CDL Guidelines for Digital Objects

(CDL GDO)

Maintained by the California Digital Library

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University of California
CDL
California Digital Library

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1. Introduction

1.1. Scope

The CDL Guidelines for Digital Objects (CDL GDO, this document) provides specifications for digital objects prepared by institutions for submission to CDL for preservation and access, through the CDL's Merritt Digital Repository.

It also documents legacy specifications for METS digital objects to were contributed to the Online Archive of California (OAC) prior to 2015. **These specifications are no longer applicable for OAC, and are provided here for historical reference only**: in 2015, the METS-based submission process to OAC was discontinued and superceded by a metadata harvesting approach, where Calisphere now serves as the CDL's aggregation and discovery platform for unique digital collections contributed by libraries, archives, and museums throughout California. The OAC continues to feature METS digital objects, however the function of OAC is primarily oriented to serving as an aggregation and discovery platform for finding aids. For more information about Calisphere metadata and harvesting requirements, see the **OAC/Calisphere contributor helpcenter**.

The guidelines seek to support the following objectives:

- Ensure a basic level of uniformity in the structure and encoding of non-licensed digital content managed by the CDL
- Advance interoperability among digital content from diverse institutions
- Promote efficient ingest procedures
- Support the orderly management of digital content
- Facilitate access to digital content by users
- Minimize costs

These guidelines do not set requirements for digital materials submitted to or collected by the CDL through other means:

- Metadata exposed to CDL harvesting systems via the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH)
- Metadata targeted by federated search systems
- Web-crawled resources

1.2. Service Levels

Digital materials of ever-increasing variety and complexity are seen to be worth collecting and preserving by memory organizations such as libraries, archives, and museums. Materials include objects converted into digital form from existing collections of manuscripts, maps, visual images, and sound files, as well as born-digital materials such as web sites, videos, and data sets.

Digital objects hosted by the CDL typically consist of three components: metadata, a set of content files, and a link or binding mechanism to associate the two (such as a METS wrapper). In order to create coherent and cost-effective services for such diverse collections, the CDL and other digital libraries sometimes require certain common digital object features that offer strategic points of leverage. This is a delicate undertaking, as it tends to involve a reduction in diversity that implies a loss of information, and every imposed requirement incurs the risk of rejecting valuable materials that fail to meet it. Simply meeting requirements is often hard

because funding is unavailable, or the original producer of the digital objects cannot be reached. Hence, these specifications provide significant leeway in metadata and content file requirements, particularly for long-term preservation.

The Merritt Digital Repository and Online Archive of California (OAC) services have historically had different technical frameworks and operated largely independent of each other. While the CDL has worked to integrate our services so that institutions do not have to deposit to them separately (but instead can deposit items once and have them submitted to multiple services at the same time), the different services have supported different metadata requirements. Merritt does not require METS documents for deposit. Instead, a much simpler metadata scheme is recommended. However, Merritt will continue to accept METS wrappers.

The CDL GDO specifies requirements for two primary levels of services:

- **Merritt Service Level**: sufficient for the submission of digital objects to Merritt. There are no metadata requirements for Merritt, but it is recommended that a small descriptive metadata record be included, based upon Dublin Core.
- **OAC Service Level**: previously required for submission of METS digital objects to OAC prior to 2015; **these specifications are no longer applicable for OAC, and are provided here for historical reference only**. The specifications were also sufficient for submission of digital objects to Merritt. This level required METS wrappers. Particular content file formats were also supported at this level.

1.3. Terminology

For an explanation of general terms used throughout these guidelines, see the CDL Glossary. For an explanation of concepts and terms pertaining to metadata in particular, consult the RLG Cultural Materials Descriptive Metadata Guidelines.

1.4. How to Use These Guidelines

Consult the appropriate section of the guidelines, based on the level of CDL service that your institution is interested in utilizing:

- **Merritt Service Level**: consult **Section 2** only
- **OAC Service Level**: consult **Section 3** only

2. Merritt Service Level Requirements

2.1. Merritt

The Merritt Digital Repository is a service offered by the University of California Curation Center (UC3), which replaces its predecessor, the Digital Preservation Repository (DPR). Merritt offers a great deal more flexibility and functionality than was available in the DPR, while still providing the same high level of digital preservation assurance. Institutions can provide public access to their content in Merritt, if they wish. It is also possible to deposit collections in Merritt and make them available through OAC or eScholarship. More information on Merritt can be found at the UC3 website.

2.2. Metadata

2.2.1. Descriptive Metadata

Descriptive metadata is not required, but we strongly encourage you supply the following Dublin Core-based kernel metadata:

[NOTE: See the Merritt and Metadata Guide for more information on descriptive metadata recommendations]
Who (Creator)
What (Title)
When (Date)
Where (Identifier)

All four of these metadata elements are searchable in the Merritt system. Descriptive metadata in other encoding formats may be submitted as well, such as MARC, MIX or MODS records. These metadata will receive the same level of digital preservation as the digital content. However, at the moment, this additional metadata is not searchable.

We derive the following metadata during the Merritt ingest process and can identify and provide access to digital objects submitted with no descriptive metadata. Only the most basic and fundamental of Merritt services will be available for such objects:

- Object ID
- Date Ingested

2.2.2. Technical Metadata

We derive technical metadata required to support the orderly management of digital objects in Merritt, based on submitted content files. Currently, the CDL also has the capability to utilize the JSTOR/Harvard Object Validation Environment (JHOVE) tool to derive technical metadata for accepted content file types.

You may submit any additional technical metadata associated with a particular digital object (such as checksum [MD2, MD5, SHA-1, SHA-256, SHA-384, SHA-512, or CRC-32] and byte

size values but are not required to do so. We will store any supplied additional technical metadata with the object.

2.3. Content Files

The file formats used to create or store content is a primary factor in their future viability. Formats more likely to be accessible in the future are:

- Non-proprietary
- Open, documented standard
- In common usage by research community
- Use standard character encoding (ASCII, UTF-8)
- Unencrypted
- Uncompressed

Examples of preferred format choices:

- Images: JPEG, JPG-2000, PNG, TIFF
- Texts: HTML, XML, PDF/A, UTF-8, ASCII
- Audio: AIFF, WAVE
- Containers: GZIP, ZIP

See the UC3 Data Management Guidelines for more recommendations on file formats, file naming, and other data management recommendations.

3. OAC Service Level Requirements

3.1. METS

METS Profiles

Digital objects published in OAC are managed using the METS format (Metadata Encoding and Transmission Standard).

We depend upon “METS profiles” to successfully process submitted objects. METS profiles describe classes of METS digital objects that share common characteristics, such as content file formats (e.g., digital images, TEI texts) or metadata encoding formats (e.g., MODS or Dublin Core). Profiles should include enough details to enable METS creators and programmers to create and process METS-encoded digital objects conforming with a particular profile. A METS profile itself is an XML document that must adhere to the METS XML Profile Schema. For information about METS profiles, see the METS website.

