

The UNTL Metadata Guidelines



**Information Technology Services,
Digital Projects Unit**



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Introduction: METADATA INITIATIVE AT THE UNTL

The University of North Texas Libraries (UNTL) actively promote metadata-based digital resource management. The UNTL Digital Projects Unit monitors national and international standards-related activities and conducts research into the theoretical and practical applications of metadata, creating a detailed schema to facilitate consistency among departments and institutions participating in digital projects. This document empowers metadata creators to describe digital objects in a consistent way that ensures long-term preservation and that provides for optimum searching, discovery and retrieval of information by users of our heterogeneous digital collections.

The UNTL metadata element set comprises Dublin Core-based descriptive metadata and detailed technical and preservation information recording how digital resources (text, image, audio, video) are identified, created, formatted, arranged in relevant software applications, and sustained with application of appropriate preservation procedures. While promoting interoperability with widely accepted standards, the recommended UNTL metadata elements allow flexibility at the local level to integrate with existing and anticipated content, processes, and systems. Some elements are optional because of the difficulty of collecting and maintaining some specific types of information. However, the fact that some elements are optional should not be interpreted as an indication that these metadata are unimportant, and we urge users to create the most complete metadata records possible.

The UNTL Metadata Initiative progressed on many fronts in 2005, including testing and implementation of the UNTL metadata system, on which the [Portal to Texas History](#) system is based. As the metadata work group gains practical experience in describing objects with the recommended elements, the UNTL metadata system continues to evolve. This (version-2) guideline is a product of a series of revision activities. It should be noted that in order to comply with changing internal and external standards and needs, the UNTL metadata creation guideline will remain under continuous review.

If you have any comments or suggestions regarding the metadata elements, please contact Cathy Nelson Hartman at chartman@library.unt.edu or Daniel Gelaw Alemneh at dalemneh@library.unt.edu.

FIELD REFERENCE GUIDE	
Label	Name of the element (in bold)
Sub-Element	Sub-elements (if existing) are linked from here (appear bolded in green).
UNTL Definition	A brief statement that defines the element (appear bolded in black)
Comment	A comments field provides additional information about the element--including pointers to related documentation. <u>External links appear underlined and in bright blue,</u> and <u>internal links appear bolded, italicized, underlined, and in bright blue.</u>
Required	Indicates whether the element value is: <ul style="list-style-type: none"> • Mandatory, • Recommended, or • Optional
Repeatable	Indicates if the element is: <ul style="list-style-type: none"> • Repeatable (Yes) or • Not repeatable (No)
Data Type	Specification of allowable data type(s): <ul style="list-style-type: none"> • Boolean (A data object which represents whether some condition is true or not. There are only two such objects: <ul style="list-style-type: none"> ○ <true> i.e. "Yes" and ○ <false> i.e. "No". • Enumerated Type (Restricted to list or controlled vocabularies; and values listed are actual values) • Date/time (ISO 8601:2004 Data elements and interchange formats-Information interchange) E.g. YYYY-MM-DD. • Reference (a single pointer to another object) • String (one or more characters) • Scalar (Any quantitative value)
Input Guidelines	Detailed usage notes and explanation that facilitate understanding and practical application of the element. <u>External links appear underlined and in bright blue,</u> and <u>internal links appear bolded, italicized, underlined, and in bright blue.</u>
Examples	Local examples and clarifications of exceptions. When data type is "Enumerated Type," values listed in the controlled vocabularies are actual values. When data type is "String," detailed examples are provided.

DESCRIPTIVE METADATA

TITLE	
Label	Title
Sub-Element	1.0 Official Title , 1.1 Parallel Title , 1.2 Alternate Title , 1.3 Added Title , 1.4 Series Title , 1.5 Serial Title , 1.6 Uniform Title 1.7 Other
UNTL Definition	The name given to the resource.
Comment	This element will record the name given to the resource at the individual file (document) level. Typically, a title will be a name by which the resource is formally known.
Required	Mandatory
Repeatable	Yes
Data Type	String

Title Type		
1.0 Official Title	Definition:	The official name given to the resource.
	Example:	Texas 100 years ago
1.1 Parallel Title	Definition:	The title proper in another language and/or script.
	Example:	The little prince = Le petit prince
1.2 Alternate Title	Definition:	Any form of the title used as a substitute or alternative to the formal title of the resource.
	Example:	The Fourteenth Street murder or The 14 th Street murder
1.3 Added Title	Definition:	An entry, additional to the original release title, by which an item is represented in a catalog, e.g. variant titles.
	Example:	Title on container: Chiapas : the inside story
1.4 Series Title	Definition:	A group of separate items related to one another by the fact that each item bears, in addition to its own title proper, a collective title applying to the group as a whole.
	Example:	Colección El Rimense-Neoyorquino
1.5 Serial Title	Definition:	A publication in any medium issued in successive parts bearing numerical or chronological designations and intended to be continued indefinitely. Serials include periodicals; newspapers; annuals (reports, yearbooks, etc.); the journals, memoirs, proceedings, transactions, etc., of societies; and numbered monographic series.
	Example:	Texas Register
1.6 Uniform Title	Definition:	The uniform title identifies an item if it has appeared under varying titles. It brings together records for items entered under both personal and corporate names and bearing variant titles.

	Example:	Census of population and housing (2000). Population and housing unit counts.
1.7 Other	Definition:	Titles that do not fit into any of the other categories on this list.
	Example:	

Input guidelines:

Using the existing title.

- The title should be transcribed exactly from the resource as it displays to the user. Use the spelling, punctuation, and capitalization shown on the resource, but replace any ampersands (&) with the word "and." Initial articles such as "a," "an," "the," "der," etc. may be used. The sources of the title include:
 - IMAGE: title on back of photo or on slide casing, title on container, title from album caption, title from finding aid;
 - Please note that for photos, the title should not be tied strictly to the caption which may be unnecessarily rambling or difficult to understand or out of context.
 - TEXT: title page [preferred], cover, finding aid;
 - VIDEO: title screen of the video, label on video tape/disc, container of video ;
 - SOUND: title on disc/cassette label ; title on container ;
 - COMPUTER FILE: title screen, title at top of page, title in HTML header.
- If in doubt about what constitutes the title, use a title found in a reference source such as a library catalog or bibliography. Spell, punctuate and capitalize as shown in the reference source. Include the variants in title type [\(1.0 - 1.7\)](#).
- Titles formulated to MARC standards may include additional "title page" information such as the creator. When copying titles from MARC records, include the entire title as formulated in the catalog consulted.

Creating a title.

- If no title exists, create one. This will happen frequently for photographs, slides, and videos that were not previously published. Place the title in square brackets [...]. Capitalize the first word and any proper nouns in the title. Use punctuation appropriate for English writing. Do not use ampersands (&).
- For photos, create a title that is descriptive, but succinct.
- Do not use the file name, call number, or other identification schemes as a resource title.
- If multiple items have been assembled onto the same record, create a title that is as descriptive as possible of the contents. See also the [Collection](#) element.

Clarifying the title.

- Create alternative titles for any way in which you think a patron may try to search the item that is different from its primary title. This may include a parallel title in a different language, a shortened form of the title, etc [\(1.1 - 1.6\)](#).

Examples:

Title from back of photograph.

Uncle John Goin and Chris Gillihan

Title derived from photograph album caption.

Abner C. Stewart family of Springhill Community

Title from pamphlet cover.

Texas and the Massachusetts Resolutions

Title from label on video.

Power and Influence: Adolph Hitler in Our Times

Titles from library online catalog.

A new history of Texas for schools : also for general reading and for teachers preparing themselves for examination / by Anna J. Hardwicke Pennybacker.

Map of Kansas, Nebraska and Colorado : showing also the southern portion of Dacotah / drawn and engraved by W.H. Gamble.

Title created for photograph.

[Guards for a whiskey still, north Aubrey]

Title for a group of items described on one record.

Letters to Mary Jones's son, undated [10 items]

CREATOR	
Label	Creator
Sub-Element	1.1 Creator Name , 1.2 Creator Role , 1.3 Creator Information
UNTL Definition	The creator is the person, agency, or organization primarily responsible for creating the intellectual content of the resource.
Comment	Use the creator element to describe the maker at the object level. Examples are author, editor, sculptor, photographer, composer, etc. Multiple creators may be associated with the same digital object. For the maker of a collection, or a lesser contributor to an individual object, use the Contributor element instead.
Required	Recommended
Repeatable	Yes
Data Type	String

1.1 Creator Name	
Label	Name
Sub-Element	—
UNTL Definition	This sub-element will contain name(s) of the entity (individual or organization) primarily responsible for making the intellectual content of the resource.
Comment	For individuals, the creator name will consist of a person's last name and, if known, first name and middle name. For organizations or other corporate bodies, the creator name will consist of the organization name.
Required	Recommended
Repeatable	Yes
Data Type	String

1.2 Creator Role	
Label	Role
Sub-Element	—
UNTL Definition	Creator role indicates the relationship of that person or corporate body to the resource being described.
Comment	<p>Assign an appropriate role (from the controlled vocabulary list) to <i>each</i> creator to indicate the relationship of that person or corporate body to the resource being described.</p> <p>The list of roles in the controlled vocabulary is based on relator codes found in the Library of Congress's MARC Code Lists for Relators, Sources, Description Conventions. Please note that definitions for the main roles are given. For information about how relator codes are used in MARC records, see the OCLC Bibliographic Formats Manual.</p>
Required	Mandatory
Repeatable	Yes
Data Type	String

1.3 Creator Information	
Label	Creator Information
Sub-Element	—
UNTL Definition	Creator information will contain facts about the entity primarily responsible for making the intellectual content of the resource.
Comment	<p>This sub-element extends the creator element by providing further information about the entity primarily responsible for making the content of the resource. Any qualifiers such as dates, title, fuller form of name, other form of name, corporate names, contact (email and physical) addresses, jurisdiction, etc. can be recorded in this field. Because creator information is a displayed field, care should be taken with formulating the text, and it should <i>not</i> be used for sensitive personal information such as the unpublished phone number or home address of a donor.</p>
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

Identifying the creator.

