EXAMPLES OF METADATA SCHEMAS REVIEWED IN CHAPTER 5

B

Table B.1 MODS (Version 3)	
Types of Elements	**Definition**
TitleInfo	A word, phrase, character, or group of characters, normally appearing in a resource, that names it or the work contained in it
Name	The name of a person, organization, or event (conference, meeting, etc.) associated in some way with the resource
TypesofResource	A term that specifies the characteristics and general type of content of the resource
Genre	A term or terms that designate a category characterizing a particular style, form, or content, such as artistic, musical, literary composition, etc.
OriginInfo	Information about the origin of the resource, including place of origin or publication, publisher/originator, and dates associated with the resource
Language	A designation of the language in which the content of a resource is expressed
PhysicalDescription	Describes the physical attributes of the information resource
Abstract	A summary of the content of the resource
TableofContents	A description of the contents of a resource
TargetAudience	A description of the intellectual level of the audience for which the resource is intended
Note	General textual information relating to a resource
Subject	A term or phrase representing the primary topic(s) on which a work is focused
Classification	A designation applied to a resource that indicates the subject by applying a formal system of coding and organizing resources according to subject areas
RelatedItem	Information that identifies other resources related to the one being described
Identifier	Contains a unique standard number or code that distinctively identifies a resource
Location	Identifies the institution or repository holding the resource, or the electronic location in the form of a URL where it is available
AccessCondition	Information about restrictions imposed on access to a resource
Part	The designation of physical parts of a resource in a detailed form
Extension	Provides additional information not covered by MODS
RecordInfo	Information about the metadata record

Top-level Elements in MODS (http://www.loc.gov/standards/mods/userguide/generalapp.html)

Table B.2   METS (Version 1.9)

Types of Elements	Definition
Element <mets>	The root element <mets> establishes the container for the information being stored and/or transmitted by the standard.
Element <metsHdr>	The METS header element <metsHdr> captures metadata about the METS document itself, not the digital object the METS document encodes. Although it records a more limited set of metadata, it is very similar in function and purpose to the headers employed in other schema, such as the Text Encoding Initiative (TEI) or the Encoded Archival Description (EAD).
Element <agent>	The agent element <agent> provides for various parties and their roles with respect to the METS record to be documented.
Element <name>	The element <name> can be used to record the full name of the document agent.
Element <note>	The <note> element can be used to record any additional information regarding the agent's activities with respect to the METS document.
Element <altRecordID>	The alternative record identifier element <altRecordID> allows one to use alternative record identifier values for the digital object represented by the METS document; the primary record identifier is stored in the OBJID attribute in the root <mets> element.
Element <metsDocumentID>	The metsDocument identifier element <metsDocumentID> allows a unique identifier to be assigned to the METS document itself. This may be different from the OBJID attribute value in the root <mets> element, which uniquely identifies the entire digital object represented by the METS document.
Element <dmdSec>	A descriptive metadata section <dmdSec> records descriptive metadata pertaining to the METS object as a whole or one of its components. The <dmdSec> element conforms to same generic datatype as the <techMD>, <rightsMD>, <sourceMD>, and <digiprovMD> elements and supports the same subelements and attributes. A descriptive metadata element can either wrap the metadata (mdWrap) or reference it in an external location (mdRef) or both. METS allows multiple <dmdSec> elements, and descriptive metadata can be associated with any METS element that supports a DMDID attribute. Descriptive metadata can be expressed according to many current description standards (i.e., MARC, MODS, Dublin Core, TEI Header, EAD, VRA, FGDC, DDI) or a locally produced XML schema.
Element <amdSec>	The administrative metadata section <amdSec> contains the administrative metadata pertaining to the digital object, its components, and any original source material from which the digital object is derived. The <amdSec> is separated into four subsections that accommodate technical metadata (techMD), intellectual property rights (rightsMD), analog/digital source metadata (sourceMD), and digital provenance metadata (digiprovMD). Each of these subsections can either wrap the metadata (mdWrap) or reference it in an external location (mdRef) or both.
Element <fileSec>	The overall purpose of the content file section element <fileSec> is to provide an inventory of and the location for the content files that comprise the digital object being described in the METS document.
Element <fileGrp>	A sequence of file group elements <fileGrp> can be used to group the digital files comprising the content of a METS object either into a flat arrangement or, because each file group element can itself contain one or more file group elements, into a nested (hierarchical) arrangement.