METS files must conform to valid METS profiles, which must be declared during pre-submission discussions with us. The METS top-level <mets> element must have a PROFILE attribute that contains a URI or other identifier for the METS profile.

Metadata and Encoding Transmission Standard <METS> Element

The METS top-level <mets> element must have an OBJID attribute containing an ARK identifier for the digital object (see bolded example). For more information about ARKs, visit the Archival Resource Key (ARK) page.

Example:

```
<mets:mets xmlns:mets="http://www.loc.gov/METS/"
xmlns:mods="http://www.loc.gov/mods/v3"
xmlns:mix="http://www.loc.gov/mix/"
xmlns:rts="http://cosimo.stanford.edu/sdr/metsrights/"
xmlns:xlink="http://www.w3.org/TR/xlink"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.loc.gov/METS/
http://www.loc.gov/standards/mets/mets.xsd
http://www.loc.gov/mods/v3
http://www.loc.gov/standards/mods/v3/mods-3-0.xsd
http://www.loc.gov/mix/ http://www.loc.gov/standards/mix/mix.xsd
http://cosimo.stanford.edu/sdr/metsrights/
http://cosimo.stanford.edu/sdr/metsrights.xsd"
OBJID="ark:/13030/kt9g50158w" TYPE="still image" LABEL="[Pablo
de la Guerra (1833-1874), son of José de la Guerra y Noriega]"
PROFILE="http://www.loc.gov/mets/profiles/00000001.xml">
```

Content File Section <fileSec> Element

The METS Content File Section <fileSec> element must contain links to network-exposed (i.e., online) content files using File Location <FLocat> elements (see bolded example). Each <FLocat> element must contain a XLINK:HREF attribute that identifies a link to its associated content file.

Example:

```
<mets:file ID="FID8" MIMETYPE="image/jpeg" SEQ="2"
CREATED="1999-06-28T00:00:00" ADMID="ADM1A" GROUPID="GID2">
<mets:FLocat
xlink:href="http://sunsite.berkeley.edu/moa2/images/bkm00002774a
_c.jpg" LOCTYPE="URL" />
</mets:file>
```

The METS file and associated content files must be well formed and uncorrupted.

File <file> Element and Checksum Values

To support the orderly transmission and ingest of digital objects, we recommend including checksum (MD5, SHA-1, or CRC32) and byte size values in the METS File <file> element.

File <file> Element MIMETYPE Attribute

Digital objects must explicitly state content file format MIME types (Multipurpose Internet Mail Extensions) for each <file> File Element tag in the METS document (see bolded example).

Example:

```
<mets:file ID="FID1" MIMETYPE="image/tiff" SEQ="1"
CREATED="1999-06-17T00:00:00" ADMID="ADM1A" GROUPID="GID1">
```

For a list of MIME type content type and subtype values, see the MIME Media Types from the Internet Assigned Numbers Authority.

Institution/Repository Information: Specialized Use of the <mdRef> Metadata Reference Element

We recommend the use of a <mdRef> element with a MDTYPE attribute set to "other" and a OTHERMDTYPE attribute set to "contributing-institution-code". Additionally, use a XLINK:HREF attribute to reference the normalized version of the MARC Organization Code for the contributing institution. The code should be listed at the end of the following URI string: "http://id.loc.gov/organizations/" (see bolded example).

Example:

```
<mets:dmdSec>
<mets:mdRef LOCTYPE="URL" MDTYPE="other"
OTHERMDTYPE="contributing-institution-code"
xlink:href="http://id.loc.gov/organizations/cub" />
</mets:dmdSec>
```

Linking from Digital Objects to Collection Descriptions: Specialized Use of the <mdRef> Metadata Reference Element

For guidelines on linking digital objects to associated, parent-level collection descriptions (represented either in the form of a MARC record or an EAD finding aid), see Appendix C.

3.2. Metadata

3.2.1 Using Metadata Schemas

The metadata mappings provided in this section are for extant XML extension metadata schemas such as MODS and qualified Dublin Core.

Encode metadata consistently based on the specific usage guidelines established for the schema. For example, if encoding in Dublin Core, follow the Dublin Core usage guidelines for each element.

Do not include HTML markup within metadata encoding, in cases where a metadata schema does not support it.

Granularity

Whenever possible, provide the most granular and richest metadata possible. For example, MODS provides more granular encoding options than simple or qualified Dublin Core. If encoding in Dublin Core, we encourage you to utilize qualified Dublin Core.

Repeatability of Elements and Data Values

Elements may be used repeatedly. Note that it may be necessary to supply multiple elements for the same piece of information, e.g., a general form of the date of creation of a resource ("January 1, 1999") in addition to an ISO8601 normalized form of that date ("1999-01-01").

However, avoid combining different kinds of data values or repeating the same type of data values within a single element; use separate elements for each data value. For example, avoid encoding multiple subject terms ("Municipal government; City Council members") in a single element. Instead, encode the two different terms within their own elements.

Character Encoding

Use UTF-8 or UTF-16 standard character sets or encodings. We recommend using standardized forms of names for character sets, as documented by the Internet Assigned Numbers Authority (e.g., use "UTF-8" and not "UTF8").

If using the UTF-8 character set in particular, encode directly in Unicode or use Unicode decimal or hexadecimal character references. All decimal character references should begin with an ampersand and pound sign, and end with a semicolon (use the syntax "&#D;" where D is a decimal number). All hexadecimal character references should begin with an ampersand, pound sign, and lower- or uppercase "x", and end with a semicolon (use the syntax "&#xH;" or "&#XH;" where H is a hexadecimal number); see the Unicode Code Charts for hexadecimal character reference codes.

For more detailed information about UTF-8 Unicode, see the W3C/Unicode Consortium document Unicode in XML and other Markup Languages.

> *Example using UTF-8 Unicode hexadecimal character references to encode the letter "é" in the term "émigrés":*
>
> ```
> ... The papers also document trends in high school and
> university education among Russian émigrés...
> ```

Characters reserved for XML markup delimiters (ampersand, left angle bracket, and right angle bracket) need to be replaced with the character entities in the following table.

Reserved Characters		
Character	**Character Name**	**Character Entity**
&	Ampersand	`&`
<	Left angle bracket	`<`
>	Right angle bracket	`>`
‘	Single quote	`&apos;`
“	Double quote	`&quot;`

Headings, Labels, Punctuation, and Formatting

Do not include line breaks, list formatting or other any formatting controls within the body of elements. Headings and labels should not appear within the body of elements (except for certain cases; see **Section 3.2.3**).

Some XML extension schemas (e.g., MODS) provide label attributes on particular elements. In these cases, institutions may encode data values (e.g., text comprising concise headings or descriptions) within those label attributes as permitted by those schemas.