- Use the resource as it displays to the user as the primary guide to determining the creator. Examples of creators include author of a text, photographer, musician or musical group performing a musical piece, organization that generates documents, etc.
- If a statement of responsibility cannot be found, but the resource is a component of an official organizational web page or server, use the name of that organization as the creator.
- If the resource is an unsigned or unmarked physical object or artwork with a reliably documented provenance, use the creator name given in the documentation. Record the source of the information in the [Note](#) element.
- If no statement of responsibility is present on the resource or its documentation, leave the creator element blank.

Using the metadata entry form.

- Use the dropdown list in the creator name field of the metadata entry form to select "individual" for a personal name or "organization" for a corporate name. Then click the "expand" icon to open the relevant portion of the form.

Formulating the creator name.

- If possible, consult an authority file such as [Library of Congress Authorities](#) or a locally developed utility for determining the correct form of the name.
- Place alternate forms of the name and birth and death dates associated with the name in the creator information field.
- Multiple creators may be recorded in multiple occurrences of the creator field. Place the creators in the order in which they appear on the resource, but the most important creator (if there is one) should occur first.
- Input each section of a personal name in the appropriate directed box in the metadata entry form: last name, first name (or initial if that is all that is known), middle name (or initial if that is all that is known).
 - If the first and middle names are not known, leave the corresponding entry boxes blank.
 - If the creator has more than three names, place the additional names in the middle name box. For example, Mary Smith McCrory Jones would be entered as *Last: Jones First: Mary Middle: Smith McCrory*.
 - If the creator has a hyphenated last name, include the entire string in the last name box. For example, James A. Donahue-Smith would be entered as *Last: Donahue-Smith First: James Middle: A*.
- Input corporate names in the "organization name" box of the metadata entry form. Corporate names should be listed in hierarchical order, with the highest level agency or body at the beginning and the lowest at the end. Separate the elements of the hierarchy with periods. If a hierarchy is unclear, record the name as it appears on the resource. Preface names of government agencies, with the name of the country or state.
- In the case of a long group or organization name that includes subordinate units, the name may be shortened by eliminating some of the hierarchical parts not considered necessary for uniquely identifying the body in question. For example, to enter the *CIA* as an author, use the form of the name as given in [Library of Congress Authorities](#), *United States. Central Intelligence Agency* instead of the full hierarchical name *United States. National Security Council. Central Intelligence Agency*.
- Names of other organizations (e.g. non-government or single level bodies) should follow the form used in the resource.

Providing additional description.

- For each creator, assign a [creator role](#) from the dropdown list in the metadata entry form. Creator roles are defined in the [controlled vocabulary](#) document.
- Place any additional known information, formatted for public view, in the creator information field.

Related elements.

- If the creator and the publisher are the same, repeat the name in the [Publisher](#) element.
- Individuals or organizations with lesser responsibility for creation of the intellectual content of the resource should be recorded in the [Contributor](#) element instead of the creator element. Some examples of contributors are collector, donor, secondary editor, etc.

Examples:

Personal (individual) names.

Creator name: [Last] Bentley [First] Henry [Middle] Lewis

Creator role: Author

Creator information: [Authorized form of name] Bentley, H. L. (Henry Lewis)

Creator name: [Last] Jones [First] Mary [Middle] Smith McCrory

Creator role: Correspondent

Creator information: [Authorized form of name] Jones, Mary Smith McCrory, 1819-1907.

[Variant name] Mary Jones. [Biographical information] Wife of the last president of the Republic of Texas.

Creator name: [Last] Kleine [First] William [Middle] C.

Creator role: Artisan

Creator information: [Biographical information] W. C. Kleine was a furniture maker and realtor working in Gonzales, Texas around 1907. His historic home stands at 620 College Street, Gonzales, Texas.

Note: Creator name taken from original bill of sale accompanying the furniture.

Creator name: [Last] Koch [First] Augustus

Creator role: Artist

Creator information: [Authorized form of name] Koch, Augustus, fl. 1871-1880.

Creator name: [Last] Marable [First] Matthew [Middle] M.

Creator role: Photographer

Creator information: [Biographical information] Born 1854 in Georgia. Worked as photographer in Pilot Point, Texas in late 19th Century. This information comes from: Haynes, David, *Catching Shadows: A Directory of Nineteenth-Century Texas Photographers*, Austin: Texas State Historical Association, 1993.

Corporate (organization) names.

Creator name: Duer, Stump and Company

Creator role: Photographer

Creator information: Tax records indicate the company operated in Collin County, Texas in 1873. Additional dates of operation are not known. Duer may be W. T. Duer. This information comes from: Haynes, David, *Catching Shadows: A Directory of Nineteenth-Century Texas Photographers*, Austin: Texas State Historical Association, 1993.

Creator name: Texas. Secretary of State.

Creator role: Author

Creator information: State agency located in Austin, Texas.

Creator name: Unesco

Creator role: Author

Creator information: [Variant forms of name] U.N.E.S.C.O.; United Nations Educational, Scientific, and Cultural Organization; Organisation des Nations Unies pour l'éducation, la science et la culture

Creator name: U.S. Navy Department. Naval History Division.

Creator role: Author

Creator information: Federal agency located in Washington, D.C.

Creator name: University of North Texas. School of Library and Information Sciences.

Creator role: Author

Creator information: Located in Denton, Texas. Program accredited by the American Library Association. Web site <http://www.unt.edu/slis/> .

CONTRIBUTOR	
Label	Contributor
Sub-Element	1.1 Contributor Name , 1.2 Contributor Role , 1.3 Contributor Information
UNTL Definition	The name of the person or organization that has played an important but secondary role in creating the content of the resource and is not specified in the creator element.
Comment	Use the contributor element to describe the maker of a collection, or a lesser contributor to an individual object. Examples are collector, donor, transcriber, printer, etc. Multiple contributors may be associated with the same digital object. For the primary maker at the object level, use the Creator element instead.
Required	Optional
Repeatable	Yes
Data Type	String

1.1 Contributor Name	
Label	Name
Sub-Element	—
UNTL Definition	The name of the person or organization that has played an important but secondary role in creating the content of the resource and is not specified in the Creator element.
Comment	For individuals, the creator name will consist of a person's last name and, if known, first name and middle name. For organizations or other corporate bodies, the creator name will consist of the organization name.
Required	Mandatory
Repeatable	Yes
Data Type	String

1.2 Contributor Role	
Label	Role
Sub-Element	—
UNTL Definition	Contributor role indicates the relationship of that person or corporate body to the resource being described.
Comment	<p>Assign an appropriate role (from the controlled vocabulary list) to <i>each</i> contributor to indicate the relationship of that person or corporate body to the resource being described.</p> <p>The list of roles in the controlled vocabulary is based on the relator codes found in the Library of Congress's MARC Code Lists for Relators, Sources, Description Conventions. Please note that definitions for the main roles are given. For information about how relator codes are used in MARC records, see the OCLC Bibliographic Formats Manual.</p>
Required	Mandatory
Repeatable	Yes
Data Type	String

1.3 Contributor Information	
Label	Contributor Information
Sub-Element	—
UNTL Definition	Contributor information will contain facts about the entity that has played an important but secondary role in creating the content of the resource and is not specified in the Creator element.
Comment	<p>This sub-element extends the contributor element by providing further information about the entity that has played an important but secondary role in creating the content of the resource and is not specified in the Creator element. Any qualifiers such as dates, title, fuller form of name, other form of name, corporate names, contact (email and physical) addresses, jurisdiction, etc. can be recorded in this field. Because creator information is a displayed field, care should be taken with formulating the text, and it should <i>not</i> be used for sensitive personal information such as the unpublished phone number or home address of a donor.</p>
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

Identifying the contributor.

- Use the resource as it displays to the user as the primary guide to determining the contributor. Examples of contributors include collector, donor, transcriber, printer, etc.
- If the resource is an unsigned or unmarked physical object or artwork with a reliably documented provenance, use the contributor name given in the documentation. Record the source of the information in the [Note](#) element.
- Collector or donor names may be taken from documentation associated with the resource at the owning repository.
- If no statement of responsibility is present on the resource or its documentation, leave the contributor element blank.

Using the metadata entry form.

- Use the dropdown list in the contributor name field of the metadata entry form to select "individual" for a personal name or "organization" for a corporate name. Then click the "expand" icon to open the relevant portion of the form.

Formulating the contributor name.

- If possible, consult an authority file such as [Library of Congress Authorities](#) or a locally developed utility for determining the correct form of the name.
- Place alternate forms of the name and birth and death dates associated with the name in the contributor information field.
- Multiple contributors may be recorded in multiple occurrences of the contributor field. Place the contributors in the order in which they appear on the resource, but the most important contributor (if there is one) should occur first.
- Input each section of a personal name in the appropriate directed box in the metadata entry form: last name, first name (or initial if that is all that is known), middle name (or initial if that is all that is known).
 - If the first and middle names are not known, leave the corresponding entry boxes blank.
 - If the contributor has more than three names, place the additional names in the middle name box. For example, Mary Smith McCrory Jones would be entered as *Last: Jones First: Mary Middle: Smith McCrory*.
 - If the contributor has a hyphenated last name, include the entire string in the last name box. For example, James A. Donahue-Smith would be entered as *Last: Donahue-Smith First: James Middle: A*.
 - Input corporate names in the "organization name" box of the metadata entry form. Corporate names should be listed in hierarchical order, with the highest level agency or body at the beginning and the lowest at the end. Separate the elements of the hierarchy with periods. If a hierarchy is unclear, record the name as it appears on the resource. Preface names of government agencies, with the name of the country or state.
 - In the case of a long group or organization name that includes subordinate units, the name may be shortened by eliminating some of the hierarchical parts not considered necessary for uniquely identifying the body in question. For example, to enter the *CIA* as a donor, use the form of the name as given in [Library of Congress Authorities](#), *United States. Central Intelligence Agency* instead of the full hierarchical name *United States. National Security Council. Central Intelligence Agency*.
 - Names of other organizations (e.g. non-government or single level bodies) should follow the form used in the resource.

Providing additional description.

- For each contributor, assign a [contributor role](#) from the dropdown list in the metadata entry form. Contributor roles are defined in the [controlled vocabulary](#) document.
- Place any additional known information, formatted for public view, in the contributor information field.

Related elements.

- Input entities responsible for digitizing an existing resource in the [Institution](#) element instead of the contributor element.
- For the person, agency, or organization primarily responsible for creating the intellectual content of the resource, use the [Creator](#) element instead of the contributor element. Some examples of creators are author, editor, sculptor, photographer, composer, etc.