Table B.2   METS (Version 1.9) (*cont*.)

Types of Elements	Definition
Element <structMap>	The structural map section <structMap> is the heart of a METS document. It provides a means for organizing the digital content represented by the <file> elements in the <fileSec> of the METS document into a coherent hierarchical structure. Such a hierarchical structure can be presented to users to facilitate their comprehension and navigation of the digital content. It can further be applied to any purpose requiring an understanding of the structural relationship of the content files or parts of the content files. The organization may be specified to any level of granularity (intellectual and or physical) that is desired. Since the <structMap> element is repeatable, more than one organization can be applied to the digital content represented by the METS document.
Element <structLink>	The structural link section element <structLink> allows for the specification of hyperlinks among the different components of a METS structure that are delineated in a structural map. This element is a container for a single, repeatable element, <smLink>, which indicates a hyperlink between two nodes in the structural map. The <structLink> section in the METS document is identified using its XML ID attributes.
Element <behaviorSec>	A behavior section element <behaviorSec> associates executable behaviors with content in the METS document by means of a repeatable behavior <behavior> element. This element has an interface definition <interfaceDef> element that represents an abstract definition of the set of behaviors represented by a particular behavior section. A <behavior> element also has a <mechanism> element, which is used to point to a module of executable code that implements and runs the behavior defined by the interface definition. The <behaviorSec> element, which is repeatable as well as nestable, can be used to group individual behaviors within the structure of the METS document.
Element <techMD>	A technical metadata element <techMD> records technical metadata about a component of the METS object, such as a digital content file. The <techMD> element conforms to the same generic datatype as the <dmdSec>, <rightsMD>, <sourceMD>, and <digiprovMD> elements and supports the same subelements and attributes. A technical metadata element can either wrap the metadata (mdWrap) or reference it in an external location (mdRef) or both. METS allows multiple <techMD> elements, and technical metadata can be associated with any METS element that supports an ADMID attribute.
Element <rightsMD>	An intellectual property rights metadata element <rightsMD> records information about copyright and licensing pertaining to a component of the METS object. The <rightsMD> element conforms to same generic datatype as the <dmdSec>, <techMD>, <sourceMD>, and <digiprovMD> elements and supports the same subelements and attributes. A rights metadata element can either wrap the metadata (mdWrap) or reference it in an external location (mdRef) or both. METS allows multiple <rightsMD> elements, and rights metadata can be associated with any METS element that supports an ADMID attribute.
Element <sourceMD>	A source metadata element <sourceMD> records descriptive and administrative metadata about the source format or media of a component of the METS object such as a digital content file. It is often used for discovery, data administration, or preservation of the digital object. The <sourceMD> element conforms to same generic datatype as the <dmdSec>, <techMD>, <rightsMD>, and <digiprovMD> elements and supports the same sub-elements and attributes. A source metadata element can either wrap the metadata (mdWrap) or reference it in an external location (mdRef) or both. METS allows multiple <sourceMD> elements, and source metadata can be associated with any METS element that supports an ADMID attribute.

Table B.2   METS (Version 1.9) (*cont*.)

