schemes	Internet Media Type (IMT) A commonly used subset of the entire IMT set of acceptable formats is available for download on the MWDL website.
DC Mapping	**dcterms:format**
MARC Mapping	340; 856 subfield q

Element Name	*genre*
Label	Genre; Form; Material Type
DC Definition	None.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Describe the nature of the original object (what it *is*, not what it is *about*) expressed in genre terms from a controlled vocabulary if possible. An item described with the genre term "*Photographs*" is an actual photograph, not a book *about* photographs. Use a separate *genre* field for each different vocabulary and indicate the vocabulary in the label name. Note that the field name can be determined locally. Example: • Genre (AAT): **Color slides;** • Material Type.TGM: **Publicity photographs;** • Form-LCGFT: **Western films;** The *genre* element is optional for local use only and is in addition to the required element *type* which uses the <u>DCMI Type vocabulary</u>.
Refines/Refinement	None
Schemes	Strongly recommended to use established controlled vocabularies such as: • **Art and Architecture Thesaurus (AAT)** <u>http://www.getty.edu/research/conducting_research/vocabularies/aat/</u> • **Thesaurus for Graphic Materials (TGM)** <u>http://www.loc.gov/pictures/collection/tgm/</u> • **Library of Congress Genre/Form Terms for Library and Archival Materials (LCGFT)** Library of Congress is creating a separate thesaurus for genre terms that will take until 2012 to complete (see timeline). The thesaurus is in the *Supplementary Vocabularies* volume of *LCSH* and is part of Classification Web, the online version of *LCSH*. A commonly used subset of AAT and TGM genre terms is available on the *MWDL* website.
DC Mapping	**None**
MARC Mapping	655 #7 subfield a (Index Term--Genre/Form) plus subfield 2=local (for DCMI Type); =gmgpc (for Thesaurus for Graphic Materials); =aat (for Art & Architecture Thesaurus); =lcgft (Library of Congress Genre/Form Terms for Library and Archival Materials).

Element Name	*identifier*
Label	Identifier
DC Definition	An unambiguous reference to the resource within a given context.
Is Field Required?	**Required**
Is Field Repeatable?	Yes
How to Use	Many digital asset management systems, such as CONTENTdm and bepress Digital Commons, automatically create, populate, and map the main identifier field. This main identifier is a URL for the resource. In CONTENTdm, for example, it has the format http://[domain]/u?[alias],[CONTENTdm number] and serves as the "Reference URL" of the resource. Additional identifier fields may be created as needed for local use, such as call number, filename, etc. However, only the identifier that contains the URI leading back to the resource should be mapped to dcterms:identifier because of the possibility of confusion for harvesters. Handle these additional identifiers one of three ways: map the field to "None"; map it to some other field besides dcterms:identifier; or begin the value of the field with something other than a URI scheme.
Refines/Refinement	None
Schemes	URI Uniform Resource Identifier http://www.ietf.org/rfc/rfc2396.txt
DC Mapping	**dcterms:identifier**
MARC Mapping	856 40 subfield u (Electronic Location and Access/URI) Only use for mapping the main URI that refers to the resource and begins with "http."

Element Name	*isPartOf*
Label	Collection, Is part of (label varies)
DC Definition	A related resource in which the described resource is physically or logically included.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Often labeled as "Collection" and used to state the collection to which this resource belongs. Other refinements of *relation* exist but are less often used and therefore not included in this profile. See *relation*.
Refines/Refinement	Refines *relation*
Schemes	None
DC Mapping	**dcterms:isPartOf**
MARC Mapping	None

Element Name	*language*
Label	Language
DC Definition	A language of the resource.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Use ISO 639-3 three letter codes. For multiple languages, use separate language fields or list all in a single field, separating each with a semicolon and a space. More detail about the languages may be included in the Description element. Example: In German and English in parallel columns.
Refines/Refinement	None
Schemes	ISO 639-3
DC Mapping	**dcterms:language**
MARC Mapping	041 0# subfield a (language code); 008/35-37

Element Name	*publisher*
Label	Publisher
DC Definition	An entity responsible for making the resource available.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Name of the entity that created or is providing access to the resource. If the resource existed in another form prior to being digitized, provide information about that previous publisher in the _**source**_ field and give the creation date for the original in the _**date**_ field. A publisher may include a person, organization, or a service. Recommend clarifying the role this entity played in making the resource available by adding a prefix such as *Digitized by*, *Hosted by*, or *Published by.* For example, Published by Utah State Historical Society; digitized by Merrill-Cazier Library, Utah State University; hosted by J. Willard Marriott Library, University of Utah.
Refines/Refinement	None
Schemes	None
DC Mapping	**dcterms:publisher**
MARC Mapping	260 subfield b (if born digital) or 533 subfield c (if reformatted)