Examples:

Personal (individual) names.

Contributor name: [Last] David [First] C. [Middle] Dorman

Contributor role: Collector

Contributor information: The Mary Smith McCrory Jones Collection was purchased by the University of Houston Libraries in 1970 from C. Dorman David.

Note: Contributor name and information come from printed finding aid accompanying the Mary Smith McCrory Jones Collection.

Contributor name: [Last] Goin [First] Bouncer

Contributor role: Collector

Contributor information: Bouncer Goin is a local historian with a special interest in Cherokee settlement in the Aubrey, Texas area.

Contributor name: [Last] Hartman [First] Cathy [Middle] Nelson

Contributor role: Donor

Contributor information: Cathy Nelson Hartman is Head of the Digital Projects Department at the University of North Texas Libraries and a Fellow of the Texas Center for Digital Knowledge. Her postal address is: P.O. Box: 305190, Denton, Texas 76203-5190. She can also be reached by phone: (940) 565-3269, fax: (940) 565-2599, and e-mail: chartman@library.unt.edu.

Contributor name: [Last] Jones [First] Mary [Middle] Smith McCrory

Contributor role: Recipient

Contributor information: [Authorized form of name] Jones, Mary Smith McCrory, 1819-1907. [Variant name] Mary Jones. [Biographical information] Wife of the last president of the Republic of Texas.

Contributor name: [Last] Salzedo [First] Carlos

Contributor role: Transcriber

Contributor information: [Authorized from of name] Salzedo, Carlos, 1885-1961; [Interpretation of role] supposed transcriber.

Corporate (organization) names.

Contributor name: Duer, Stump and Company

Contributor role: Printer

Contributor information: Tax records indicate the company operated in Collin County, Texas in 1873. Additional dates of operation are not known. Duer may be W. T. Duer. This information comes from: Haynes, David, *Catching Shadows: A Directory of Nineteenth-Century Texas Photographers*, Austin: Texas State Historical Association, 1993.

Contributor name: Texas. Secretary of State.

Contributor role: Donor

Contributor information: State agency located in Austin, Texas.

Contributor name: Unesco

Contributor role: Donor

Contributor information: [Variant forms of name] U.N.E.S.C.O.; United Nations Educational, Scientific, and Cultural Organization; Organisation des Nations Unies pour l'éducation, la science et la culture

Contributor name: U.S. Navy Department. Naval History Division.

Contributor role: Donor

Contributor information: Federal agency located in Washington, D.C.

Contributor name: University of North Texas. School of Library and Information Sciences.

Contributor role: Collector

Contributor information: Located in Denton, Texas. Program accredited by the American Library Association. Web site <http://www.unt.edu/slis/>

PUBLISHER	
Label	Publisher
Sub-Element	1.1 Publisher Name , 1.2 Place of Publication , 1.3 Publisher Information
UNTL Definition	An entity responsible for making the resource available: the publisher of the original work.
Comment	See sub-elements below.
Required	See sub-elements below.
Repeatable	Yes
Data Type	String

1.1 Publisher Name	
Label	Publisher Name
Sub-Element	—
UNTL Definition	The name of the publisher of the original work.
Comment	Typically, the name of a publisher should be used to indicate the entity. A publisher may be a business, an organization, a service, a government agency, or, rarely, a person.
Required	Recommended
Repeatable	Yes
Data Type	String

1.2 Place of Publication

Label	Place of Publication
Sub-Element	—
UNTL Definition	The place of publication of the original work.
Comment	For detailed information about the Publisher, use the Publisher Information sub-element.
Required	Recommended
Repeatable	Yes
Data Type	String

1.3 Publisher Information

Label	Publisher Information
Sub-Element	—
UNTL Definition	Publisher information will contain facts about the entity primarily responsible for publishing the original work.
Comment	This sub-element extends the publisher element by providing further information about the entity primarily responsible for publishing the resource. Any qualifiers such as dates of existence, fuller form of name, other form of name, corporate names, contact (email and physical) addresses, jurisdiction, etc. can be recorded in this field. Because creator information is a displayed field, care should be taken with formulating the text, and it should <i>not</i> be used for sensitive information such as an unpublished phone number or comments on transactions.
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

Identifying the publisher.

- Use the resource as it displays to the user as the primary guide to determining the publisher.
- A publisher can be a publishing house, an organization, a service, a corporate body, a government agency, a museum, a historical society, a university, a project, a repository, a person, etc.
- Generally, individuals will not be publishers. However, a publishing company may be named for an individual. Also, self-published materials may use a personal name for the publisher.
- When in doubt about whether an entity is a publisher or a creator, enter an organization as publisher and a personal name as creator.
- If a publishing statement cannot be found, but the resource is a component of an official organizational web page or server, use the name of that organization as the publisher. If the server is a hosting service for a variety of organizations, do not use the hosting organization as the publisher.
- If no publishing statement is present on the resource or its documentation, leave the publisher element blank.

Formulating the publisher name, place, and information.

- Publishers will generally be corporate names. Transcribe them with the first letter of each important word capitalized. Corporate names should be listed in hierarchical order, with the highest level agency or body at the beginning and the lowest at the end. Separate the elements of the hierarchy with periods. If a hierarchy is unclear, record the name as it appears on the resource. Preface names of government agencies with the name of the country or state.
- In the case of a long group or organization name that includes subordinate units, the name may be shortened by eliminating some of the hierarchical parts not considered necessary for uniquely identifying the body in question. For example, to enter the *CIA* as a publisher, use the form of the name as given in [Library of Congress Authorities](#), *United States. Central Intelligence Agency* instead of the full hierarchical name *United States. National Security Council. Central Intelligence Agency*.
- Names of other organizations (e.g. non-government or single level bodies) or individuals should follow the form used in the resource.
- Place alternate forms of the name and dates of existence associated with the name in the publisher information field.
- Enter the place of publication as shown on the resource.
 - If multiple places are associated with the publisher, use the first place listed on the title page.
 - If no place of publication is shown, leave the place of publication sub-element blank.
- If the publisher name or place of publication is derived from some source other than the resource itself, enclose the information in square brackets [...].
- Because ampersands (&) are control characters, they interfere with searching effectiveness in the Portal. Do not use ampersands in the publisher element. Replace an ampersand with the word "and."
- Since a resource can have a publisher and distributor or more than one entity responsible for making the resource available, this element is repeatable. Use separate publisher elements to enter multiple publishers.

Related elements.

- If the publisher and the creator are the same, repeat the name in the [Creator](#) element.

- In the case of outsourcing, the name of the contract agency performing digital services for a publisher could be recorded in the [Note](#) element.
- Publishing information about a resource from which the current resource is derived should be placed in the [Source](#) element.
- For place(s) associated with the intellectual content of the resource, use the [Coverage](#) Place Name sub-element.

Examples:

Publisher Name: C.C. Little and J. Brown
Place of Publication: Boston
Publisher Information:

Publisher Name: Roberta Wright Rylander
Place of Publication: Katy, TX
Publisher Information: self-published

Publisher Name: Texas. Office of the Secretary of State.
Place of Publication: Austin, Tex.
Publisher Information: Texas. Secretary of State.

Publisher Name: University of North Texas Press
Place of Publication: Denton, Tex.
Publisher Information: UNT Press. Academic press founded in 1987. Postal address: P.O. Box 311336, Denton, TX 76203-1336. Web site (accessed 4/18/05): <http://web2.unt.edu/untpress/index.cfm>. UNT Press books are marketed and distributed through the Texas A&M University Press Consortium.

Publisher Name: U.S. Government Printing Office.
Place of Publication: Washington, D.C.
Publisher Information: GPO; G.P.O.; Govt. Printing Office

DATE	
Label	Date
Sub-Element	1.1 Original Resource Creation Date , 1.2 Digital Creation Date
UNTL Definition	This element will record dates associated with events in the life cycle of the resource. Therefore, the following sub-elements (qualifiers) may be used: creation date of the original, and digital creation date on which the resource was made available in digital form.
Comment	The date information will be recorded in the date sub-elements accordingly. See sub-elements below.
Required	See sub-elements below
Repeatable	No
Data Type	Date/time

1.1 Original Resource Creation Date	
Label	Original Resource Creation Date
Sub-Element	—
UNTL Definition	Creation date of the original (analog or born digital) resource.
Comment	For this date sub-element, record the date of creation of the original source item that was digitized. For an image, this will be the date that the photograph or slide was taken; for a monograph, the date of publication in hard copy; for a video, the date the videotape or video disc was released; for a sound file, the date that it was issued on disc or tape; for a "born digital" item, the date that the intellectual content was created in digital form.
Required	Recommended
Repeatable	No
Data Type	Date/time

1.2 Digital Creation Date	
Label	Digital Creation Date
Sub-Element	—
UNTL Definition	Date or Date/Time digital resource was created.
Comment	For this date sub-element, record the date on which the object was converted to or created in digital format. (Born digital items such as photographs taken with digital cameras will normally have the same date in both the Original Resource Creation Date field and the Digital Creation Date field.)
Required	Mandatory
Repeatable	No
Data Type	Date/time

Input guidelines:

General guidelines.

- Recommended best practice for encoding the date value is defined in a profile of ISO 8601 [W3CDTF] and follows the YYYY-MM-DD format.
- Although rarely used, the Portal will support the format "date and time" which represents a specified time of a specified day. When use is made of the calendar date the representation is: YYYY-MM-DDThh:mm:ss (where the capital letter T is used to separate the date and time components). For example, 2005-04-01T13:01:02 represents one minute and two seconds after one o'clock in the afternoon of April 1, 2005.
- Always enter a value for digital creation date. In some cases, this process may be automated at the time the digital file is ingested into the Portal.
- If at all possible, enter a value for original resource creation date. It may be a single date or a range of dates. If no original resource creation date can be found, leave the field blank.
- When the resource being described is a collection, a date range can be used to describe the collective creation date range of all the resources which make up the collection.

Formulating the date.

