

## Choosing a metadata standard for your digital project

### DESCRIPTIVE METADATA

#### Dublin Core (DC)

**Type of collection:** Groups of materials whose organization is not a significant access point to the collection. Generally these materials will not be organized hierarchically. The collection may be in any format, or a mixture of formats. Collections for which item-level description is planned and none of the other metadata needs described in this document apply.

**Appropriate metadata standard:** Dublin Core Metadata Element Set 1.1

**Example collection:** Worthington Memory <<http://www.worthingtonmemory.org/>>

**Resources to consult:** Dublin Core Metadata Element Set, Version 1.1: Reference Description <<http://www.dublincore.org/documents/dces/>>; Dublin Core Usage Guide <<http://www.dublincore.org/documents/usageguide/>>; DCMI Metadata Terms <<http://www.dublincore.org/documents/dcmi-terms/>>

**Usage notes:** Simple Dublin Core, consisting of only the 15 core elements, can be used, although much desired robustness (e.g., distinguishing between roles of the creator of a resource, specifying the name of the controlled vocabulary from which a value is selected) is not possible. Qualified Dublin Core, using the DCMI “Other Elements and Element Refinements” as specified in <<http://www.dublincore.org/documents/dcmi-terms/#H3>> can be used to slightly increase robustness, although the refinements available may not be appropriate for many uses. Creating local qualifiers for Dublin Core elements is another option, however this practice reduces the interoperability of the metadata created. The emerging Dublin Core Library Application Profile <<http://dublincore.org/documents/library-application-profile/>>, still in Working Draft status, attempts to address these issues.

#### Metadata Object Description Schema (MODS)

**Type of collection:** Materials requiring fairly in-depth item level description, including explicit specification of creator roles, date types, or subject authorities. Materials with existing item-level MARC cataloging.

**Appropriate metadata standard:** MODS 3.1

**Example collection:** University of Chicago Chopin Early Editions Project <<http://chopin.lib.uchicago.edu/>>

**Resources to consult:** MODS official Web site <<http://www.loc.gov/standards/mods/>>; MODS User Guidelines <<http://www.loc.gov/standards/mods/v3/mods-userguide.html>>

**Usage notes:** MODS is intended to be applicable to any type of resource and provides a middle ground between Dublin Core and MARC. Items for which MARC cataloging already exists can be transformed into MODS records for use in digital library applications.

### **Encoded Archival Description (EAD)**

**Type of collection:** Archivaly-processed groups of materials whose organization and/or provenance is significant. These materials will generally be hierarchically arranged natural groupings assembled by a collector or creator (e.g., the papers or correspondence of a certain individual) rather than less-tightly related groups of materials assembled by a holding institution. A Finding Aid or inventory may or may not already exist. Materials will often be unpublished. Description at the collection level is necessary, lower levels of description may or may not be appropriate. Materials described may or may not be available in digital form.

**Appropriate metadata standard:** EAD 2002

**Example collection:** Finding Aids in the Online Archive of California

<<http://www.oac.cdlib.org/>>

**Resources to consult:** Official EAD Version 2002 Web Site <<http://www.loc.gov/ead/>>; EAD Help Pages, especially the EAD 2002 Cookbook <<http://www.archivists.org/saagroups/ead/>>

**Usage notes:** EAD 2002 can be used to describe the collection at the item, folder-only, or collection-only level. One EAD document should be created for each collection.

### **Text Encoding Initiative (TEI)**

**Type of collection:** Text collections intended for full-text searching in an online environment. Full text may or may not be intended to be used together with page images of the original document.