Element Name	*relation*
Label	Relation
DC Definition	A related resource.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	
Refines/Refinement	The only relation refinement covered by a table in this profile is *isPartOf*. Other possible refinements include: **hasFormat; hasPart; hasVersion; isFormatOf; isReplacedBy; isReferencedBy; isRequiredBy; isVersionOf; replaces; requires;** *and* **references.** For these others, consult http://dublincore.org/documents/dcmi-terms/ for definitions. These refinements may be used in metadata records as optional fields.
Schemes	None
DC Mapping	**dcterms:relation**
MARC Mapping	None

Element Name	*rights*
Label	Rights
DC Definition	Information about rights held in and over the resource.
Is Field Required?	**Required**
Is Field Repeatable?	Yes
How to Use	Use *Rights* to describe the copyright status of the access file, its copyright holder and contact information (if applicable), and physical ownership rights (if applicable). See *General Guidelines for Digital Metadata* under "Copyright" for more information applicable to all types of rights.
Refines/Refinement	Other specialized Dublin Core elements can refine *rights* but are not frequently used. These include: • *accessRights* • *license* Consult http://dublincore.org/documents/dcmi-terms/ for definitions.
Schemes	None
DC Mapping	**dcterms:rights**
MARC Mapping	None

Element Name	*source*
Label	Source
DC Definition	A related resource from which the described resource is derived.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Use only when the resource is the result of digitization of non-digital originals. Provide sufficient information to identify and find the original resource. If the resource was born-digital or was converted from a born-digital resource, no **source** field is needed. For other types of related resources, use *relation* or some refinement of *relation*, such as *isPartOf*.
Refines/Refinement	None
Schemes	None
DC Mapping	**dcterms:source**
MARC Mapping	534

Element Name	*spatial*
Label	Spatial coverage
DC Definition	The spatial topic of the resource, the spatial applicability of the resource, or the jurisdiction under which the resource is relevant.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Use to state the place or area that is described or represented by the resource, not the place where the resource was published. May name a place or specify geographic coordinates. A jurisdiction may be a named administrative entity or a geographic place to which the resource applies.
Refines/Refinement	Refines *coverage*
Schemes	Use of a scheme is strongly recommended. Some possibilities: • Library of Congress Subject Headings (LCSH) • Thesaurus of Geographic Names (TGN) http://www.getty.edu/research/conducting_research/vocabularies/tgn/ • U.S. Geological Survey [USGS] http://geonames.usgs.gov/ Prefer LCSH for place names when available.
DC Mapping	**dcterms:spatial**
MARC Mapping	651 #0 (for LCSH place names) or #7 with the specific vocabulary source provided in subfield 2 (TGN, for example)

Element Name	*subject*
Label	Subject
DC Definition	The topic of the resource.
Is Field Required?	**Required**
Is Field Repeatable?	Yes
How to Use	Describe what the resource content is *about*, expressed in keywords, phrases, names, subject headings, or classification codes. Use a separate *subject* field for each different vocabulary and indicate the vocabulary in the label name -- e.g., SubjectLCSH or Subject (LCSH); subjectKW. To describe the nature of the original object, see the optional local *genre* element table.
Refines/Refinement	None
Schemes	Strongly recommended to use established controlled vocabularies such as: • Library of Congress Subject Headings (LCSH) • Art & Architecture Thesaurus (AAT) http://www.getty.edu/research/conducting_research/vocabularies/aat/ • Medical Subject Headings (MeSH) http://www.nlm.nih.gov/mesh/meshhome.html
DC Mapping	**dcterms:subject**
MARC Mapping	650, 600, 651, 610, 653

Element Name	*tableOfContents*
Label	Table of contents
DC Definition	A list of subunits of the resource.
Is Field Required?	Optional
Is Field Repeatable?	No
How to Use	
Refines/Refinement	Refines: *description*
Schemes	None
DC Mapping	**dcterms:tableOfContents**
MARC Mapping	505

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Element Name	*temporal*
Label	Temporal coverage
DC Definition	The temporal topic of the resource.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Use to describe the time period covered or represented by the resource, not the date when the resource was published. Temporal topic may be a named period, date, or date range. If using a named period, use a controlled vocabulary if possible such as Library of Congress Subjects (LCSH). Where appropriate, time periods can be used in preference to numeric identifiers such as date ranges.
Refines/Refinement	Refines *coverage*
Schemes	**LCSH**
DC Mapping	**dcterms:temporal**
MARC Mapping	None