- Use a single hyphen to separate the year, month, and date components, and observe the following general rules for different date types:
 - If only the year is known, enter in the form YYYY. For example, 2003.
 - If only the year and month are known, enter in the form YYYY-MM. For example, use 2003-01 for January 2003.
 - If year, month, and day are known, enter in the form YYYY-MM-DD. For example, use 2003-01-08 for January 8, 2003.
- For a range of dates, enter the dates on the same line, separating them with a space, hyphen, space as: YYYY-MM-DD - YYYY-MM-DD, e.g.
 - use 1998 - 2003 for the years 1998 to 2003
 - use 1970-10-08 - 1976-6-30 for the dates October 20, 1970 to June 30, 1976
- For a range of dates in which either the start or end dates are unknown, use a blank for the unknown portion of the date.

- When the start date is known, but the end date is unknown or ongoing, use the format YYYY -
For example, use 1998 - for a date range beginning in 1998.
Use 1976-6-30 - for a date range beginning June 30, 1976.
- When the start date is unknown, but the end date is known, use the format - YYYY
For example, use - 2004 for a date range ending in 2004.
Use - 2005-03-30 for a date range ending March 30, 2005.
- If the date or range is approximate, qualify it with the abbreviation for *circa*, e.g.
c.1919 for "around the year 1919"
c.1895 - 1900 for "around the years 1895 to 1900"
c.1868-12 - 1892-5 for "the approximate dates December 1868 to May 1892"
- If the original resource creation date is derived from some source other than the resource itself, enclose the date in square brackets, e.g.
[1935]
[1972-11-04]
[c.1939-1945]
[- 1900]

Related element.

- To express the time period(s), date, or date range associated with the intellectual content of the resource, use the [Coverage](#) element. For example, a book published in 1976 that is about Texas history from first statehood to 1964 would have an original resource creation date of 1976, but a coverage date range of 1846 - 1964.

Examples:

For a photograph taken with a digital camera on April 22, 2004.

Original Resource Creation Date: 2004-04-22

Digital Creation Date: 2004-04-22

For a photograph taken with a film camera on December 25, 1995 and scanned to a digital file on September 22, 2003.

Original Resource Creation Date: 1995-12-25

Digital Creation Date: 2003-09-22

For a document created in Microsoft Word format September 11, 2001 and converted to a PDF file sometime in 2002.

Original Resource Creation Date: 2001-09-11

Digital Creation Date: 2002

For a piece of furniture made around 1875 (according to its bill of sale) and photographed with a digital camera in April 2005.

Original Resource Creation Date: [c.1875]

Digital Creation Date: 2005-04

For a hand-drawn map created sometime during the Civil War (according to a descendant of the cartographer) and scanned on January 15, 2003.

Original Resource Creation Date: [c.1860 - 1864]

Digital Creation Date: 2003-01-15

For a historic photograph about which no creation date is known, scanned to a digital file sometime in February, 1995.

Original Resource Creation Date:

Digital Creation Date: 1995-02

For a book published in 1901 and scanned in August 2004.

Original Resource Creation Date: 1901

Digital Creation Date: 2004-08

For a collection of carved wooden duck decoys, made from 1910 to 1939 (each labeled with the maker's initials and creation date) and photographed with a digital camera on April 12, 2005.

Original Resource Creation Date: 1910 - 1939

Digital Creation Date: 2005-04-12

For a production drawing stamped "discontinued 1964" and scanned January 31, 2003.

Original Resource Creation Date: - 1964

Digital Creation Date: 2003-01-31

LANGUAGE	
Label	Language
Sub-Element	—
UNTL Definition	The language(s) of the intellectual content of the resource.
Comment	This will be the language(s) in which a text is written or the spoken language(s) of an audio or video. Visual images normally do not have a language unless there is significant text in a caption or in the image itself. Because of the global nature of the Internet, use of this field is recommended. Preferred usage is to utilize a standard schema for language names as defined by ISO639-2 (three letter language codes), followed optionally by a two-letter country code (taken from the ISO 3166 standard).
Required	Mandatory
Repeatable	Yes
Data Type	Enumerated Type

Input guidelines:

- Select the correct language name/code combination from the language drop box in the metadata entry form.
- If the desired language is not listed, select "other." Notify the Portal Administrator of the language that needs to be added.
- For visual images that do not have a textual caption or text shown in the image, choose "no language" from the dropdown list.
- A resource may include multiple languages. Repeat the element if the resource is in more than one language.
 - If a complex note is required to accurately describe the nature of the languages, then also add this information in the [Note](#) element.
- To simplify description and data entry, the Portal does *not* currently support the addition of a country code to the language code.

Examples:

For a map in French.

Language: fre - French

For a book in English.

Language: eng - English

For a photograph of a busy street in Berlin showing marquees and shop windows with German names.

Language: ger - German

For an image of an adding machine with a clearly visible label saying "Made in America."

Language: eng - English

For a photograph with no accompanying caption and no text visible in the picture.

Language: nol - No Language

For an audio recording of testimony in Czech and German.

Language: cze - Czech

Language: ger - German

For a video in Hebrew with English subtitles.

Language: heb - Hebrew

Language: eng - English

Note: Performed in Hebrew with English subtitles.

For an article in Amharic with English translations in parallel columns.

Language: oth - Other

Language: eng - English

Note: In Amharic with English translations in parallel columns

For proceedings with English abstracts and some papers in English and some in Spanish.

Language: eng - English

Language: spa - Spanish

Note: Papers presented in Spanish or English with abstracts in English

DESCRIPTION	
Label	Description
Sub-Element	1.1 Content Description , 1.2 Physical Description
UNTL Definition	Both content and physical descriptions of the resource.
Comment	See sub-elements below.
Required	See sub-elements below.
Repeatable	No
Data Type	String

1.1 Content Description	
Label	Content Description
Sub-Element	—
UNTL Definition	A textual description of the intellectual content or purpose of the resource.
Comment	Content description may include but is not limited to: an abstract, table of contents, reference to a graphical representation of content, or a free-text account of the content. For physical descriptions, see the Physical Description sub-element.
Required	Mandatory
Repeatable	No
Data Type	String

1.2 Physical Description	
Label	Physical Description
Sub-Element	—
UNTL Definition	A physical description of the original item.
Comment	Physical description will be used for physical dimensions, extent, pagination, process (tintype, daguerreotype, woodcut, etc.), and related physical details of the original item. For descriptions of intellectual content and purpose, see the Content Description sub-element.
Required	Recommended
Repeatable	No
Data Type	String

Input guidelines:

Input guidelines for Content Description

- Enter descriptive text about the resource. Free text descriptive information can be taken from the item itself or formulated by the metadata cataloger. Possible sources of content description include text, abstract or other structured description, container or cover notes, video contents, notes written on the back of the photograph, and careful observation by the metadata cataloger.
- The content description should be specialized information not included in other elements, concise and precise, while keeping in mind that the exact form and completeness of the content description is flexible and should be appropriate for the nature and importance of the resource.
- As a rule of thumb, describe the item using only the information in hand without doing any additional research--unless it is believed that additional research and description is required for a patron to locate the resource or to understand the intellectual content of the resource.
 - Only if necessary, an encyclopedia or other reference source can be used. For example, if the resource is an image of a country's President, you may want to add the dates that the person held that office. If specific information that would not be considered common knowledge is included from a reference source, cite the reference source.
- Avoid any commentary on or interpretation of the item being described.
- Since the description field is a potentially rich source of indexable vocabulary, care should be taken in describing content. For instance, in the first one or two sentences, each non-textual item should be described so that a user who is visually disabled will understand its intellectual content if this is not already clear from the title.
- Because the first few phrases of the content description display in search results lists generated by the Portal, placing concise and interesting information within the first two sentences of the content description will assist users in identifying the most relevant resources retrieved by their searches.
- Use additional content description fields for the same description translated into another language, or for a transcript of an accompanying audio commentary.

Input guidelines for Physical Description

- Enter physical descriptions including: dimensions, extent, pagination, and related physical and process details
- When dimensions are given, specify the units, e.g. "cm." for centimeters or "in." for inches.
- Since, this element corresponds to the "300" field in the MARC records used by many library catalogs, it is recommended to follow [AACR2](#) rules, as much as possible.

Related elements.

- To label the front and back of an object, point to a specific section of a book, differentiate between an album caption and other text or images, etc., use the [Digital Object Description](#) sub-element of the Digital Object element.
- To provide detailed technical description and other important requirements, use elements in the preservation metadata section including: [System Environment](#), [Exception](#), etc.
- For format, use the [Format](#) element.

Examples:

Examples of Content Description

Title: Congressional Globe (Permanent Edition) Volume 85: 28th Congress, 2nd session, Appendix

Content Description: Congressional debates and proceedings regarding the annexation of Texas to the United States of America. Only selected pages of the *Congressional Globe* are reproduced here.

Title: Jim Goin and Mr. [Fred] Cummings. Ice delivery in Aubrey

Content Description: Photograph of a man holding a large block of ice in tongs and standing in front of an enclosed wagon. To his left, another man--outfitted with a toolbelt and pole-climbing gear--leans against the bumper of a motor vehicle.

Title: Map of the state of Texas / from the latest authorities ; by J. H. Young ; J. L. Hazzard, sculp.

Content Description: Map includes text on railroads in Texas, El Llano Estacado, the Rio Grande, the Grand Indian Crossing, and the population of Texas according to the census of 1850. Inset: Map of the vicinity of Galveston City.

Title: Morning After 1918

Content Description: Photograph of storm-damaged buildings. In the foreground are pedestrians, riders, wagons, carriages, horses, and mules. A tornado had touched Aubrey and many other North Texas communities on the evening of April 14, 1918.

Title: Navel of the World

Content Description: A conical shaped stone representing the "navel of the world" sits on top of a square platform surrounded by stone archaeological ruins at Delphi. "According to ancient Greek myth, Zeus released two eagles, one from the east, the other from the west, and caused them to fly toward the centre. They met at Delphi, and the spot was marked by a stone in the temple; this stone was known as the 'omphalos' (navel)." (cf. "Delphi" Britannica Online. [Accessed 20 November 1998].)

Title: Tax receipt for Mary Jones, signed in 1865

Content Description: Receipt documenting property tax paid by Mary Jones for the year 1865. Taxed items listed were land, horses, cattle, hens, hogs, a gold watch, and a piano.

Title: The Texas Navy

Content Description: A survey of the Texas Navy during the Texas Revolution and the Republic Era. Includes maps, sketches, a list of ships of the Texas Navy, and a chronology. Also includes photographs of 20th century U.S. Navy ships named after Texans or Texas locations.