**Appropriate metadata standard:** TEI P4

**Example collection:** Indiana University, Wright American Fiction, 1851-1875

<<http://www.lettrs.indiana.edu/web/w/wright2/>>

**Resources to consult:** TEI Text Encoding in Libraries Guidelines for Best Encoding Practices <<http://www.indiana.edu/~lettrs/tei/>>; TEI Guidelines <<http://www.tei-c.org/Guidelines2/index.htm>>

**Usage notes:** Choose an Encoding Level as described in the TEI Text Encoding in Libraries Guidelines for Best Encoding Practices. Bibliographic information for resource discovery is encoded in the TEI Header. The entire full text of the resource is marked up structurally in the bulk of the TEI document, and this markup is used for powerful full-text searching. A new version, TEI P5 is currently in development <<http://www.tei-c.org/P5/>>.

### **Visual Resources Association (VRA) Core**

**Type of collection:** Art images whose users require in-depth indexing and retrieval using expert terms for genre, culture, style, period, etc.

**Appropriate metadata standard:** VRA Core Categories 3.0

**Example collection:** Cleveland Museum of Art Collections

<<http://www.clevelandart.org/Explore/>> (From each item view, click "More Information" to see VRA image metadata.)

**Resources to consult:** VRA Core version 3 home page

<<http://www.vraweb.org/vracore3.htm>>; CC:DA Task Force on VRA Core

Categories Summary Report <<http://www.libraries.psu.edu/tas/jca/ccda/docs/tf-vra1.pdf>>; Cataloging Cultural Objects <<http://www.vraweb.org/CCOweb/>>.

**Usage notes:** VRA Core is more robust than Dublin Core for describing art images and metadata in this format is consequently more powerful but more expensive to create. VRA Core contains both "work" records describing an actual art object, and "image" records describing representations of views of that object (slides, digital images, etc.) held by an institution. Best practice in creating VRA Core records is to populate fields using appropriate controlled vocabularies such as ULAN and TGM, and the rules described in Cataloging Cultural Objects <<http://www.vraweb.org/CCOweb/>>. A new version, VRA Core 4.0, is currently in Beta <[http://www.vraweb.org/datastandards/VRA\\_Core4\\_Welcome.html](http://www.vraweb.org/datastandards/VRA_Core4_Welcome.html)>.

### **Categories for the Description of Works of Art Lite (CDWA Lite)**

**Type of collection:** Art images whose users require in-depth indexing and retrieval using expert terms for genre, culture, style, period, etc.

**Appropriate metadata standard:** CDWA Lite 0.09

**Example collection:** See example records at

<[http://www.getty.edu/research/conducting\\_research/standards/cdwa/3\\_cataloging\\_examples/index.html](http://www.getty.edu/research/conducting_research/standards/cdwa/3_cataloging_examples/index.html)>

**Resources to consult:** CDWA Lite home page

<[http://www.getty.edu/research/conducting\\_research/standards/cdwa/cdwalite/index.html](http://www.getty.edu/research/conducting_research/standards/cdwa/cdwalite/index.html)>; List of CDWA Lite Elements, Tags, Description, and Examples

<[http://www.getty.edu/research/conducting\\_research/standards/cdwa/cdwalite/cdwalite.pdf](http://www.getty.edu/research/conducting_research/standards/cdwa/cdwalite/cdwalite.pdf)>

**Usage notes:** CDWA Lite comes out of the museum environment and provides a slightly different approach than the library-based VRA Core. The CDWA Lite schema was developed specifically to share CDWA metadata over the OAI protocol. Best practice in creating CDWA Lite records is to populate fields using appropriate controlled vocabularies such as ULAN and TGM, and the rules described in Cataloging Cultural Objects <<http://www.vraweb.org/CCOweb/>>.

### **Gateway to Educational Materials (GEM)**

**Type of collection:** Learning objects that serve education communities (pre-school, K-12, higher education, vocational and technical training, and lifelong learning). These materials require classification criteria special to the education community, such as education level of the target audience, pedagogical methodology, and standards alignment.

**Appropriate metadata standard:** Dublin Core Metadata Element Set 1.1 as extended in GEM profile

**Example collection:** NASA Space Science Education Resource Directory

<<http://teachspacescience.org/>> (From each item view, click "More Information" to see GEM metadata.)