Note that the CDL GDO supports the creation of digital objects that are largely independent of a particular online presentation. The encoding can be manipulated and repurposed through the application of customized style sheets to meet custom display needs and formatting preferences. This includes the special formatting of text, the ordering and positioning of text, the addition of headings and labels, and punctuation.

In order to provide a consistent user experience, our OAC display stylesheets support a standard presentation that may not accommodate local preferences.

3.2.2. Descriptive Metadata

Object Description

Descriptive metadata can be used to describe different expressions of a given resource. In the case of analog objects that have been digitized, the descriptive metadata may apply to the source analog object or the digital surrogate. For example, the “creator” of a resource may apply to an illustrator of a graphic book or the name of the technician responsible for scanning an image from that book. Likewise, the “date of creation” of a resource may apply to the date of printing for a graphic book or the date of scanning an image from that book. In the case of born-digital objects, the descriptive metadata pertains to the born-digital object itself.

Some descriptive metadata schemas do not allow encoders to clearly disambiguate between uses of a given element to apply to source analog objects versus digital surrogates. Therefore, when creating descriptive metadata for an analog object that has been digitized, we suggest that you consider the following two points:

- Be consistent in your use of descriptive metadata elements: emphasize the description of *either* the source analog object *or* the digital surrogate.
- Provide descriptive metadata that supports user access to and discovery of the digital object. Information about the source analog object may be more relevant to users.

Descriptive Metadata Guidelines (Summary) [NOTE: See Appendix A for detailed descriptions of each element. Element names below are also linked to those descriptions]	
Element	**Status**
Identifier	Required element
Title	Required element
Creator	Required element (NOTE: if no name can be supplied, provide a name in **Contributor**, **Institution/Repository**, and/or **Publisher**)
Date	Required element
Description	Recommended element
Language	Recommended element
Subject (Name)	Recommended element
Subject (Title)	Recommended element
Subject (Place)	Recommended element
Subject (Topic, Function, or Occupation)	Recommended element
Genre	Recommended element
Type	Required element
Format/Physical Description	Recommended element
Related Collection/Project	Recommended element
Institution/Repository	Required element
Contributor	Recommended element
Publisher	Recommended element

3.2.3. Rights Management Administrative Metadata

We strongly recommend including rights metadata whenever possible, using one of the following methods:

- Supply rights information using METSRights or PREMIS, two approved extension schema for METS.
- Use rights-related elements in the schema chosen for supplying descriptive metadata (e.g., <dc:rights> in Dublin Core, <accessCondition> in MODS). Elements in these schemas are

repeatable, so if more than one rights-related element is used, provide clarifying information about each piece of rights information -- for example, use a label attribute for MODS rights elements.

Rights Management Administrative Metadata Guidelines (Summary) [NOTE: See Appendix B for detailed descriptions of each element. Element names below are also linked to those descriptions]	
Element	**Status**
Copyright Status	Recommended element
Copyright Statement	Recommended element
Copyright Date	Recommended element
Copyright Owner Name	Recommended element
Copyright Owner Contact Information	Recommended element

3.2.4. Structural Metadata

Structural metadata must be encoded in the METS format: structural metadata is represented in the <structMap> Structural Map section of a METS document. This section defines a structure that allows users of the digital object to navigate through its hierarchical organization. Guidelines for preparing Structural Maps are documented in CDL-supported METS profiles.

3.2.5. Technical Metadata

We derive technical metadata required to support the orderly management of digital objects in Merritt, based on the content files submitted to Merritt. Currently, the CDL utilizes the JSTOR/Harvard Object Validation Environment (JHOVE) tool to derive technical metadata for accepted content file types. We plan to move to JHOVE2 when it is released.

You may submit any additional technical metadata associated with a particular digital object (such as checksum [MD2, MD5, SHA-1, SHA-256, SHA-384, SHA-512, or CRC-32] and byte size values but are not required to do so. We will store any supplied additional technical metadata with the object.

Note that all supplied technical metadata should be encoded using valid XML extension schemas as specified by CDL-supported METS profiles (such as in the NISO Metadata for Images in XML Schema (MIX) format). If a given set of metadata does not conform to a valid XML extension schema, then you should create a schema to embed the metadata and facilitate validation of the METS file. Otherwise, the metadata should be stored independently of the METS file and referred to using the METS <mdRef> Metadata Reference from within the METS file.

3.2.6. Other Metadata (Digital Provenance Administrative Metadata, Source Administrative Metadata, and Behaviors Metadata)

You may submit any additional metadata associated with a particular digital object, but are not required to do so. We will store any supplied additional technical metadata with the object, but may not display the metadata in the OAC interfaces.

Note that all supplied metadata should be encoded using valid XML extension schemas as specified by CDL-supported METS profiles. If a given set of metadata does not conform to a valid XML extension schema, then you should create a schema to embed the metadata and facilitate validation of the METS file. Otherwise, the metadata should be stored independently of the METS file and referred to using the METS <mdRef> Metadata Reference from within the METS file.

3.3. Content Files

The following content file types are currently supported in OAC. Consult the appropriate guidelines for preparing these content file types:

Content File Type	Content File Guidelines
Images	Submit the following two images, per digital object. Contact the CDL if you would like to submit alternate delivery copy formats: **Access image:** • JPEG (medium to high quality compression, sRGB profile for color and Gray Gamma 2.2 profile for monochrome) or QuickTime VR. • Images should be 800-3000 pixels (typically 800-1024 pixels) across long dimension. Adjust accordingly for QuickTime VR files. • JPEG images should be 8-bit grayscale or 24-bit color. Adjust accordingly for QuickTime VR files. **Thumbnail image:** • JPEG or GIF • Images should fit within a boundary of 150-200 pixels across long dimension (200 pixels preferred). • JPEG images should be 8-bit grayscale or 24-bit color. GIF images should be 4-bit grayscale, 8-bit color. Optionally, provide an additional master production TIFF image file; consult the ***CDL Digital File Format Recommendations*** for additional advices on TIFF image files. We will use this file to derive a

	JPEG2000 for online display, and will not retain the master production image file: **Master production image (optional):** • TIFF • Color and grayscale TIFF files should have ICC color profiles embedded in the file header, to indicate how the color and tonal values in the file are to be interpreted. Technical details for embedding ICC profiles in TIFF files can be found in the International Color Consortium's (ICC) **Specification ICC.1:2004-10 (Profile version 4.2.0.0)** (see p. 69). TIFF files without embedded profiles will be assumed to be in sRGB color space if color, and Gray Gamma 2.2 color space if monochrome. More information about ICC color profiles can be found the **ICC homepage**. The Adobe Photoshop software (and associated literature) also includes considerable information about creating, embedding, and using color profiles.
Texts	The following text file formats are supported. Contact the CDL if you would like to submit alternate formats: • PDF/A and PDF: All PDF file formats are supported. We recommend including embedded text transcriptions in PDF files, when possible. Submit one PDF file per digital object. • Imaged text: see recommendations for **Images**. • TEI text: We recommend preparing files based on the CDL Structured Text Working Group TEI Encoding Guidelines. Submit one TEI file per digital object. Consult the ***CDL Digital File Format Recommendations*** for additional advices on PDF/A and PDF, image, and TEI files.