Examples of Physical Description

149 p. ; 23 cm.

1 score (16 p.) ; 29 cm.

1 sound recording (45 min.)

1 globe, wood, mounted on brass stand ; 12 cm. in diameter.

5 linear feet

tintype, 2 in. x 3 in.

SUBJECT and KEYWORDS	
Label	Subject and Keywords
Sub-Element	—
UNTL Definition	The subject or topic of the resource that succinctly describes the content of the resource. It is expressed by headings, keywords, phrases, or names; or terms for significantly associated people, places, and events, etc.
Comment	Typically, a subject will be expressed as keywords, key phrases, or defined headings that describe the topic of the resource. In order to facilitate browsing in the Portal, at least one subject must be chosen from the UNTL Browse Subjects list. Recommended best practice is to select additional values from a controlled vocabulary . Established thesauri include Library of Congress Subject Headings , LC Thesaurus for Graphic Materials , Sears List of Subject Headings , Revised Nomenclature for Museum Cataloging (Chenhall's) , Getty's Art and Architecture Thesaurus Online , etc. User-defined keywords may also be added.
Required	Mandatory
Repeatable	Yes
Data Type	String

Input guidelines:

Determining subjects and keywords.

- Determine the subject content from the nature of the displayed resource, the title, and any descriptive information on the page or in the source.
- If the resource has previously been described in a library catalog, you may want to use the subject fields from the catalog record.
- Choose the most significant and unique terms (as many or as few subjects as is needed) to cover the resource and facilitate discovery; avoid those too general to describe a particular item. An average of five subject/keyword entries is recommended.

Types of subjects and keywords.

- Include at least one UNTL Browse Subject. These subjects support the browse feature of the Portal and are mandatory for each digital object. If you identify a topic that is not currently included in the Browse Subjects, contact the Portal Administrator to review suggested changes.
- It is strongly recommended that additional subject words and phrases come from established thesauri or discipline-related word lists. See the dropdown menu in the metadata entry form for the list of major thesauri.
- Add informal keywords as needed to help users locate the resource. Because the Portal does not use authority control or automated cross-referencing, user-defined keywords can be a very important source of search vocabulary.

Formulating subjects and keywords.

- Use separate "subject and keywords" elements to enter multiple subjects/keywords.
- For each subject/keyword, indicate the controlled vocabulary (LC Subject Headings, Chenhall's, keyword, etc.) used by selecting it from the accompanying drop box in the metadata entry form. If the controlled vocabulary used is not listed, choose "Other."
- Enter at least one UNTL Browse Subject using the Browse Subject tool.
- Enter additional subjects using punctuation and capitalization specified by the controlled vocabulary chosen.
- It is recommended that geographic subject elements not be used too broadly. For example, the heading Aubrey (Tex.) -- History -- Pictorial Works should be used to describe photographic essays about Aubrey and not for individual photos of people and places associated with Aubrey.
- For keywords and phrases, capitalize proper nouns only. Use plural forms of keywords, e.g. *automobiles*, instead of singular forms. If the keyword's plural is formed irregularly, place the singular form in one subject/keyword field and the plural form in a second field. For example, *knife* and *knives*.

Related elements.

Since "subject and keywords" elements describe both what the object is about and what it is, some subject-related information may be repeated in other elements:

- A digital image that is a photograph could be given the subject "Photographs," and also listed in the [Resource Type](#) element as "Image-Photograph."
- To describe a resource, such as an autobiography, that is about its creator, place the creator's name in both the subject/keyword element and the [Creator](#) element.
- Although geographic terms are normally handled by the [Coverage - Place Name](#) element, subject fields could include geographic terms as well.

Examples:

For document with title: *The Texas Navy*

UNTL Browse Subject: Military and Wars - Wars - Texas Revolution

LC Subject Heading: Texas -- History, Naval.

LC Subject Heading: Ships.

LC Subject Heading: Texas -- History -- Republic, 1836-1846.

Keyword: independence

Keyword: battleships

Keyword: schooners

Keyword: naval vessels

Keyword: Nimitz

For photograph with title: *Aubrey School during 1908*

UNTL Browse Subject: Education - Schools

Keyword: school buildings

For photograph with title: *Jim Goin and Mr. [Fred] Cummings. Ice delivery in Aubrey*

UNTL Browse Subject: People - Individuals

Keyword: automobiles

Keyword: cars

Keyword: wagons

For letter with title: *Letter to Cromwell Anson Jones, 19 May 1869*

UNTL Browse Subject: People - Individuals - Mary Jones

UNTL Browse Subject: Social Life and Customs - Correspondence

LC Subject Heading: Jones, Mary Smith McCrory, 1819-1907 -- Correspondence

Keyword: letters

For map with title: *Map of the Missouri, Kansas and Texas Railway*

UNTL Browse Subject: Texas Landscape and Nature - Geography and Maps

UNTL Browse Subject: Business, Economics and Finance - Transportation - Railroads

LC Subject Heading: Missouri, Kansas and Texas Railway -- Maps.

LC Subject Heading: Railroads--United States--Maps.

For object with title: *Dalton adding, listing, and calculating machine, 1912*

UNTL Browse Subject: Science and Technology

NMC (Chenhall's) Object Term: MACHINE, ADDING

NMC (Chenhall's) Classification: Data Processing T&E

Keyword: tabulating machines

For object with title: *Surgical Scalpel, 19th Century*

UNTL Browse Subject: Science and Technology

Other Heading: Devices, Medical

Keyword: surgical knife

Keyword: surgical knives

PRIMARY SOURCE	
Label	Primary Source
Sub-Element	—
UNTL Definition	Material giving a firsthand account of a historical subject.
Comment	<p>Primary sources give a firsthand account of a historical subject. They include materials such as diaries, letters, maps, memoirs, newspapers, oral histories, photographs, and pictures. Secondary sources are descriptions of a subject based on primary sources. It is possible that the same document can be a primary source in one aspect, and secondary in another.</p> <p>For further clarification, see Scholars' Definitions of Primary Sources.</p>
Required	Mandatory
Repeatable	No
Data Type	Boolean

Input guidelines:

- If the resource is a primary source, click the check box on the metadata entry form to toggle "primary resource" on. A check will appear in the box.
- If the resource is *not* a primary source, leave the check box blank.
- To describe the category of the resource, use the [Resource Type](#) element.

Examples:

Primary resources.

- **Diaries**, personal journals, letters, memos, postcards, manuscripts, memoirs, autobiographies
- **Private papers**, deeds, wills
- **Speeches**, interviews, personal accounts, oral histories
- **Documentary** photographs, audio recordings, movies, or videos
- **Government records**, proceedings, court records, census data, patents
- **Records of organizations** (e.g. minutes, reports, correspondence)
- **Public opinion polls**, consumer surveys
- **Scientific experiments**, field notes, artifacts, schematic drawings, technical reports
- **Maps**
- **Paintings**, sculptures, jewelry
- **Published materials** (books and magazine/newspaper articles) written *AT THE TIME* about a particular event
- **Reprinted primary sources** (often in reference books such as *Speeches of the American Presidents* or *Documents of American History*)

COVERAGE	
Label	Coverage
Sub-Element	1.1 Place Name 1.2 Time Period , 1.3 Date 1.4 Date Range
UNTL Definition	The spatial and/or temporal characteristics of the intellectual content of the resource
Comment	Coverage is the extent or scope of the content of the resource. It will typically include spatial location (a place name or geographic coordinates) and a temporal period (a period label, date, or date range). Recommended best practice is to select a value from a controlled vocabulary, and that, where appropriate, named places or time periods be used in preference to numeric identifiers such as sets of coordinates or date ranges. Although the coverage element appears to repeat information that could also be placed in other elements, such as subject and date, it is needed to facilitate the browse structure of the Portal, and to provide the best interoperability with other metadata and resource-sharing systems.
Required	Recommended
Repeatable	
Data Type	See sub-elements below

1.1 Place Name	
Label	Place Name
Sub-Element	—
UNTL Definition	The place(s) associated with the intellectual content of the resource.
Comment	Coverage place names refer to locations or areas that are covered and/or discussed in the intellectual content of the resource and not the place of publication. Use the UNTL Browse Places List to formulate the place name. In addition, city/town names may be clarified in The Handbook of Texas Online "Browse Where" list or the Getty Thesaurus of Geographic Names® Online . Repeat this sub-element if more than one place name describes the intellectual content of the resource.
Required	Recommended
Repeatable	Yes
Data Type	Reference

1.2 Time Period	
Label	Time Period
Sub-Element	—
UNTL Definition	The time period associated with the intellectual content of the resource.
Comment	Coverage time periods refer to time periods that are covered and/or discussed in the intellectual content of the resource, not the creation (publication) date. Choose a coverage time period from the controlled vocabulary . Repeat this sub-element element if more than one time period describes the intellectual content of the resource. Time period is the preferred sub-element for expressing temporal characteristics of intellectual content.
Required	Recommended
Repeatable	Yes
Data Type	Enumerated Type

1.3 Date	
Label	Date
Sub-Element	—
UNTL Definition	The single date associated with the intellectual content of the resource.
Comment	Coverage date refers to a single date that is covered and/or discussed in the intellectual content of the resource, not the creation (publication) date. Time period is the preferred sub-element for expressing temporal characteristics of intellectual content. Add a single date only if it is especially significant, such as 2001-09-11.
Required	Optional
Repeatable	No
Data Type	Date/time

1.4 Date Range	
Label	Date Range
Sub-Element	—
UNTL Definition	The range of dates associated with the intellectual content of the resource, if there is no acceptable named time period.
Comment	Coverage date range refers to a range of dates that are covered and/or discussed in the intellectual content of the resource, not the creation (publication) date. Time period is the preferred sub-element for expressing temporal characteristics of intellectual content. Add a range of dates only if there is no acceptable named time period(s) to adequately describe the resource.
Required	Optional
Repeatable	No
Data Type	Date/time

Input guidelines:

General guidelines.

- Multiple places and time periods may be associated with the intellectual content of the resource. Use separate coverage elements to enter multiple spatial and temporal values.
- For artifacts or art objects, the spatial characteristics usually refer to the place where the artifact/object originated while the temporal characteristics refer to the date or time period during which the artifact/object was made.
- It is strongly recommended that both coverage place(s) and coverage time period(s) be included in order to facilitate the browse structure of the Portal, and to provide the best interoperability with other metadata and resource-sharing systems.
- For temporal coverage, time period is preferred to date and date range.
- When used, date values should be encoded as defined in a profile of [ISO 8601](#) [W3CDTF] using the YYYY-MM-DD format.