Element Name	*title*
Label	Title
DC Definition	A name given to the resource.
Is Field Required?	**Required**
Is Field Repeatable?	No
How to Use	Take title from digitized item when possible. Metadata creator may supply a title if none exists and does not need to put this supplied title in brackets.
Refines/Refinement	Refinement: *alternative*
Schemes	None
DC Mapping	**dcterms:title**
MARC Mapping	245 subfields a and b

Element Name	*transcription*
Label	Transcription or Full Text (label varies)
DC Definition	None.
Is Field Required?	Optional
Is Field Repeatable?	No
How to Use	
Refines/Refinement	None
Schemes	None
DC Mapping	Either **dcterms:description** or None. May be mapped to **dcterms:description** if digital creators wish it to be harvested. Caution: data in this field can be quite voluminous so consider carefully before mapping it into the description field.
MARC Mapping	520 or none

Element Name	*type*
Label	Type
DC Definition	The nature or genre of the resource.
Is Field Required?	**Required**
Is Field Repeatable?	Yes
How to Use	Must have at least one type field containing appropriate type(s) from <u>DCMI Type vocabulary</u>. • For images, refine with a second term, either **StillImage** or **MovingImage** (i.e., use **Image;StillImage** or **Image;MovingImage**). Note that these combined terms contain no space after the semicolon and that both words in the second term are capitalized. • If a resource is an image of text (such as a scan of a printed article), use the term **Text**. • If the resource consists of more than one type (e.g., an interview with sound and text files), use multiple type terms as needed to describe, separating them with a semicolon and a space (e.g., **Sound; Text**). To describe the nature or genre of the original object, use the optional local element *genre.*
Refines/Refinement	None
Schemes	<u>DCMI Type Vocabulary</u>
DC Mapping	**dcterms:type**
MARC Mapping	655 #7 subfield a (Index Term--Genre/Form) plus subfield 2=local (for DCMI Type)

IV. Parsed Preservation Elements about Master Archival Files (Optional)

To facilitate identifying and migrating possible obsolete file formats to other future formats, technical data about master archival files may be parsed (i.e., broken into smaller units) using the elements described in this section. These optional elements can be used instead of, or in addition to, describing archival master files collectively with access files in the **conversionSpecifications** element (see Section III above).

Term Name	*masterChecksum*
Label	Master file checksum value
Definition	A numeric value used to detect errors in file recording or file transfer. Checksum helps ensure the integrity of digital files against loss of data.
Is Field Required?	Optional
Is Field Repeatable?	No
How to Use	Provide a short statement about your institution's methods of deriving fixity checks or checksum. This statement will be the same for all your collections. Some examples: Sha-1 checksum derived using slavasoft.com software MD5 checksum derived using MD5Summer.org software For more information regarding checksum, see http://en.wikipedia.org/wiki/Checksum.
Refines/Refinements	Refines *conversionSpecifications*
Schemes	None
DC Mapping	None
MARC Mapping	None

Term Name	*masterCompression*
Label	Master file compression
Definition	Electronic format or compression scheme used for optimized long-term storage of master file. For files that are stored uncompressed (e.g., uncompressed TIFFs), this field can be skipped. This information often supplements the *format* element.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	If the master file was compressed, identify the compression scheme used. Example: wav compressed with flac tiff compressed to jp2
Refines/Refinements	Refines *conversionSpecifications*
Schemes	None
DC Mapping	None
MARC Mapping	None

Term Name	*masterCreation*
Label	Master file creation
Definition	Equipment and/or process used to create the master archival file.
Is Field Required?	Optional
Is Field Repeatable?	No

How to Use	Describe how the master archival file was created by identifying the equipment and/or process used. Some examples:
	    Scanned using Epson Expression 10000 XL flatbed
	    Unbound theses pages auto-fed and scanned using Epson Expression 10000 XL flatbed

Refines/Refinements	Refines *conversionSpecifications*
Schemes	None
DC Mapping	None
MARC Mapping	None

Term Name	*masterExtent*
Label	Master file extent
Definition	Characteristic that measures the extent of the master file, meaning the file size or duration.
Is Field Required?	Optional
Is Field Repeatable?	Yes

How to Use	Provide the pixel dimensions, pagination, spatial resolution, play time or other measurements of the physical extent of the digital object.
	Image example:
	    2000 x 1320 pixels; 5.0 inches x 3.3 inches
	Audio example:
	    01:53:06 hours

Refines/Refinements	Refines *conversionSpecifications*
Schemes	None
DC Mapping	None
MARC Mapping	None