Each content file should have a file name that is unique to your institution (i.e., not necessarily globally unique); often the unique identifier is used to name the content file itself.

4. Revision History

This is the second version of the CDL GDO. This version is based upon and supersedes the *CDL Digital Object Standard, Version 1.0* (May 2001) and the *OAC Best Practice Guidelines for Digital Objects, Version 1.1* (January 2004). These guidelines were prepared by the CDL Digital Object Working Group from the fall of 2004 through the winter of 2005.

The CDL GDO is reviewed and updated semi-annually by UC Curation Center and Digital Special Collections staff.

June 2007

- Modified Sections 2.1 and 3.1. The METS top-level <mets> element must have an OBJID attribute containing an ARK identifier for the digital object. Additionally, the METS top-level <mets> element must have a PROFILE attribute that contains a URI or other identifier for the METS profile.

September 2007

- Modified subheadings and reorganized content within Sections 2.1 and 3.1: subheadings are now consistently based on METS element names.
- Added METS File <file> element specifications to Sections 2.1, 2.2.2, 3.1, and 3.2.4: Technical metadata associated with a particular digital object (such as checksum [MD5, SHA-1, or CRC32] and byte size values may be supplied in the METS <file> element, but is not required.

April 2009

- Included encoding examples in Section 3.1 and Appendix C.
- Added recommendation in Section 3.1 and Appendix A ("Institution/Repository" element) for encoding unique identifiers for contributing institution. Recommendation specifies use of <mdRef> with a MDTYPE attribute set to "other" and a OTHERMDTYPE attribute set to "contributing-institution-code".

January 2010

- Reformatted document.
- Added PREMIS rights metadata mappings in Appendix B.

January 2011

- Revised Sections 1.2 and 2 to reflect use of Merritt Digital Repository service. Changed “Basic” and “Enhanced” service levels terminology to “Merritt” and “OAC/Calisphere” service levels, respectively.

July 2011

- Updated Section 3.3 to reflect supported file formats for OAC/Calisphere.

August 2011

- Updated Section 3.3 to refer to the *CDL Digital File Format Recommendations.*

January 2017

- Updated Section 1.1 to reflect that we are no longer supporting METS-based workflows for OAC and Calisphere, and have pivoted to a metadata harvesting approach. Also accordingly changed “OAC/Calisphere service level" heading to "OAC service level".

September 2023

- Updated Sections 1.1 and 1.2 to clarify that these guidelines are no longer applicable for sharing digital collections with OAC or Calisphere; included links to current metadata harvesting guidelines supported by Calisphere.

Appendix A. Descriptive Metadata Guidelines (Detailed)

The following conventions are used to express guidelines for each metadata element:

- **Definition:** A definition of the element.
- **Recommended data values:** Recommended data values for the element. May include references to appropriate content standard, authority file, thesaurus, encoding standard, etc. to guide data value entry.
- **Crosswalks:** The crosswalks provide encoding analogs between elements in Dublin Core and MODS, two schemas for descriptive metadata that are commonly used with METS.
- **Examples:** Provides examples of preferred data values within elements.

Identifier

Definition:A unique identifier for the resource.

Recommended data values: Identify the resource by means of a unique string or number conforming to a formal or locally-derived identification system. Example formal identification systems include:

- Uniform Resource Identifier (URI), including the Uniform Resource Locator (URL)
- Digital Object Identifier (DOI)
- International Standard Book Number (ISBN)

The METS top-level <mets> element must have an OBJID attribute containing an ARK identifier for the digital object. For more information, see **Section 3.1**.

Crosswalks:

- **Dublin Core:**
  - <dc:identifier>
- **MODS:**
  - <mods:identifier type=“”>
  - < mods:location>
    < mods:url>
- **METS:**
  - <mets:mets OBJID="">

Examples:

calb_p3353 *[Note: locally-derived unique identifier]*
0609609718 *[Note: ISBN]*

Title

Definition: A succinct, identifying name for the resource.

Recommended data values: Transcribe the formal title of the resource or supply a title, if necessary, using an appropriate content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), Describing Archives: a Content Standard (DACS), or Graphic Materials (GIHC).

Crosswalks:

- **Dublin Core:**
  - <dc:title>
- **MODS:**
  - <mods:titleInfo>
    <mods:title>
  - <mods:titleInfo>
    <mods:title>
    <mods:subtitle>

Examples:

Formal titles
Two dancers on a stage / Frasher Foto *[Note: transcribed according to AACR2]*
The Rocky Mountains, emigrants crossing the plains [graphic] / F.F. Palmer, del. *[Note: transcribed according to Graphic Materials]*

Supplied titles
[Photograph of musicians performing at a cultural program] *[Note: derived according to AACR2]*
Mitchell Bonner photograph of musicians performing at a cultural program *[Note: derived according to DACS]*
[Phoenix] / Ben Shahn *[Note: derived according to Graphic Materials]*

Creator

Definition: The name of the person, institution, agent, or group primarily responsible for the creation of the resource.

Recommended data values: The form of the name should be taken from a standard naming authority file, such as the Library of Congress Name Authority File (LCNAF) or Union List of Artists' Names (ULAN). If a name does not appear in an authority file, establish the name according to a content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), or Describing Archives: a Content Standard (DACS).

Additionally, if possible, indicate the code for a standard naming authority file from which the name is taken. Use "lcnaf" for the LCNAF or "ulan" for ULAN. For all others, use the appropriate code for the source (see the Library of Congress' Term, Name, and Title Sources Code List).

If the name is not found in a standard naming authority file, indicate the content standard by which the name is established, e.g., “aacr” for AACR2, “dacs” for DACS, and “gihc” for *Graphic Materials (GIHC)* (see the Library of Congress’ Descriptive Conventions Code List). If a content standard is not used, use “local”.

Crosswalks:

- **Dublin Core:**
  - <dc:creator>
- **MODS:**
  - <mods:name type=“personal | corporate | conference” authority=““>
    <mods:namePart>
  - <mods:name type=“personal | corporate | conference” authority=““>
    <mods:namePart>
    <mods:role>
    <mods:roleTerm type=“text”>

Examples:

Personal name entry
Yamada, Mitsuye *[Note: determined from local cataloging authority or LCNAF]*
Chase, Alexander W. (Alexander Wells), 1843-1888 *[Note: derived according to AACR2]*
White, Ira Johnson *[Note: determined from ULAN]*
Robinson family *[Note: derived according to DACS]*

Corporate name entry
American Philosophical Society *[Note: determined from local cataloging authority or LCNAF]*
Frasher Foto (Firm) *[Note: derived according to AACR2]*

Date

Definition: A single date or inclusive dates indicating when the resource was created.