Types of Elements	Definition
Element <digiprovMD>	A digital provenance metadata element <digiprovMD> can be used to record any preservation-related actions taken on the various files that comprise a digital object (e.g., those subsequent to the initial digitization of the files such as transformation or migrations) or, in the case of born digital materials, the files' creation. In short, digital provenance should be used to record information that allows both archival/library staff and scholars to understand what modifications have been made to a digital object and/or its constituent parts during its lifecycle. This information can then be used to judge how those processes might have altered or corrupted the object's ability to accurately represent the original item. One might, for example, record master derivative relationships and the process by which those derivations have been created.
Element <file>	The file element <file> provides access to the content files for the digital object being described by the METS document. A <file> element may contain one or more <FLocat> elements that provide pointers to a content file and/or an <FContent> element that wraps an encoded version of the file. Embedding files using <FContent> can be a valuable feature for exchanging digital objects among repositories or for archiving versions of digital objects for off-site storage. All <FLocat> and <FContent> elements should identify and/or contain identical copies of a single file. The <file> element is recursive, thus allowing subfiles or component files of a larger file to be listed in the inventory.
Element <div>	The structural divisions of the hierarchical organization provided by a <structMap> are represented by division <div> elements, which can be nested to any depth. Each <div> element can represent either an intellectual (logical) division or a physical division. Every <div> node in the structural map hierarchy may be connected (via subsidiary <mptr> or <fptr> elements) to content files that represent that div's portion of the whole document.
Element <mptr>	Like the <fptr> element, the METS pointer element <mptr> represents digital content that manifests its parent <div> element. Unlike the <fptr >, which either directly or indirectly points to content represented in the <fileSec> of the parent METS document, the <mptr> element points to content represented by an external METS document. Thus, this element allows multiple discrete and separate METS documents to be organized at a higher level by a separate METS document.
Element <fptr>	The <fptr> or file pointer element represents digital content that manifests its parent <div> element. The content represented by an <fptr> element must consist of integral files or parts of files that are represented by <file> elements in the <fileSec>. Via its FILEID attribute, an <fptr> may point directly to a single integral <file> element that manifests a structural division. However, an <fptr> element may also govern an <area> element, a <par>, or a <seq>, which in turn would point to the relevant file or files. A child <area> element can point to part of a <file> that manifests a division, while the <par> and <seq> elements can point to multiple files or parts of files that together manifest a division.
Element <par>	The <par> or parallel files element aggregates pointers to files, parts of files, and/or sequences of files or parts of files that must be played or displayed simultaneously to manifest a block of digital content represented by an <fptr> element.
Element <smLink>	The Structural Map Link element <smLink> identifies a hyperlink between two nodes in the structural map. You would use <smLink>, for instance, to note the existence of hypertext links between web pages, if you wished to record those links within METS. NOTE: <smLink> is an empty element. The location of the <smLink> element to which the <smLink> element is pointing MUST be stored in the xlink:href attribute.

Table B.2   METS (Version 1.9) (*cont.*)

Types of Elements	Definition
Element <seq>	The sequence of files element <seq> aggregates pointers to files, parts of files and/or parallel sets of files, or parts of files that must be played or displayed sequentially to manifest a block of digital content.
Element <area>	The area element <area> typically points to content consisting of just a portion or area of a file represented by a <file> element in the <fileSec>.
Element <smLinkGrp>	The structMap link group element <smLinkGrp> provides an implementation of xlink:extendLink and provides xlink compliant mechanisms for establishing xlink:arcLink type links between two or more <div> elements in <structMap> element(s) occurring within the same METS document or different METS documents.
Element <smLocatorLink>	The structMap locator link element <smLocatorLink> is of xlink:type "locator." It provides a means of identifying a <div> element that will participate in one or more of the links specified by means of <smArcLink> elements within the same <smLinkGrp>.
Element <smArcLink>	Element <smArcLink> contained within <smLinkGrp>
Element <behavior>	A behavior element <behavior> can be used to associate executable behaviors with content in the METS document. This element has an interface definition <interfaceDef> element that represents an abstract definition of a set of behaviors represented by a particular behavior. A <behavior> element also has a behavior mechanism <mechanism> element, a module of executable code that implements and runs the behavior defined abstractly by the interface definition.
Element <interfaceDef>	The interface definition <interfaceDef> element contains a pointer to an abstract definition of a single behavior or a set of related behaviors that are associated with the content of a METS object.
Element <mechanism>	A mechanism element <mechanism> contains a pointer to an executable code module that implements a set of behaviors defined by an interface definition.
Element <mdRef>	The metadata reference element <mdRef> element is a generic element used throughout the METS schema to provide a pointer to metadata that resides outside the METS document.
Element <mdWrap>	A metadata wrapper element <mdWrap> provides a wrapper around metadata embedded within a METS document.
Element <binData>	The binary data wrapper element <binData> is used to contain Base64 encoded metadata.
Element <xmlData>	The xml data wrapper element <xmlData> is used to contain XML encoded metadata.
Element <FLocat>	The file location element <FLocat> provides a pointer to the location of a content file. It uses the XLink reference syntax to provide linking information indicating the actual location of the content file, along with other attributes specifying additional linking information. NOTE: <FLocat> is an empty element. The location of the resource pointed to MUST be stored in the xlink:href attribute.
Element <FContent>	The file content element <FContent> is used to identify a content file contained internally within a METS document. The content file must be either Base64 encoded and contained within the subsidiary <binData> wrapper element or consist of XML information and be contained within the subsidiary <xmlData> wrapper element.
Element <binData>	A binary data wrapper element <binData> is used to contain a Base64 encoded file.