Formulating the coverage place name.

- Select the geographical location from the [UNTL Place Names](#) list. In addition, city/town names may be clarified in [The Handbook of Texas Online "Browse Where"](#) list or an established thesaurus such as the [Getty Thesaurus of Geographic Names® Online](#). Write the geographical location as a hierarchy beginning with the largest and proceeding to the smallest geographical unit with each field containing a single geographical location. Separate elements of the hierarchy with a space followed by a hyphen and then another space.
- If the region being described has changed names, use the current form of the name. If the previous name is deemed essential information, then include it in the [Description](#) Element. Example: A photograph of Mr. X, President of Guyana (formerly British Guinea).

Choosing the coverage time period.

- Select the coverage [time period\(s\)](#) from the dropdown list in the metadata entry form. Complete definitions of the time periods are available in the [controlled vocabulary](#) document. Please note that the time periods are based on thematic as well as temporal considerations, so there are some overlaps in the date ranges. Choose the thematic time period(s) that most effectively describe the resource. The coverage time periods include:
 - The Texas Landscape [geographic regions, flora, and fauna throughout Texas history]
 - The First Texans [Native Americans throughout Texas history]
 - European Explorers in Texas, 1519-1689
 - Spanish Texas, 1690-1821
 - Mexican Texas, 1821-1835
 - The Texas Revolution, 1835-1836
 - The Republic of Texas, 1836-1846
 - Annexation, 1844-1846
 - The Texas Frontier, 1846-1861
 - Slavery and Antebellum Texas Culture, 1821-1865
 - Civil War and Reconstruction, 1861-1876
 - The Cattle Boom, 1865-1890
 - Oil and Gas, 1901-Present
 - New South, Populism, Progressivism, and the Great Depression, 1877-1939
 - Into Modern Times, 1939-Present

Formulating the coverage date and date range.

- Use a single hyphen to separate the year, month, and date components, and observe the following general rules for different date types:
 - If only the year is known, enter in the form YYYY. For example, 2003.
 - If only the year and month are known, enter in the form YYYY-MM. For example, use 2003-01 for January 2003.
 - If year, month, and day are known, enter in the form YYYY-MM-DD. For example, use 2003-01-08 for January 8, 2003.
- For a range of dates, enter the beginning date in the date range "start date" box and the ending date in the "end date" box of the metadata entry form.
- For a range of dates in which either the start or end dates are unknown, leave the box blank for the unknown portion of the date.
- If the date or range is approximate, qualify it with the abbreviation for *circa*, e.g.
 - c.1919 for "around the year 1919"
 - c.1895 - 1900 for "around the years 1895 to 1900"
 - c.1868-12 - 1892-5 for "the approximate dates December 1868 to May 1892"

Related elements.

- Although geographic terms are normally handled by the coverage place name sub-element, the [Subject and Keywords](#) element could include geographic terms as well.
- Although temporal aspects of the intellectual content of the resource are handled by the coverage element, the [Subject and Keywords](#) element could include subject terms defined by date as well. For example, a book about World War II, would have a coverage time period of "Into Modern Times, 1939-Present." But, the metadata cataloger might also choose to enter the LC subject heading "World War, 1939-1945" into the subject/keyword element.
- Use the coverage element for time periods, dates, and/or date ranges associated with the intellectual content of the resource. An [Analysis of Date-Related Elements in the UNTL Metadata Schema](#) compares coverage with other temporal elements and explains which

elements may be used to record other dates associated with the life cycle of the resource itself, its digital representation, and the creation of metadata about it.

Examples:

For a print with title "Bird's eye view of Denton, Denton County, Texas : 1883"

Coverage Place Name: United States - Texas - Denton County - Denton

Coverage Time Period: New South, Populism, Progressivism, and the Great Depression, 1876-1939

Coverage Date: 1883

For a 16th century map with title "Hispania nova"

Coverage Place Name: Spain - Mexico

Coverage Time Period: European Explorers in Texas, 1519-1689

For "Letter to Cromwell Anson Jones, 19 May 1869"

Coverage Place Name: United States - Texas - Galveston County - Galveston

Coverage Time Period: Civil War and Reconstruction, 1861-1876

For a photograph of damage left by a famous tornado, "1918 Morning After"

Coverage Place Name: United States - Texas - Denton County - Aubrey

Coverage Time Period: New South, Populism, Progressivism, and the Great Depression, 1876-1939

Coverage Date: 1918-04-15

For [Bell County Ex-Confederate Association Ledger]

Coverage Place Name: United States - Texas - Bell County - Belton

Coverage Date Range: c.1888 - 1920

SOURCE	
Label	Source
Sub-Element	—
UNTL Definition	Information about a resource from which the current resource is derived.
Comment	This element can be used to describe the original (physical or digital) resource from which the current digital resource is derived. The present resource may be derived from the source resource in whole or in part.
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

- Give any bibliographic information (title, format, standardized number, etc.) deemed necessary to identify the source resource. Recommended best practice is to reference the resource by means of a string or number conforming to a formal identification system.
- To describe the source of the current resource, use the Source element. To specify other resources which are judged to be significantly related to the current resource in some fashion, use the [Relation](#) element.

Examples:

For a scanned map taken from a book.

Source: "From the German edition of P.F.X. Charlevoix, Histoire general des voyages, 1754."--Almagre books, list 47A.

For a current digital resource, *The state and local government workers' retirement savings guide*, derived from a prior physical publication.

Source: Based on print edition of Stuart's guide (Chicago : Dearborn Trade, c2002.) ISBN: 0793159512

RELATION	
Label	Relation
Sub-Element	—
UNTL Definition	Information about another resource that is related to the current resource. It includes an expression of the relationship type.
Comment	Relation is simply a reference to a related resource. It is essential to maintaining a history of the change of a related digital resource. It specifies any other information resources, which were judged to be significantly related to the digital resource being described and necessary for preservation management. It also enables a digital resource to be linked to earlier or later editions of it, other forms of it, to its metadata, and other objects, including finding aids.
Required	Optional
Repeatable	No
Data Type	String

Input guidelines:

General guidelines.

- The relation element indicates whether the resource currently being described has a formal or informal relationship to another resource.
- Use the relation element only where necessary for discovery, or if necessary to utilize the resource once identified. If possible, prefer [Note](#) to describe important relationships or requirements.
- It may be unnecessary to enter a relation element when two resources are already connected on the record by the same collection name, subject heading, etc. Consider whether the user is likely to find the related resource if the relation element is not present.
- As a rule of thumb, *do not* search for related resources as this would make cataloging time too extensive. Use the Relation element when in the course of cataloging, the cataloger becomes aware of related resources that may be of interest to the user.

Formulating the relation element.

- For the sake of interoperability, consistent relationships (qualifiers) should be used in formulating the relation element:
 - Is part of / has part
Use for chapters, sections, etc. of a larger resource; use for collections.
 - Is version of / has version
Use for editions of a work.
 - Is format of / has format
Use for a dataset transformed into an image, a file migrated from or to a new format, etc.
 - Is based on / is basis for
Use for a translation of a work, a screenplay based on a book, etc.

- Is required by / requires
Use when the described resource requires the referenced resource either physically or logically.
- References / is referenced by
Use to connect resources accompanying the main resource, or to refer to resources described or referenced in the main resource.
- Recommended best practice is to identify the related resource by a unique identifier such as an OCLC number, ISBN number, or other identifier as outlined in the [Identifier](#) element. Also give the title, format, or any other additional bibliographic information deemed necessary for the user to understand the related item.
- If both resources connected by a relation element are in the Portal, enter relation information in both records.

Related element.

- To make observations about related subject matter in the intellectual content of another resource (for example, photographs of the same storm-damaged building taken from different viewpoints), use the [Note](#) element.

Examples:

Is part of / has part.

A part of a larger resource.

Relation: This chapter is part of *Aesop's fables* (Oxford: Oxford University Press, 2002), ISBN 0192840509

A larger resource or collection with a definitive sub-part.

Relation: This resource has part of the manuscript for the autobiography of James Smith.

Is version of / has version.

A different edition.

Relation: This resource is a version of *View camera technique* by Leslie Stroebel (London: Focal Press, 1972), ISBN 0240448545

Is format of / has format.

A file migrated from one format type to another.

Relation: This resource is a Word file of a document originally prepared in WordPerfect.

Is based on / is basis for.

Two related works are featured in this example. A relation element is completed for each resource:

A work based on another work.

Relation: This motion picture is based on the novel *The nun's story* by Kathryn Hulme (Boston: Little, Brown, 1956), OCLC no. 285499

A work that is the basis for another work.

Relation: This novel is the basis for the motion picture *The nun's story* (directed by Fred Zinneman, produced by Warner Brothers, 1958; videocassette recording, 1988, available from Warner Home Video), OCLC no. 17885645

Is required by / requires.

Two related works are featured in this example. A relation element is completed for each resource:

A work required for another work to be used successfully.

Relation: This translation tool is required by the kit available in the Portal at identifier Y0236.

A work requiring another work to be used successfully.

Relation: Use of this kit requires the translation tool available in the Portal at identifier X0235.

References / is referenced by.

Two related works are featured in this example. A relation element is completed for each resource:

For a work referencing an accompanying resource.

Relation: Text references accompanying map available in the Portal at identifier Z225501.

For a work referenced by a resource it accompanies.

Relation: Map is referenced by *Denton and its environs* (Denton: Madeup Press, 1976), available in the Portal at identifier W225502.

COLLECTION	
Label	Collection
Sub-Element	—
UNTL Definition	The term collection means that the resource is described as a group; its parts may also be separately described and navigated. Collection name refers to a larger group of resources with a unique collective title to which the resource being described belongs.
Comment	Use the drop-down list to select a controlled collection name .
Required	Mandatory
Repeatable	Yes
Data Type	Enumerated Type

Input guidelines:

Applying collection names.

- Select the correct [collection name](#) (in an identical manner on each record) from the collection drop-down box on the metadata entry form.
- Repeat the collection element as needed to adequately describe resources that belong to multiple collections so that records will search and sort correctly. For instance, two copies of a book may be available from separate departments.