Recommended data values: Construct dates using an appropriate content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), Describing Archives: a Content Standard (DACS), or Graphic Materials (GIHC).

At least one form of the date should be normalized (note that the Date element is repeatable) using one of the following standards:

- Temporal Enumerated Ranges (TEMPER) standard. TEMPER is a simple date and time syntax for representing points, lists, and ranges of time stamps. The syntax is designed to be machine-parseable and human-reader-friendly, and to support simple lexical sorting algorithms. TEMPER consists of four-, eight-, and 14-digit points, point ranges, and lists of points and ranges.
- International Standard Organization (ISO) 8601 standard, using a modified version of the W3C date and time formats profile.

Crosswalks:

- **Dublin Core:**
  - <dc:date>

- <dcterms:created>

- **MODS**:
  - <mods:originInfo>
    <mods:dateCreated encoding="temper | w3cdtf" qualifier=""> *[Note: do not use <dateCaptured> when describing date of creation for a born-digital resource]*
  - <mods:originInfo>
    <mods:dateOther encoding="temper | w3cdtf" qualifier="">
  - <mods:publicationInfo>
    <mods:dateIssued encoding="temper | w3cdtf" qualifier="">

Examples:

TEMPER encoding

Single dates

1901 = 1901
January 1901 = 19010100
1901 January 3 = 19010103

Date spans

1900-1950 = 1900-1950
1956 January-July = 19560100-19560700
1980s = 1980-1989 *[Note: use an interval to indicate every year of the decade]*
19th century = 1801-1900

Broken date spans

1924, 1956-1975 = 1924, 1956-1975 *[Note: separate by a comma]*

Open date spans
1911- = 1911-
-1911 = -1911

Approximate dates
circa 1950 = 1950~

Undated material

undated: circa mid 20th century = 1935~-1965~ *[Note: if a resource is undated this can be stated but provide an estimate if possible; normalize as an interval, perhaps using the dates of the life of creator, etc.]*

International Standard Organization (ISO) 8601 encoding (using a modified version of the W3C date and time formats profile)

Single dates

1901 = 1901
January 1901 = 1901-01
1901 January 3 = 1901-01-03

Date spans

1900-1950 = 1900/1950
1956 January-July = 1956-01/1956-07
1980s = 1980/1989 *[Note: use an interval to indicate every year of the decade]*
19th century = 1801/1900

Broken date spans

1924, 1956-1975 = 1924, 1956/1975 *[Note: separate by a comma]*

Open date spans
1911- = 1911/9999 *[Note: use an interval and set the end date to 9999]*

Approximate dates
circa 1950 = 1945/1955 *[Note: normalize as an interval to express an appropriate date range]*

Undated material

undated: circa mid 20th century = 1935/1965 *[Note: if a resource is undated this can be stated but provide an estimate if possible; normalize as an interval, perhaps using the dates of the life of creator, etc.]*

Description

Definition: A brief free-text note, abstract, table of contents listing, or descriptive statement that characterizes more fully than the title does the scope or content of the resource.

Recommended data values: Use when the intellectual content of the item is not sufficiently captured in the title and other descriptors. Construct a note using an appropriate content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), Describing Archives: a Content Standard (DACS), or Graphic Materials (GIHC).

Crosswalks:

- **Dublin Core:**
  - <dc:description>
  - <dcterms:abstract>
- **MODS:**
  - <mods:abstract>
  - <mods:tableOfContents>
  - <mods:note>
  - <mods:note type=“”> *[Note: use for scope and content notes that are equivalent to MARC 520 element]*

Examples:

Depicts unknown automobile driver stopping at roadside to add water to engine on all-day drive from Chico to Sacramento. Exact location unknown. Verso stamped with 596; manuscript note indicates car owned by “N.E.R.” *[Note: derived according to AACR2]*

View of the Alaskan King Ice Cream Parlor, with horse-drawn delivery wagon in foreground and City Hall in background, Eugene, OR. *[Note: derived according to DACS]*

Signed in red ink. Edition of 59; Library has 14/59. *[Note: derived according to Graphic Materials]*

Language

Definition: Term that indicates the language that is an integral part of the resource, such as a caption that is part of a photograph or a title that is part of a painting.

Recommended data values: At least one form of the language term should be normalized in coded form using a three-letter code from the from the International Organization for Standardization (ISO) 639-2 Codes for the Representation of Names of Languages (note that the Language element is repeatable, for representing the language term in textual form).

Crosswalks:

- **Dublin Core:**
  - <dc:language>
- **MODS:**
  - <mods:languageTerm authority=“iso639-2b” type=“code”>

Examples:

eng *[Note: use for English]*
vie *[Note: use for Vietnamese]*
ger *[Note: use for German]*

Subject (Name)

Definition: Significant names (personal, corporate, family, meeting, etc.) represented in or by the resource.

Recommended data values: The form of the name should be taken from a standard naming authority file, such as the Library of Congress Name Authority File (LCNAF) or Union List of Artists’ Names (ULAN). If a name does not appear in an authority file, establish the name according to a content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), or Describing Archives: a Content Standard (DACS).

Additionally, if possible, indicate the code for a standard naming authority file from which the name is taken. Use “lcnaf” for the LCNAF or “ulan” for ULAN. For all others, use the appropriate code for the source (see the Library of Congress’ Term, Name, and Title Sources Code List).

If the name is not found in a standard naming authority file, indicate the content standard by which the name is established, e.g., “aacr” for AACR2, “dacs” for DACS, and “gihc” for *Graphic*

Materials (GIHC) (see the Library of Congress' Descriptive Conventions Code List). If a content standard is not used, use "local".

Crosswalks:

- **Dublin Core:**
  - <dc:subject>
- **MODS:**
  - <mods:subject authority="">
<mods:name type="personal | corporate | conference" authority="">
<mods:namePart>

Examples:

Personal name entry
Yamada, Mitsuye *[Note: determined from local cataloging authority or LCNAF]*
Chase, Alexander W. (Alexander Wells), 1843-1888 *[Note: derived according to AACR2]*
White, Ira Johnson *[Note: determined from ULAN]*
Robinson family *[Note: derived according to DACS]*

Corporate name entry
American Philosophical Society *[Note: determined from local cataloging authority or LCNAF]*
Frasher Foto (Firm) *[Note: derived according to AACR2]*

Subject (Title)

Definition: Significant titles of other resources (e.g., works, expressions of those works, individual items, etc.) represented in or by the resource.

Recommended data values: The form of the title should be taken from a standard naming authority file, such as the Library of Congress Title Authority File (LCTAF). If a title does not appear in an authority file, establish the title according to a content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), Describing Archives: a Content Standard (DACS), or Graphic Materials (GIHC).