**Resources to consult:** GEM home page <<http://www.thegateway.org/>>; GEM top-level elements

<<http://raven.ischool.washington.edu/about/documentation/metadataElements/>>.

**Usage notes:** The GEM metadata element set is based on Qualified Dublin Core, with additional elements and qualifiers added to meet educational needs. The GEM initiative has also developed application profiles and controlled vocabularies for use with the GEM metadata element set.

## **OTHER TYPES OF METADATA**

### **Metadata Encoding & Transmission Standard (METS)**

<<http://www.loc.gov/standards/mets/>>. METS is an XML schema allowing users to “wrap” existing descriptive metadata in any format with structural, technical, administrative, preservation, and meta-metadata to create a single metadata object for a resource. METS provides extension schemas with recommended technical metadata for still images, audio, and video.

### **NISO Metadata for Images in XML (NISO MIX)**

<<http://www.loc.gov/standards/mix/>>. MIX is an XML schema implementation of the NISO draft standard Z39.87-2002, *Data Dictionary – Technical Metadata for Digital Still Images*.

### **PREservation Metadata Implementation Strategies (PREMIS)**

<<http://www.oclc.org/research/projects/pmwg/>>. PREMIS is not a metadata element set, rather it is an initiative to develop a set of core elements for preservation metadata for the purpose of long-term preservation of digital objects. Some preliminary recommendations of this group which include some metadata element proposals may be found in the report *Preservation Metadata and the OAIS Information Model: A Metadata Framework to Support the Preservation of Digital Objects* <[http://www.oclc.org/research/projects/pmwg/pm\\_framework.pdf](http://www.oclc.org/research/projects/pmwg/pm_framework.pdf)>.

## Helpful Resources

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### Books

Caplan, Priscilla. *Metadata Fundamentals for all Librarians*. Chicago: American Library Association, 2003.

Hillman, Diane, & Elaine Westbrook, (eds.). *Metadata in practice*. Chicago: American Library Association, 2004.

### Metadata creation guidelines

Digital Library Federation/National Science Digital Library Best Practices for Shareable Metadata <<http://oai-best.comm.nsdlib.org/cgi-bin/wiki.pl?PublicTOC>>

Digital Library Federation Aquifer MODS Implementation Guidelines <[http://www.diglib.org/aquifer/DLF\\_MODS\\_ImpGuidelines\\_ver4.pdf](http://www.diglib.org/aquifer/DLF_MODS_ImpGuidelines_ver4.pdf)>

Dublin Core Usage Guide <<http://www.dublincore.org/documents/usageguide/>>

Western States Dublin Core Best Practices <<http://www.cdpheritage.org/cdp/documents/CDPDCMBP.pdf>>

Metadata Guidelines for the Indiana Digital Library <[http://www.statelib.lib.in.us/www/isl/diglibin/idlmetadata\\_final.pdf](http://www.statelib.lib.in.us/www/isl/diglibin/idlmetadata_final.pdf)>

Indiana Digital Library Metadata Best Practices for Use of Qualified Dublin Core <<http://www.statelib.lib.in.us/www/isl/diglibin/idlbest.pdf>>

Indiana Digital Library Suggested Technical Metadata Elements <<http://www.statelib.lib.in.us/www/isl/diglibin/techmeta.pdf>>