(*Continued*)

Table B.2   METS (Version 1.9) (*cont*.)

Types of Elements	Definition
Element <xmlData>	An xml data wrapper element <xmlData> is used to contain an XML encoded file. The content of an <xmlData> element can be in any namespace or in no namespace. As permitted by the XML Schema Standard, the processContents attribute value for the metadata in an <xmlData> element is set to "lax." Therefore, if the source schema and its location are identified by means of an xsi:schemaLocation attribute and then an XML processor will validate the elements for which it can find declarations.
Element <stream>	A component byte stream element <stream> may be composed of one or more subsidiary streams. An MPEG4 file, for example, might contain separate audio and video streams, each of which is associated with technical metadata. The repeatable <stream> element provides a mechanism to record the existence of separate data streams within a particular file, and the opportunity to associate <dmdSec> and <amdSec> with those subsidiary data streams if desired.
Element <transformFile>	The transform file element <transformFile> provides a means to access any subsidiary files listed below a <file> element by indicating the steps required to "unpack" or transform the subsidiary files. This element is repeatable and might provide a link to a <behavior> in the <behaviorSec> that performs the transformation.

http://www.loc.gov/standards/mets/docs/mets.v1-9.html

Table B.3   TEI Header (Version 2.8.0)

Types of Elements	Definition	Example
titleStmt	(title statement) Groups information about the title of a work and those responsible for its content	
editionStmt	(edition statement) Groups information relating to one edition of a text	
extent	(extent) Describes the approximate size of a text stored on some carrier medium or of some other object, digital or nondigital, specified in any convenient units	
publicationStmt	(publication statement) Groups information concerning the publication or distribution of an electronic or other text	A publisher or distributor; licensing conditions; identifying numbers
seriesStmt	(series statement) Groups information about the series, if any, to which a publication belongs	
notesStmt	(notes statement) Collects together any notes providing information about a text additional to that recorded in other parts of the bibliographic description	Note; annotation
sourceDesc	(source description) Describes the source from which an electronic text was derived or generated, typically a bibliographic description in the case of a digitized text, or a phrase such as "born digital" for a text that has no previous existence	

Table B.3   TEI Header (Version 2.8.0) (*cont*.)

Types of Elements	Definition	Example
encodingDesc	(encoding description) Documents the relationship between an electronic text and the source or sources from which it was derived	
profileDesc	(text-profile description) Provides a detailed description of non-bibliographic aspects of a text, specifically the languages and sublanguages used, the situation in which it was produced and the participants and their setting	
revisionDesc	(revision description) Summarizes the revision history for a file	

TEI Header (http://www.tei-c.org/release/doc/tei-p5-doc/en/html/HD.html#HD21)

Table B.4   EAD Header Elements (Version 2002)