Creating collection names.

You may need to create a new collection name to describe a group of digital resources that are being collected together for inclusion on the Portal or a related digital collection. New collection names must be manually added to the collection drop box template by the Portal Administrator. Proceed as follows:

- Devise a collection name that is descriptive for the user.
- Determine how broad or narrow the collection will be when it is completed and choose a collection name that will fit this scope.
- Be consistent in the use of capitalization, punctuation, and special characters. Do not use ampersands (&).
- Notify the UNTL System Administrator and metadata management team of new collection names that need to be added to metadata records.

Examples:

- Aubrey Area Photographs
- Fort Bend Museum Collection
- Texas Annexation Documents
- Texas History Collection

INSTITUTION	
Label	Institution
Sub-Element	—
UNTL Definition	A consistent reference to the institution or administrative unit that owns the digital resource for which metadata was created.
Comment	Use the drop-down list to select a controlled institution name .
Required	Mandatory
Repeatable	Yes
Data Type	Enumerated Type

Input guidelines:

- Select the [institution name](#) from the drop-down list on the metadata entry form.
- For copyright-related information use the [Rights Management](#) element.

Examples:

- University of North Texas
- Texas State Library
- Private Collection of Bouncer Goin

RIGHTS MANAGEMENT	
Label	Rights Management
Sub-Element	—
UNTL Definition	A statement or pointer to a statement about rights management information (such as copyright, disclaimers, etc.) for the digital resource.
Comment	Typically, a rights management element will contain a rights management statement for the resource, or reference a service providing such information. Rights information often encompasses intellectual property rights (IPR), copyright, and various property rights.
Required	Recommended
Repeatable	Yes
Data Type	String

Input guidelines:

- Enter either a textual statement or a URL pointing to a use and access rights statement for digital resources on the Internet.
- Follow statements that are clearly indicated on the resource and **do not make up rights statements if not present.**
- This statement can be a general copyright statement for the institution, for the whole collection, or a specific statement for each resource. It may also be general information that provides contact information, or specific, including the name of the copyright holder.
- If the rights management element is absent, no assumptions can be made about the status of these and other rights with respect to the resource.

Examples:

- The *Texas Register* is published under the Government Code, Title 10, Chapter 2002 and all material in the Texas Register is the property of the State of Texas. However, it may copied, reproduced or republished by any person without permission of the *Texas Register* Director, provided no such re-publication shall bear the legend Texas Register or "Official" without the written permission of the director.
- U.S. and international copyright laws protect this Second World War poster digital image. Commercial use or distribution of the image is not permitted without prior permission of the copyright holder. Please contact [University of North Texas Libraries](#) for permission to use the digital image.
- This multimedia (audio/video) file may be freely used for educational uses, as long as it is not altered in any way. A high-quality version of this image file may be obtained for a fee for personal use by contacting [Cathy Hartman](#) at: CHartman@library.unt.edu.
- Permission to use the photos must be obtained from the photographer.

- Contact the Fort Bend County Museum for information concerning copyright restriction applying to the use or reproduction of this image.
- Address requests for physical copies and publication rights to Fort Bend County Museum, 500 Houston St., Richmond, TX 77469.

RESOURCE TYPE	
Label	Resource Type
Sub-Element	—
UNTL Definition	The type or category of the primary content of the resource
Comment	As described in Dublin Core, type includes terms describing general categories, functions, genres, or aggregation levels for content. The purpose of the resource type element is to allow the user to limit a search to a specific category of material. For example, the user might locate books about Aubrey by searching the keyword "Aubrey" and limiting the resource type to "text." To describe the physical or digital manifestation of the resource, use the Description and Format elements, instead.
Required	Mandatory
Repeatable	No
Data Type	Enumerated Type

Input guidelines:

- Select a value from the dropdown box in the metadata entry form. [Resource types](#) are defined in the [controlled vocabulary](#) document.
- Page images of textual items should be entered as "text" **not** "image."
- If more than one resource type is applicable, repeat the element as many times as is necessary to fully describe the resource.

Examples:

For a group of things

Resource Type: Collection

For statistical data files, CD-ROM's of data, databases, etc.

Resource Type: Dataset

For paintings, drawings, engravings, graphic designs, plans, etc.

Resource Type: Image-Artwork

For maps

Resource Type: Image-Map

For photographs

Resource Type: Image-Photographs

For other types of still images not specified above

Resource Type: Image-Other Still Image

For animations, movies, television programs, etc.

Resource Type: Image-Moving Images

For video games, interactive virtual exhibits, etc.

Resource Type: Interactive Resource

For museum pieces, architectural structures, monuments, etc.

Resource Type: Physical Object

For application software such as presentation viewers, word processors, etc.

Resource Type: Software

For sound recordings

Resource Type: Sound

For letters

Resource Type: Text-Letters

For newspapers

Resource Type: Text-Newspapers

**For books, scrapbooks, diaries, poems, home pages, manuscripts, music scores,
or any other types of text not specified above**

Resource Type: Text-Other

FORMAT	
Label	Format
Sub-Element	—
UNTL Definition	The digital manifestation of the resource
Comment	To be selected from a controlled list. This element is important because choice of appropriate preservation strategies depends on knowing the structural type of the digital manifestation. For file format see Format name
Required	Mandatory
Repeatable	No
Data Type	Enumerated Type

Input guidelines:

General guidelines.

- Select the [format](#) from a [Controlled list](#):
 - Audio - use for data stored in a sound file format.
 - Image - use for a file that provides a two-dimensional graphical representation of a scene.
 - Text - use for a written or printed document.
 - Video - use for moving images created by use of video cameras.
 - Other - use for formats that do not fit into any of the categories above.

Related elements.

- For physical (as opposed to digital) nature, including size and duration of the original resource, use the [Physical Description](#) sub-element.
- For categorizing the primary content of the resource (to aid in searching) use the [Resource Type](#) element.

IDENTIFIER	
Label	Identifier
Sub-Element	1.1 URL , 1.2 URN , 1.3 DOI , 1.4 ISBN , 1.5 ISSN , 1.6 OCLC No. , 1.7 Report No. , 1.8 Government Document No. , 1.9 Accession or Local Control No. , 1.10 UNT Catalog No. , 1.11 RISM No. , 1.12 Other Identifier
UNTL Definition	A unique identifier or "permanent name" for a resource that identifies it uniquely and persistently.
Comment	Recommended best practice is to identify the resource by means of a string or number conforming to a formal identification system. An identifier for an object that identifies it uniquely, enables links to metadata about it, and to other objects related to it. The sub- element value (identifier type) should be selected from a controlled vocabulary. The sub-elements record different kinds of identifiers including pointers to the metadata information in the local system and ensure that individual digital objects can be managed, stored, recalled and used reliably.
Required	Mandatory
Repeatable	Yes
Data Type	String

Identifier Type		
1.1 URL	Definition:	Uniform Resource Locator: The global address of documents and other resources on the World Wide Web. The first part of the address indicates what protocol to use, and the second part specifies the IP address or the domain name where the resource is located.
	Example:	http://texinfo.library.unt.edu/texasregister/
1.2 URN	Definition:	Uniform Resource Name: A particular scheme, urn:, specified by RFC2141 and related documents, intended to serve as persistent, location-independent, resource identifiers. A URI that has an institutional commitment to persistence, availability, etc. Note that this sort of URI may also be a URL. See, for example, PURLs .
	Example:	http://texashistory.unt.edu/permalink/meta-pt-3171
1.3 DOI	Definition:	Digital Object Identifier, the opaque string used as an identifier by the DOI System. DOIs may be used to identify any intellectual property entity, including those already identified by systems such as ISBN.
	Example:	10.1002/meet.1450400197

1.4 ISBN	Definition:	The ISBN (International Standard Book Number) is a unique machine-readable identification number, which marks any book unmistakably. This number is defined in ISO Standard 2108.
	Example:	0791035498
1.5 ISSN	Definition:	The ISSN (International Standard Serial Number) is an eight-digit number which identifies periodical publications as such, including electronic serials . More than one million ISSN numbers have so far been assigned.
	Example:	10785578 03624781
1.6 OCLC No.	Definition:	The Online Computer Library Center (OCLC) is an online cataloging system shared by libraries worldwide, and an "OCLC number" is a unique identifying number attached to all records in the OCLC cataloging and interlibrary loan database. In WorldCat, the "OCLC number" is called the Accession number.
	Example:	5472632
1.7 Report No.	Definition:	A publisher-supplied number identifying a report-- usually within a series of similar reports. The report number will normally be found on the title page, documentation page, and/or cover of a report. The number may be a standard technical report number formulated to the ANSI/NISO Z39.23 standard, or a less standardized number designed to work within an organizational scheme of the issuing agency's publications.
	Example:	ISRN METPRO/ERR-26715 IB10038
1.8 Government Document No.	Definition:	A unique identifier which designates documents published by government agencies. This element may contain Superintendent of Documents Classification (SuDoc) numbers for federal documents, or Texas Document Classification (TxDoc) numbers for Texas state documents.
	Example:	Y 10.2:M 33 / R65/1986 HE 20.6209/3:167 Z UA220.1 P96 1992 C3400.5 P758
1.9 Accession Local Control No.	Definition:	Other pointers to the metadata in the local system. Most commonly, these will be accession numbers assigned by a museum, archive, or special collection, or local numbers used by a collector to identify elements of his or her collection.
	Example:	Y2010 5.0053a
1.10 UNT Catalog No.	Definition:	A unique identifier within the UNT Libraries' online catalog system. From the current III catalog, the bibliographic record number will be used.
	Example:	b14791262
1.11 RISM No.	Definition:	A unique identifier within <i>Répertoire International des Sources Musicales</i> (RISM), the International Inventory of Musical Sources.

	Example:	1570-12 C 4287 D 3941
1.12 Other Identifier	Definition:	Other types of identifiers not specified in sub-elements 1.1-1.9. At UNT, Library of Congress (LC) or Dewey call numbers associated with our catalog are placed in the "other" sub-element.
	Example:	G4030 1852.Y67 1852

Input guidelines:

Best practices.