Additionally, if possible, indicate the code for a standard naming authority file from which the title is taken. Use "lctah" when the name is established in the LCTAF.

If the title does not appear in the authority file, indicate the content standard by which the title is established, e.g., "aacr" for AACR2, "dacs" for DACS, and "gihc" for *Graphic Materials (GIHC)* (see the Library of Congress' Descriptive Conventions Code List). If a content standard is not used, use "local".

Crosswalks:

- **Dublin Core:**
  - <dc:subject>
- **MODS:**

- <mods:subject authority=“”>
  <mods:titleInfo authority=“”>
  <mods:title>

Examples:

Kim Hà, 1950-. Qua con bao du : hoi ky vuot bien bang duong bo. *[Note: manuscript material documenting creation of a monograph titled “Qua con bao du”; entry derived according to AACR2]*

Subject (Place)

Definition: Significant names of geographic locations represented in or by the resource.

Recommended data values: The form of the name should be taken from a standard naming authority file, such as the Library of Congress Name Authority File (LCNAF) or Thesaurus of Geographic Names (TGN). If a name does not appear in an authority file, establish the name according to a content standard such as Anglo-American Cataloging Rules (AACR2) or Cataloging Cultural Objects (CCO).

Additionally, if possible, indicate the code for a standard naming authority file from which the name is taken. Use “lcnaf” for the LCNAF or “ulan” for ULAN. For all others, use the appropriate code for the source (see the Library of Congress’ Term, Name, and Title Sources Code List).

If the name is not found in a standard naming authority file, indicate the content standard by which the name is established, e.g., “aacr” for AACR2, “dacs” for DACS, and “gihc” for *Graphic Materials (GIHC)* (see the Library of Congress’ Descriptive Conventions Code List). If a content standard is not used, use “local”.

Crosswalks:

- **Dublin Core:**
  - <dc:coverage>
  - <dcterms:spatial>
- **MODS:**
  - <mods:subject authority=“”>
    <mods:geographic>
  - <mods:subject authority=“”>
    <mods:hierarchicalGeographic>
  - <mods:subject authority=“”>
    <mods:cartographics>

Examples:

Santa Cruz (Calif.) *[Note: determined from local cataloging authority or LCNAF]*
Santa Cruz *[Note: determined from TGN]*
Rancho Boca de la Playa (Calif.) *[Note: established according to AACR2]*

Subject (Topic, Function, or Occupation)

Definition: Significant topics or subjects (including concepts, events, etc.), functions, or occupations represented in or by the resource.

Recommended data values: The form of the heading should be taken from a standard or local thesaurus, such as the Library of Congress Subject Headings (LCSH), Art and Architecture Thesaurus (AAT), or Thesaurus of Graphic Materials I (TGM I).

If a heading does not appear in a thesaurus, establish the heading according to standard thesaurus rules (such as the Library of Congress' *Subject Cataloging Manual*, AAT rules, or TGM I rules), or local thesaurus rules.

Additionally, if possible, indicate the code for a standard naming authority file from which the heading is taken. Use "lcsh" for LCSH, "aat" for AAT, or "gmgpc" for TGM I (see the Library of Congress' Term, Name, and Title Sources Code List).

If the heading does not appear in a standard thesaurus, indicate the thesaurus rules by which the term is established, e.g., "lcsh" for LCSH, "aat" for AAT, or "gmgpc" for TGM I (see the Library of Congress' Term, Name, and Title Sources Code List). If standard thesaurus rules are not used, use "local".

Crosswalks:

- **Dublin Core:**
  - <dc:subject>
- **MODS:**
  - <mods:subject authority="">
<mods:topic>
  - <mods:subject authority="">
<mods:occupation>

Examples:

Viticulture -- California -- Sonoma County *[Note: determined from LCSH]*
Surveyors--California--Orange County *[Note: determined from LCSH]*
Street railroads *[Note: determined from AAT]*
Agricultural laborers--Italian Americans--California--Salinas *[Note: determined from TGM I]*

Genre

Definition: Primary genre(s) represented in or by the resource.

Recommended data values: The form of the heading should be taken from a standard or local thesaurus, such as the Library of Congress Subject Headings (LCSH), Art and Architecture Thesaurus (AAT), Genre Terms (RBGENR), or Thesaurus of Graphic Materials II (TGM II).

If a heading does not appear in a thesaurus, establish the heading according to standard thesaurus rules (such as the Library of Congress' *Subject Cataloging Manual*, AAT rules, or TGM II rules), or local thesaurus rules.

Additionally, if possible, indicate the code for a standard naming authority file from which the heading is taken. Use “lcsh” for LCSH, “aat” for AAT, or “gmgpc” for TGM II (see the Library of Congress’ Term, Name, and Title Sources Code List).

If the heading does not appear in a standard thesaurus, indicate the thesaurus rules by which the term is established, e.g., “lcsh”, “aat”, or “gmgpc”. Use the appropriate code for the thesaurus by which the term is established (see the Library of Congress’ Term, Name, and Title Sources Code List). If standard thesaurus rules are not used, use “local”.

- **Crosswalks:**
- **Dublin Core:**
  - <dc:type>
- **MODS:**
  - <mods:genre authority=“ ”>

Examples:

Photographs *[Note: determined from LCSH]*
Photographic prints *[Note: determined from AAT]*
Photographic prints *[Note: determined from TGM II]*

Type

Definition: A high-level type data value that generally characterizes the resource represented by the digital object. This high-level data value may also be repeated, or more specific genre data values may also be encoded as part of the descriptive metadata (see **Genre**).

Recommended data values: Choose data values from one of the following lists, based on the descriptive metadata scheme being utilized. Select data values from the MODS type vocabulary if in doubt:

- Dublin Core type vocabulary
- MODS type vocabulary (see values listed under <typeOfResource>)

Crosswalks:

- **Dublin Core:**
  - <dc:type>
- **MODS:**
  - <mods:typeOfResource>
- **METS:**
  - <mets:mets TYPE="">

Examples:

image *[Note: determined from Dublin Core type vocabulary]*
still image *[Note: determined MODS type vocabulary]*

Format/Physical Description

Definition: The physical or digital manifestation of the resource. Typically, this may include the media-type or dimensions of the resource. Examples of dimensions include size and duration.

Recommended data values: Construct a statement using an appropriate content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), Describing Archives: a Content Standard (DACS), or Graphic Materials (GIHC).