### Email lists

Metadata Librarians Listserv <<http://metadatalibrarians.monarchos.com/>>

DC-General <<http://www.jiscmail.ac.uk/lists/DC-GENERAL.html>>

AUTOCAT <<http://ublib.buffalo.edu/libraries/units/cts/autocat/>>

Diglib <<http://www.ifla.org/II/lists/diglib.htm>>

Digistates <<http://lists.mdch.org/bin/listinfo/digistates>>

## EXAMPLE 1 - MARC

```
=LDR 00833cam 2200253 a 45 0
=001 ALF9368BB
=008 970909s1929\\lenk\\000\\0\\eng\\
=010 \\$a 29028820
=035 \\$a(InU)ALF9368BB
=035 \\$a(OCOLC)ocm01084166
=035 \\$9(BY)AJL2891
=040 \\$aDLC$cTOL$dOCL$dKSU$dHRH
=090 \\$aPQ4390$b.E5 1929
=100 1\\$aEliot, T. S.$q(Thomas Stearns),$d1888-1965.
=245 10\\$aDante /$cby T.S. Eliot.
=260 \\$aLondon :$bFaber & Faber,$c1929.
=300 \\$a69 p. ;$c20 cm.
=440 \\$aPoets on the poets ;$vno. 2
=500 \\$a"First published in MCMXXIX by Faber & Faber ... " -- t.p. verso.
=591 \\$aBB: I002 retro/c
=600 00\\$aDante Alighieri,$d1265-1321$xCriticism and interpretation.
=998 \\$a4/26/1999$b8/25/2000$c5/20/1999
=596 \\$a1
=926 \\$aB-MAIN$b_RCSTACKS$cPQ4390 .E4$dNORMAL$f1
```

## EXAMPLE 2 - DC

```
<?xml version="1.0" encoding="utf-8"?>
<oai_dc:dcCollection xmlns:oai_dc="http://www.openarchives.org/OAI/2.0/oai_dc/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:dc="http://purl.org/dc/elements/1.1/"
  xsi:schemaLocation="http://www.openarchives.org/OAI/2.0/oai_dc/
  http://www.openarchives.org/OAI/2.0/oai_dc.xsd">
  <oai_dc:dc>
    <dc:title>Dante </dc:title>
    <dc:creator> Eliot, T. S. (Thomas Stearns), 1888-1965. </dc:creator>
    <dc:type>text</dc:type>
    <dc:publisher>London : Faber & Faber,</dc:publisher>
    <dc:date>1929.</dc:date>
    <dc:language>eng</dc:language>
    <dc:description>BB: I002 retro/c</dc:description>
    <dc:description>1</dc:description>
    <dc:subject>Dante Alighieri, 1265-1321</dc:subject>
  </oai_dc:dc>
</oai_dc:dcCollection>
```

## EXAMPLE 3 - MODS

```
<?xml version="1.0" encoding="UTF-8"?>
<modsCollection xmlns="http://www.loc.gov/mods/v3"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.loc.gov/mods/v3 http://www.loc.gov/standards/mods/v3/mods-3-0.xsd">
  <mods version="3.0">
    <titleInfo>
      <title>Dante</title>
    </titleInfo>
    <name type="personal">
      <namePart>Eliot, T. S. (Thomas Stearns)</namePart>
      <namePart type="date">1888-1965</namePart>
      <role>
        <roleTerm authority="marcrelator" type="text">creator</roleTerm>
      </role>
    </name>
    <typeOfResource>text</typeOfResource>
    <originInfo>
      <place>
        <placeTerm type="code" authority="marccountry">enk</placeTerm>
      </place>
      <place>
        <placeTerm type="text">London</placeTerm>
      </place>
      <publisher>Faber & Faber</publisher>
      <dateIssued>1929</dateIssued>
      <issuance>monographic</issuance>
    </originInfo>
    <language>
      <languageTerm authority="iso639-2b" type="code">eng</languageTerm>
    </language>
    <physicalDescription>
      <form authority="marcform">print</form>
      <extent>69 p. ; 20 cm.</extent>
    </physicalDescription>
    <note type="statement of responsibility">by T.S. Eliot.</note>
    <note>"First published in MCMXXIX by Faber & Faber ... " -- t.p. verso.</note>
    <subject authority="lcsch">
      <name type="personal">
        <namePart>Dante Alighieri</namePart>
        <namePart type="date">1265-1321</namePart>
      </name>
      <topic>Criticism and interpretation</topic>
    </subject>
    <relatedItem type="series">
      <titleInfo>
        <title>Poets on the poets ; no. 2</title>
      </titleInfo>
    </relatedItem>
    <identifier type="lccn">29028820</identifier>
    <recordInfo>
      <recordContentSource authority="marcorg">DLC</recordContentSource>
      <recordCreationDate encoding="marc">970909</recordCreationDate>
      <recordIdentifier>ALF9368BB</recordIdentifier>
    </recordInfo>
  </mods>
</modsCollection>
```