Types of Elements	Definition
<eadheader> EAD Header	A wrapper element for bibliographic and descriptive information about the finding aid document rather than the archival materials being described. The <eadheader> is modeled on the Text Encoding Initiative (TEI) header element to encourage uniformity in the provision of metadata across document types.
<eadid> EAD Identifier	A required subelement of <eadheader> that designates a unique code for a particular EAD finding aid document
<filedesc> File Description	A required subelement of the <eadheader> that bundles much of the bibliographic information about the finding aid, including its author, title, subtitle, and sponsor (all in the <titlestmt>), as well as the edition, publisher, publishing series, and related notes (encoded separately)
<profiledesc> Profile Description	An optional subelement of the <eadheader> that bundles information about the creation of the encoded version of the finding aid, including the name of the agent, place, and date of encoding. The <profiledesc> element also designates the predominant and minor languages used in the finding aid.
<revisiondesc> Revision Description	An optional subelement of the <eadheader> for information about changes or alterations that have been made to the encoded finding aid. The revisions may be recorded as part of a <list> or as a series of <change> elements. Like much of the <eadheader >, the <revisiondesc> element is modeled on an element found in the Text Encoding Initiative (TEI) DTD. The TEI recommends that revisions be numbered and appear in reverse chronological order, with the most recent <change> first.

For more EAD Elements: http://www.loc.gov/ead/tglib/element_index.html

EAD Elements: <eadheader> EAD Header (http://www.loc.gov/ead/tglib/elements/eadheader.html)

Table B.5 VRA Core (Version 4.0)		
Types of Elements	**Definition**	**Example**
work, collection, or image	A choice of one of three elements, work, collection, or image, defines a VRA 4.0 record as describing a work (a built or created object), a collection (an aggregate of such objects), or an image (a visual surrogate of such objects)	
agent	The names, appellations, or other identifiers assigned to an individual, group, or corporate body that has contributed to the design, creation, production, manufacture, or alteration of the work or image	
cultural context	The name of the culture, people (ethnonym), or adjectival form of a country name from which a work, collection, or image originates, or the cultural context with which the work, collection, or image has been associated	
date	Date or range of dates associated with the creation, design, production, presentation, performance, construction, or alteration, etc. of the work or image. Dates may be expressed as free text or numerical.	
description	A free-text note about the work, collection, or image, including comments, description, or interpretation, that gives additional information not recorded in other categories	
inscription	All marks or written words added to the object at the time of production or in its subsequent history, including signatures, dates, dedications, texts, and colophons, as well as marks, such as the stamps of silversmiths, publishers, or printers	
location	The geographic location and/or name of the repository, building, site, or other entity whose boundaries include the work or image	Repository locations; creation locations; discovery locations
material	The substance of which a work or an image is composed	
measurements	The physical size, shape, scale, dimensions, or format of the work or image	
relation	Terms or phrases describing the identity of the related work and the relationship between the work being cataloged and the related work or image. Use this element to relate work records to other work or collection records or image records to work or collection records	
rights	Information about the copyright status and the rights holder for a work, collection, or image	
source	A reference to the source of the information recorded about the work or the image	
stateEdition	The identifying number and/or name assigned to the state or edition of a work that exists in more than one form and the placement of that work in the context of prior or later issuances of multiples of the same work	

Table B.5   VRA Core (Version 4.0) (*cont*.)

Types of Elements	Definition	Example
stylePeriod	A defined style, historical period, group, school, dynasty, movement, etc. whose characteristics are represented in the work or image	
subject	Terms or phrases that describe, identify, or interpret the work or image and what it depicts or expresses	
technique	The production or manufacturing processes, techniques, and methods incorporated in the fabrication or alteration of the work or image	
textref	Contains the name of a related textual reference and any type of unique identifier that text assigns to a work or collection that is independent of any repository	
title	The title or identifying phrase given to a work or an image	
worktype	Identifies the specific type of work, collection, or image being described in the record	

VRA Core 4.0 Element Description (http://www.loc.gov/standards/vracore/VRA_Core4_Element_Description.pdf)