Crosswalks:

- **Dublin Core:**
  - <dc:format>
  - <dcterms:extent>

- **MODS:**
  - <mods:physicalDescription>
    <mods:extent>
  - <mods:physicalDescription>
    <mods:form>
  - <mods:physicalDescription>
    <mods:internetMediaType>

Examples:

1 photographic print ; 9 x 14 cm. *[Note: derived according to AACR2]*
14 letters *[Note: derived according to DACS]*
1 leaflet : ill. ; 21.5 x 38.5 cm., folded to 21.5 x 10 cm. *[Note: derived according to Graphic Materials]*

Related Collection/Project

Definition: A machine access-oriented identifier for a collection or project that the resource is a member of or related to in some manner.

Recommended data values: If the resource is a member of or related to a collection or project, at least one **Related Collection/Project** element must refer to a unique identifier for the collection or project (e.g., a URL to a webpage, collection guide, or finding aid that describes the collection).

Alternatively, indicate the title for a collection or project.

For guidelines on encoding METS-based links from digital objects to associated, parent-level collection descriptions (represented either in the form of a MARC record or an EAD finding aid), see **Appendix C** . Use a METS <mdRef> element with a MDTYPE attribute set to either "MARC" or "EAD".

Crosswalks:

- **Dublin Core:**
  - <dc:relation>
  - <dcterms:isPartOf>

- **MODS:**
  - <mods:relatedItem>
    <mods:url>
  - <mods:relatedItem>
    <mods:identifier>

Examples:

URL for a collection guide (or finding aid) in the Online Archive of California
http://www.oac.cdlib.org/findaid/ark:/13030/kt6199s0j9/

URL for a collection
http://jarda.cdlib.org
http://laassubject.org/

Title
Silicon Valley History Online

Institution/Repository

Definition: The name of the owning or contributing institution of the resource.

Recommended data values: The form of the name should be taken from a standard naming authority file, such as the Library of Congress Name Authority File (LCNAF). If the name does not appear in an authority file, establish the name according to a content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), or Describing Archives: a Content Standard (DACS).

In order for the CDL to uniquely identify and manage digital objects by contributing institution, the CDL strongly recommends the use of a METS <mdRef> element with a MDTYPE attribute set to "other" and a OTHERMDTYPE attribute set to "contributing-institution-code". Additionally, use a XLINK:HREF attribute to reference the normalized version of the MARC Organization Code for the contributing institution. The code should be listed at the end of the following URI string: "http://id.loc.gov/organizations/". For more information, see **Section 3.1**.

Crosswalks:

- **Dublin Core:**
  - <dc:publisher>
- **MODS:**
  - <mods:location>
    <mods:physicalLocation authority="">
    <mods:physicalLocation>
  - <mods:note displayLabel="Digital object made available by">

- **METS:**
    - <mets:mdRef LOCTYPE="URL" MDTYPE="other" OTHERMDTYPE="contributing-institution-code" xlink:href="http://id.loc.gov/organizations/" />

Examples:

Fowler Museum of Cultural History *[Note: determined from local cataloging authority or LCNAF]*
Orange Public Library *[Note: derived according to AACR2]*
University of California, San Francisco. Library. Archives and Special Collections *[Note: derived according to AACR2]*

Contributor

Definition: The name of the person, institution, agent, or group responsible for contributing to the resource in some significant manner, such as a illustrator, designer, autographer, etc.

Recommended data values: The form of the name should be taken from a standard naming authority file, such as the Library of Congress Name Authority File (LCNAF) or Union List of Artists' Names (ULAN). If a name does not appear in an authority file, establish the name according to a content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), or Describing Archives: a Content Standard (DACS).

Additionally, if possible, indicate the code for a standard naming authority file from which the name is taken. Use "lcnaf" for the LCNAF or "ulan" for ULAN. For all others, use the appropriate code for the source (see the Library of Congress' Term, Name, and Title Sources Code List).

If the name is not found in a standard naming authority file, indicate the content standard by which the name is established, e.g., "aacr" for AACR2, "dacs" for DACS, and "gihc" for *Graphic Materials (GIHC)* (see the Library of Congress' Descriptive Conventions Code List). If a content standard is not used, use "local".

Crosswalks:

- **Dublin Core:**
    - <dc:contributor>
- **MODS:**
    - <mods:name type="personal | corporate | conference" authority=" ">
      <mods:namePart>
      <mods:role>
      <mods:roleTerm type="text">

Examples:

Personal name entry
Yamada, Mitsuye *[Note: determined from local cataloging authority or LCNAF]*
Chase, Alexander W. (Alexander Wells), 1843-1888 *[Note: derived according to AACR2]*
White, Ira Johnson *[Note: determined from ULAN]*
Robinson family *[Note: derived according to DACS]*

Corporate name entry
American Philosophical Society *[Note: determined from local cataloging authority or LCNAF]*
Frasher Foto (Firm) *[Note: derived according to AACR2]*

Publisher

Definition: The name of the publisher of a formally published resource. This element may not be relevant for unpublished materials.

Recommended data values: The form of the name should be taken from a standard naming authority file, such as the Library of Congress Name Authority File (LCNAF) or Union List of Artists' Names (ULAN). If a name does not appear in an authority file, establish the name according to a content standard such as Anglo-American Cataloging Rules (AACR2), Cataloging Cultural Objects (CCO), or Describing Archives: a Content Standard (DACS).

Crosswalks:

- **Dublin Core:**
  - <dc:publisher>
- **MODS:**
  - <mods:originInfo>
    <mods:publisher>

Examples:

Simon & Schuster *[Note: determined from local cataloging authority or LCNAF]*
New Albion Records *[Note: derived according to AACR2]*

Appendix B. Rights Management Administrative Metadata Guidelines (Detailed)

Copyright Status

Definition: Indicates general type of copyright status for the resource.

Recommended data values: If using Dublin Core or MODS, enter one of the following data values: enter “Public domain” if in the public domain, “Copyrighted” if copyrighted, or “Unknown” of copyright status is unknown.

If using METSRights: enter “PUBLIC DOMAIN” if in the public domain, or “COPYRIGHTED” if copyrighted . If the copyright status is unknown, enter “OTHER” and add the following additional attribute: OTHERCATEGORYTYPE=“UNKNOWN”. Note that all attributes and attribute values must be in upper case when using the METSRights schema.

Crosswalks:

- **METSRights:**
  - <rts:RightsDeclarationMD RIGHTSCATEGORY=“ ”>
  - <rts:RightsDeclarationMD RIGHTSCATEGORY=“OTHER” OTHERCATEGORYTYPE=“UNKNOWN”>
- **PREMIS**
  - <pre:rightsBasis>
  - <pre:copyrightInformation>
    <pre:copyrightStatus>
    <pre:copyrightJurisdiction>
    <pre:copyrightStatusDeterminationDate>
- **Dublin Core:**
  - <dc:rights>
- **MODS:**
  - <mods:accessCondition type=“useAndReproduction”>

Copyright Statement

Definition: A free-text note that describes copyright restrictions pertaining to the resource.