## EXAMPLE 4 - DC

```
<?xml version="1.0" encoding="UTF-8"?>
<oai_dc:dc xmlns:oai_dc="http://www.openarchives.org/OAI/2.0/oai_dc/"
  xmlns:dc="http://purl.org/dc/elements/1.1/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.openarchives.org/OAI/2.0/oai_dc/
  http://www.openarchives.org/OAI/2.0/oai_dc.xsd">
  <dc:title>from Point Sublime view is upstream the Royal Gorge</dc:title>
  <dc:title>The Gorge & Bridge from Pt. Sublime [P]</dc:title>
  <dc:creator>Cushman, Charles Weever, 1896-1972</dc:creator>
  <dc:subject>Shadows</dc:subject>
  <dc:subject>Rivers</dc:subject>
  <dc:subject>Cliffs</dc:subject>
  <dc:subject>Suspension bridges</dc:subject>
  <dc:subject>Canyons</dc:subject>
  <dc:subject>Automobiles</dc:subject>
  <dc:subject>Scenic overlooks</dc:subject>
  <dc:subject>Point Sublime (Colo.)</dc:subject>
  <dc:subject>Royal Gorge (Colo.)</dc:subject>
  <dc:publisher>Indiana University. Digital Library Program</dc:publisher>
  <dc:publisher>Indiana University, Bloomington. University Archives</dc:publisher>
  <dc:date>1952-10-28</dc:date>
  <dc:type>Landscape photographs</dc:type>
  <dc:type>StillImage</dc:type>
  <dc:type>Image</dc:type>
  <dc:format>image/jpeg</dc:format>
  <dc:format>35mm slide</dc:format>
  <dc:identifier>Cushman number: 2352.3</dc:identifier>
  <dc:identifier>IU Archives number: P06295</dc:identifier>
  <dc:identifier>http://purl.dlib.indiana.edu/iudl/archives/cushman/P06295</dc:identifier>
  <dc:source>Indiana University, Bloomington. University Archives P06295</dc:source>
  <dc:relation>isPartOf http://www.dlib.indiana.edu/collections/cushman/</dc:relation>
  <dc:coverage>Colorado, United States (Fremont county)</dc:coverage>
  <dc:rights>http://purl.dlib.indiana.edu/iudl/archives/cushman/rights</dc:rights>
</oai_dc:dc>
```