Term Name	*masterFormat*
Label	Master file format
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Describe the file format of the master archival file using the Internet Media Type (IMT) scheme. Use of the scheme will imply the software needed to display or operate the resource. Examples of file formats: image/tiff audio/aiff audio/flac video/mpeg application/vnd.ms-powerpoint May also use *masterFormat* to give the file size (in bytes) or separately provide file size using the *masterExtent* element. Examples: masterFormat: audio/aiff; 73,628,928 bytes; or, masterFormat: audio/aiff; masterExtent: 73,628,928 bytes; Record file size as bytes rather than kilobytes, megabytes, etc.
Refines/Refinements	Refines *conversionSpecifications*
Schemes	None
DC mapping	None
MARC Mapping	None

Term Name	*masterMedium*
Label	Master file medium
Definition	The material or physical carrier of the resource.
Is Field Required?	Optional
Is Field Repeatable?	Yes
How to Use	Use the *masterMedium* element to describe a digital master file's physical nature, if applicable. Most often needed when master digital files are stored somewhere other than networked online storage. Examples: External hard drive CD DVD zip disk SAN server External disk cabinet
Refines/Refinements	Refines *conversionSpecifications*
Schemes	None
DC Mapping	None
MARC Mapping	None

Term Name	*masterOperatingSystem*
Label	Master file operating system
Definition	Operating system (both name and version) used on the computer that created the master file at the time of creation.
Is Field Required?	Optional
Is Field Repeatable?	No

How to Use	Examples:
	    Windows Vista Home Premium SP2
	    Macintosh OS X 10.6 Snow Leopard
	    Linux Ubuntu 11.04
	    Linux Red Hat

Refines/Refinements	Refines *conversionSpecifications*
Schemes	None
DC mapping	None
MARC Mapping	None

Term Name	*masterQuality*
Label	Master file quality
Definition	Characteristics that describe the quality of the master file such as bit depth, resolution and others (depending on the file format).
Is Field Required?	Optional
Is Field Repeatable?	Yes

How to Use	Provide the bit depth, resolution, bit size, etc., of the file.
	Image example:
	    24-bit color; 8-bit gray-scale; 400 ppi
	Audio example:
	    16-bit audio file

Refines/Refinements	Refines *conversionSpecifications*
Schemes	None
DC Mapping	None
MARC Mapping	None

Term Name	*masterSoftware*
Label	Master file creation software
Definition	Name and version number of all software programs used to create the master file.
Is Field Required?	Optional
Is Field Repeatable?	No

How to Use	Identify the software used to create the master file.
	Examples:
	    Adobe Photoshop CS2
	    EPSON Scan
	    Adobe Acrobat Professional
	    SilverFast
	    Phocus

Refines/Refinements	Refines *conversionSpecifications*
Schemes	None
DC Mapping	None
MARC Mapping	None

V. Vocabulary Encoding Schemes

Term	*IMT*
Full Name	Internet Media Types
DC Definition	Media types specified by the Internet Assigned Numbers Authority. http://purl.org/dc/terms/IMT
List of terms	http://www.iana.org/assignments/media-types/

Term	*LCSH*
Full Name	Library of Congress Subject Headings
DC Definition	The set of labeled concepts specified by the Library of Congress Subject Headings. http://purl.org/dc/terms/LCSH
List of terms	http://www.loc.gov/aba/cataloging/subject/

Term	*LCNAF*
Full Name	Library of Congress Name Authorities File
Definition	The set of authorized personal and corporate names specified by the Library of Congress.
List of terms	http://authorities.loc.gov

Term	*DCMI Type*
Full Name	DCMI Type Vocabulary
DC Definition	The set of classes specified by the DCMI Type Vocabulary, used to categorize the nature or genre of the resource. http://purl.org/dc/terms/DCMIType
List of terms	http://dublincore.org/documents/dcmi-type-vocabulary/

Term	*MARC Relators*
Full Name	MARC Relator Terms
DC Definition	"Because a standardized, widely adopted list of roles already existed in the MARC Code List for Relators, it was recommended that DCMI simply use these instead of re-inventing its own." – Relator Terms and Dublin Core (2005-12-08) http://dublincore.org/usage/documents/relators/
List of terms	http://www.loc.gov/marc/relators/relaterm.html

VI. Syntax Encoding Schemes

Term	*ISO639-3*
Full Name	ISO 639-3
DC Definition	639-3, Codes for the representation of names of languages--Part 3: Alpha-3 code, ISO 639-3 is a code that aims to define three-letter identifiers for all known human languages. At the core of ISO 639-3 are the individual languages already accounted for in ISO 639-2. http://purl.org/dc/terms/ISO639-3
List of terms	http://www.sil.org/iso639-3/codes.asp

Term	*W3CDTF*
Full Name	W3C-DTF
DC Definition	Defines a profile of ISO 8601, the International Standard for the representation of dates and times. http://purl.org/dc/terms/W3CDTF
List of terms	http://www.w3.org/TR/NOTE-datetime