Recommended data values: Usage of one of the following copyright statements is recommended, based on the data value assigned in **Copyright Status**:

- When the status is “unknown” :

Some materials in these collections may be protected by the U.S. Copyright Law (Title 17, U.S.C.). In addition, the reproduction, and/or commercial use, of some materials may be restricted by gift or purchase agreements, donor restrictions, privacy and publicity rights, licensing agreement(s), and/or trademark rights. Distribution or reproduction of materials protected by copyright beyond that allowed by fair use requires the written permission of the copyright owners. To the extent other restrictions apply, permission for distribution or reproduction from the applicable rights holder is also required. Responsibility for obtaining permissions, and for any use rests exclusively with the user.

- When the status is “public domain” :

  Material in the public domain. No restrictions on use.

- When the status is “copyrighted” :

  Transmission or reproduction of materials protected by copyright beyond that allowed by fair use requires the written permission of the copyright owners. Works not in the public domain cannot be commercially exploited without permission of the copyright owner. Responsibility for any use rests exclusively with the user.

Crosswalks:

- **METSRights:**
  - <rts:Context CONTEXTCLASS=“GENERAL PUBLIC”>
    <rts:Constraints>
    <rts:ConstraintDescription>
- **PREMIS**
  - <pre:copyrightInformation>
    <pre:copyrightNote>
- **Dublin Core:**
  - <dc:rights>
- **MODS:**
  - <mods:accessCondition type=“useAndReproduction”>

Copyright Date

Definition: The year the resource was copyrighted. Use only if **Copyright Status** is “Copyrighted”.

Recommended data values: Supply the year the resource was copyrighted, typically based on a copyright notice on the resource itself. The resource does not have to have been registered with the copyright office. Do not approximate copyright year if it does not appear on the work, or in some reliable alternate source for this information. Use the standardized form of YYYY, and do not include month or day information.

Crosswalks:

- **METSRights:**
  - <rts:RightsDeclarationMD RIGHTSCATEGORY="COPYRIGHTED">
    <rts:RightsDeclaration>
- **PREMIS**
  - <pre:copyrightInformation>
    <pre:copyrightNote>
- **Dublin Core:**
  - <dcterms:dateCopyrighted>
- **MODS:**
  - <mods:originInfo>
    <mods:copyrightDate encoding="temper | w3cdtf" qualifier=" ">

Copyright Owner Name

Definition: The name(s) of the copyright holders of the resource. Use only if **Copyright Status** is "Copyrighted".

Recommended data values: Specify the most common form of the name in natural or direct order.

Crosswalks:

- **METSRights:**
  - <rts:RightsHolder>
    <rts:RightsHolderName>
- **PREMIS**
  - <pre:copyrightInformation>
    <pre:copyrightNote>
- **Dublin Core:**
  - <dc:rightsHolder>
- **MODS:**
  - <mods:accessCondition type="useAndReproduction">

Copyright Owner Contact Information

Definition: Publicly accessible contact information for the copyright owner(s) of the resource. Use only if **Copyright Status** is "Copyrighted".

Recommended data values: Provide as much contact information as possible that can be made available to the public. Otherwise, use the phrase "Consult contributing institution" or a similar note.

Crosswalks:

- **METSRights:**
  - <rts:RightsHolder>
    <rts:RightsHolderContact>
    <rts:RightsHolderContactAddress>
- **PREMIS**
  - <pre:copyrightInformation>
    <pre:copyrightNote>
- **Dublin Core:**
  - <dc:rightsHolder>
- **MODS:**
  - <mods:accessCondition type="useAndReproduction">

Appendix C. Linking from Digital Objects to Collection Descriptions

The following guidelines apply to specialized use of the METS <mdRef> Metadata Reference element to create links from digital objects to associated, parent-level collection descriptions or "finding aids" (represented either in the form of a MARC record or in the form of an EAD collection guide). Note that particular METS profiles may provide for more specific guidelines on use of the <mdRef> element for this or other purposes.

MARC record linking

If the collection description is encoded in a MARC record, then encode the entire URL for the MARC record in a <mdRef> Metadata Reference HREF attribute of the object's METS wrapper. Include a MDTYPE attribute (see the bolded examples). Note that it may be difficult to generate a static and durable URL for particular MARC records, depending on local OPACs:

Example:

```
<METS:dmdSec ID='DMR1'>
<METS:mdRef LOCTYPE='URL' MDTYPE='MARC'
xlink:href='http://antpac.lib.uci.edu/search/tkim+ha/tkim+ha/1%2
C3%2C3%2CB/frameset&amp;FF=tkim+ha+papers+1983+1999&amp;1%2C1%2C
'/>
</METS:dmdSec>
```

EAD finding aid linking

If the collection-level description is encoded as an EAD finding aid, then use the following procedures:

1. Obtain the Archival Resource Key (ARK) URL for the finding aid that you would like to link the object to. (For finding aids already submitted to the CDL, the finding aid ARK URL can be obtained by viewing the finding aid in the OAC website). Below is an example of the ARK URL syntax:

   http://www.oac.cdlib.org/findaid/ark:/13030/##########

   The ARK is a machine-readable unique identifier scheme for persistent access to digital resources managed by the CDL. Because ARKs are specially constructed and globally unique identifiers, their production and management is controlled by the CDL.

   In some cases, you may be creating objects that will link to a finding aid that has not yet been created or completed (and will be submitted to the CDL at a later time). To obtain a new "placeholder" ARK for the finding aid, contact the CDL. At the point that you create the finding aid, encode the ARK within the <eadid> identifier attribute (see the bolded example). Only encode the portion of the ARK beginning with "ark:/...", and not the entire ARK URL:

Example of EAD finding aid with ARK encoding:

```
<eadid countrycode="us" identifier="ark:/13030/kt4w10133d"
mainagencycode="CU-SC" publicid="PUBLIC "-//University of
California, Santa Cruz::University Library::Special
Collections//TEXT (US::CU-SC::MS 74::John Cage Mycology
Collection)//EN" "ms74.sgm">ms74.xml</eadid>
```

2. Encode the entire ARK URL for the finding aid in a <mdRef> metadata reference HREF attribute of the object's METS wrapper:

   Example:

   ```
   <METS:dmdSec ID="DMR1">
   <METS:mdRef LOCTYPE="URL" MDTYPE="EAD" LABEL="Arnold Rubin
   Papers"
   xlink:href="http://www.oac.cdlib.org/findaid/ark:/13030/kt
   7489n8zj"/>
   </METS:dmdSec>
   ```

   The LABEL value should be the title for the collection that the object is related to (e.g., "Arnold Rubin Papers"). This should be the same title used for the collection in the associated finding aid.

3. Create or update your finding aids to link to their associated objects, following the specifications outlined in the OAC Best Practice Guidelines for EAD (OAC BPG EAD), Sections 4.4.5 and 4.5.

   Please ensure that the objects are online at the time that the finding aid (with outbound links) is published in the OAC.