## EXAMPLE 5 - MODS

```
<?xml version="1.0" encoding="UTF-8"?>
<mods:mods xmlns:mods="http://www.loc.gov/mods/v3"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.loc.gov/mods/v3
http://www.loc.gov/standards/mods/v3/mods-3-0.xsd">
  <mods:titleInfo>
    <mods:title>from Point Sublime view is upstream the Royal Gorge</mods:title>
  </mods:titleInfo>
  <mods:titleInfo type="alternative">
    <mods:title>The Gorge & amp; Bridge from Pt. Sublime [P]</mods:title>
  </mods:titleInfo>
  <mods:name type="personal">
    <mods:namePart type="family">Cushman</mods:namePart>
    <mods:namePart type="given">Charles Weever</mods:namePart>
    <mods:namePart type="date">1896-1972</mods:namePart>
    <mods:role>
      <mods:roleTerm authority="marcrelator" type="text">photographer</mods:roleTerm>
      <mods:roleTerm authority="marcrelator" type="code">pht</mods:roleTerm>
    </mods:role>
  </mods:name>
  <mods:typeOfResource>still image</mods:typeOfResource>
  <mods:genre authority="gmgpc">Landscape photographs</mods:genre>
  <mods:originInfo>
    <mods:dateCreated encoding="w3cdtf" keyDate="yes">1952-10-28</mods:dateCreated>
    <mods:copyrightDate encoding="w3cdtf">2003</mods:copyrightDate>
  </mods:originInfo>
  <mods:physicalDescription>
    <mods:internetMediaType>image/jpeg</mods:internetMediaType>
    <mods:digitalOrigin>reformatted digital</mods:digitalOrigin>
    <mods:note>Original 35mm slide was digitized in 2003 as a TIFF image. Display versions in
      JPEG format in three sizes are available.</mods:note>
    <mods:note displayLabel="Camera settings">25 f 8</mods:note>
  </mods:physicalDescription>
  <mods:subject>
    <mods:topic authority="lctgm">Shadows</mods:topic>
  </mods:subject>
  <mods:subject>
    <mods:topic authority="lctgm">Rivers</mods:topic>
  </mods:subject>
  <mods:subject>
    <mods:topic authority="lctgm">Cliffs</mods:topic>
  </mods:subject>
  <mods:subject>
    <mods:topic authority="lctgm">Suspension bridges</mods:topic>
  </mods:subject>
  <mods:subject>
    <mods:topic authority="lctgm">Canyons</mods:topic>
  </mods:subject>
  <mods:subject>
    <mods:topic authority="lctgm">Automobiles</mods:topic>
  </mods:subject>
  <mods:subject>
    <mods:topic authority="lctgm">Scenic overlooks</mods:topic>
  </mods:subject>
</mods:mods>
```

```
</mods:subject>
<mods:subject>
  <mods:topic>Point Sublime (Colo.)</mods:topic>
</mods:subject>
<mods:subject>
  <mods:topic>Royal Gorge (Colo.)</mods:topic>
</mods:subject>
<mods:subject>
  <mods:hierarchicalGeographic>
    <mods:country>United States</mods:country>
    <mods:state>Colorado</mods:state>
    <mods:county>Fremont</mods:county>
  </mods:hierarchicalGeographic>
</mods:subject>
<mods:relatedItem type="original">
  <mods:originInfo>
    <mods:dateCreated encoding="w3cdtf" keyDate="yes">1952-10-28</mods:dateCreated>
  </mods:originInfo>
  <mods:physicalDescription>
    <mods:form authority="gmd">graphic</mods:form>
    <mods:extent>1 slide : col. ; 35mm</mods:extent>
    <mods:note>Original 35mm slide was digitized in 2003 as a TIFF image. Display versions
      in JPEG format in three sizes are available.</mods:note>
  </mods:physicalDescription>
  <mods:location>
    <mods:physicalLocation displayLabel="Original slide">Indiana University, Bloomington.
      University Archives P06295</mods:physicalLocation>
  </mods:location>
</mods:relatedItem>
<mods:identifier displayLabel="Cushman number" type="local">2352.3</mods:identifier>
<mods:identifier displayLabel="IU Archives number" type="local">P06295</mods:identifier>
<mods:location>
  <mods:url>http://purl.dlib.indiana.edu/iudl/archives/cushman/P06295</mods:url>
</mods:location>
<mods:accessCondition xlink:href="http://purl.dlib.indiana.edu/iudl/archives/cushman/rights"
  type="useAndReproduction">Copyright and reproduction rights for all Charles W. Cushman
  photographs are held by Indiana University and administered by the University Archives,
  Indiana University, Bloomington, IN 47405.</mods:accessCondition>
<mods:recordInfo>
  <mods:recordContentSource>Indiana University Digital Library
  Program</mods:recordContentSource>
  <mods:recordCreationDate encoding="w3cdtf">2004-09-09</mods:recordCreationDate>
  <mods:recordIdentifier>archives/cushman/P06295</mods:recordIdentifier>
</mods:recordInfo>
</mods:mods>
```