- Identify the resource by means of a unique string or number conforming to a formal identification system. Representative formal identification systems include the Uniform Resource Identifier (URI), the Digital Object Identifier (DOI), and the International Standard Book Number (ISBN).
- Provide additional identifiers as needed to more fully describe the resource and to facilitate local access.
- For electronic resources accessible via the worldwide web, include the Uniform Resource Locator (URL) in addition to any formal or local identifying numbers.

Formulation.

- Use separate identifier elements to enter multiple identifiers and indicate the [type of identifier](#) (e.g. ISBN, Local Control Number, etc.) from the drop box in the metadata entry form. If a controlled term for the correct scheme is not present, use "Other Identifier" and, if necessary, notify the system administrator so that s/he can add a new controlled term to the list.
- Input international standard numbers (ISBN, ISSN) without hyphens or spaces.
- In a shared metadata environment, numbers unique within an institution's digital collection (e.g., accession numbers) should also include the name or a code for the institution along with the number, in case another participating institution also uses the same "unique" identifier.

Uses.

- Identifiers provide information needed to retrieve a file from the storage system, or to access a bitstream within a file.
- If possible, use the identifier as the file-naming basis for the digital object. For multi-piece, multi-part digital objects such as each individual page image of a scanned text, best practice is to identify each page image with a predictable naming scheme locally, but to share one metadata record for the text as a single, whole resource.
- Identifiers provide a convenient way to refer to an object when utilizing the [Relation](#) element or the [Note](#) element of the metadata schema. For example, the descriptive metadata record for the photograph "2804 N. Elm and Orr St[reet]," local control number 6.0018b, contains this note: "Other photographs of this site are available in Mr. Goin's collection at 4.0122b and 4.0123a."
- Placing a URL in the identifier element creates a link from the Portal to an external resource on a web site, HTML page, etc. The URL can also be added to a library catalog's MARC record (856 field) to provide a link from the catalog to a digital object.

NOTE	
Label	Note
Sub-Element	—
UNTL Definition	The note element will serve as a "catch-all" field for additional information that facilitates discovery of the resource, but cannot be entered in other elements.
Comment	Information in the descriptive note element will be displayed to the public. For preservation metadata and related notes, which do not need to be displayed to the public, see Comments .
Required	Optional
Repeatable	No
Data Type	String

Input guidelines:

General guidelines.

- Use the note element to provide additional information, not entered elsewhere, to facilitate discovery of or enhance the use of the resource.
- This element corresponds to the "500" field in the MARC records used by many library catalogs.
- As a rule of thumb, *do not* search for extra information to place in the note field as this would make cataloging time too extensive. Use the note element when in the course of cataloging, the metadata cataloger becomes aware of additional information that may be of interest to the user.

Formulating the note.

- The note element is unstructured and may be constructed to suit the need identified by the metadata cataloger.
- Because the note element displays to the public, care should be taken to formulate the note in a way that is understandable to the user.

Related elements.

- For preservation and metadata management related information, use the [Comments](#) element and the "Other Information" sub-element in the [Metadata Information](#) element

Examples:

- A related image is available in the Portal at 4.0084c.
- Earlier images of this site are available in Mr. Goin's collection at 4.0123a and 6.0018b.
- Distributed to some depository libraries in microfiche.
- At head of title: Committee print.
- Does not show western Texas beyond 7 miles west of San Antonio.
- Purchased with funds provided by the Friends of the UNT Libraries.
- "HR-2555"
- Digitization completed by Digital Daring Inc. under contract to the University of North Texas Libraries.
- Performed in Hebrew with English subtitles.

METADATA INFORMATION	
Label	Metadata Information
Sub-Element	1.1 Metadata Creator , 1.2 Date of Creation , 1.3 Metadata Editor/Modifier , 1.4 Date of Modification ,
UNTL Definition	The details of metadata creation and modification.
Comment	<p>The metadata information entity records information about the metadata creation and the history of changes made:</p> <ul style="list-style-type: none"> • by whom: name of the person doing the revision • when: date/time that this change to the metadata information was completed. • what: detailed information about the changes <p>Note: information on changes to the metadata, including a list of elements with content different from the original values should be recorded in the Metadata Modification Action field. Recording information about changes to the metadata record underscores the importance of the metadata record itself as a component of the digital object that requires continuous management over time.</p>
Required	Partially automated
Repeatable	
Data Type	String

1.1 Metadata Creator	
Label	Metadata Creator
Sub-Element	—
UNTL Definition	The name of the person that has created the metadata record.
Comment	This element records responsibility for metadata creation.
Required	Mandatory
Repeatable	No
Data Type	String

1.2 Date of Creation

Label	Date of Creation
Sub-Element	—
UNTL Definition	This element identifies and records date of metadata creation.
Comment	Records the date of the metadata creation. Recommended best practice for encoding the date value is defined in a profile of ISO 8601 [W3CDTF] and follows the YYYY-MM-DD format.
Required	Mandatory
Repeatable	No
Data Type	String

1.3 Metadata Editor/Modifier

Label	Metadata Editor/ Modifier
Sub-Element	—
UNTL Definition	The name of the person that has modified or updated the metadata record recently.
Comment	This element records responsibility for the most recent metadata modification.
Required	Recommended
Repeatable	No
Data Type	String

1.4 Date of Modification

Label	Date of Modification
Sub-Element	—
UNTL Definition	This element identifies and records the most recent date in the history of the metadata modification.
Comment	Records the very last date in the modification processes. Recommended best practice for encoding the date value is defined in a profile of ISO 8601 [W3CDTF] and follows the YYYY-MM-DD format.
Required	Recommended
Repeatable	Yes
Data Type	String

Input guidelines:

- System-generated log would be used for recording descriptive metadata creator and metadata modifier information.
- Recommended best practice for encoding the date value is defined in a profile of ISO 8601 [W3CDTF] and follows the YYYY-MM-DD, hh:mm:ss format. See the [Date](#) element for details.
- The description of action taken pertaining to the metadata records of the digital resources builds up a change history over time.
- The description of action taken pertaining to the descriptive metadata records of the digital resources will be added manually in the [Metadata Modification Action](#) field

Examples:

Examples of Creator Creator/Modifier.

- mPhillips
- nHall
- nReis

Examples of date of Modification.

- 2004-04-18, 10:14:31
- 2005-05-12, 11:54:41
- 2005-06-02, 12:52:44

Note that information on changes and action taken to the metadata would be added manually in the [Metadata Modification Action](#) field.

Examples of Action Taken

- The Date field was corrected and 'Digital Creation Date' changed from 1988 to 1998.
- Creator Name was checked in Name Authority Files (NAF) and modified from Kathy to Cathy.

PRESERVATION METADATA

FILE SIZE	
Label	File Size
Sub-Element	—
UNTL Definition	The size (in bytes) of the file or bitstream.
Comment	Size is necessary for managing the object within the archive system. It is also necessary for ensuring that an application has adequate space to process or move files. E.g. migration of storage media to CD-ROM might require this information, since standard CD-ROMs have a limited capacity.
Required	Mandatory
Repeatable	No
Data Type	Scalar

Input guidelines:

- Automatically obtained by the system.
- The file size must record the number of bytes as provided by the system. Do not convert file sizes to KB, MB, or other notation.

Examples:

- 156734
- 1268

FILE-NAME	
Label	File Name
Sub-Element	—
UNTL Definition	The file name (including its extension name) of the object.
Comment	This is the original name of the object as submitted to or harvested, before any renaming by the system. Necessary for managing the object within the archive system at the file level.
Required	Mandatory
Repeatable	No
Data Type	String

Input guidelines:

- This is the name of the file as designated in the original submission or harvest.
- The file may have other names in different contexts.

Examples:

- m013022.pdf
- blue_album-0004.tif

FORMAT NAME	
Label	Format Name
Sub-Element	1.1 Format Version
UNTL Definition	Identification and designation of the format of a file.
Comment	An accurate identification of format is essential for preservation purposes.
Required	Optional
Repeatable	Yes
Data Type	String

1.1 Format Version	
Label	Format Version
Sub-Element	—
UNTL Definition	The version of the format named in format name.
Comment	Provide sufficient information about the format version to facilitate access and preservation activities.
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

- The format of a file should be ascertained by the system.
- Even if format information is identified directly or indirectly (such as: the file name extension, other metadata, etc.), the recommended practice is to independently identify the format by parsing the file when possible.
- Format version value can be either a numeric or a chronological designation.
- If the format or version cannot be identified, it is valid to record that the format or version is unknown. However, efforts should be made to identify the format and version, even if manual intervention is required.
- If manual, recommended best practice is that value should be taken from a controlled vocabulary.
- If there is a unique situation, to support digital preservation activities, further information about the format can be provided by reference to an entry in a format registry (such as [Global Digital Format Registry](#) (GDFR)).

Examples:

- The most specific format should be recorded.
 - If an image is both a valid TIFF and GeoTIFF, it should be identified as a GeoTIFF.
- Format version value can be either a numeric or a chronological designation.
 - 3.2
 - 7.0
 - 2005

FILE DESCRIPTION	
Label	File Description
Sub-Element	1.1 Resolution 1.2 Dimension 1.3 Duration 1.4 Rate 1.5 Tonal-Resolution 1.6 Color 1.7 Compression 1.8 Other File Information
UNTL Definition	Technical specifications of the digital file.
Comment	Describe the details of digital files essential for managing preservation.
Required	Mandatory
Repeatable	No
Data Type	String

File Description Sub-Elements		
1.1 Resolution	Definition:	-The spatial resolution of the digital image, expressed as pixels per inch (ppi) or dots per inch (dpi). -For audio, it is the sampling frequency in kHz.
	Example:	-600 dpi; 300 dpi, -44.1kHz; 96kHz
1.2 Dimension	Definition:	The number of pixels along the vertical and horizontal dimensions.
	Example:	4096 x 6144 pixels
1.3 Duration	Definition:	The length of the audio and/or video recording in minutes and seconds, or minutes, seconds, hundredths of seconds, and frames.
	Example:	67 minutes 12 seconds; 03:12:24:20
1.4 Rate	Definition:	-For video: the standard frame rate per second of the video material. -For audio: word length used to encode the audio. Consequently an indication of dynamic range.
	Example:	25 fps
1.5 Tonal-Resolution	Definition:	Bit depth of each pixel, and whether multiple bits convey gray tones or color.
	Example:	8-bit grayscale; 24-bit color
1.6 Color	Definition:	The color space used for the image.
	Example:	CMYK; RGB
1.7 Compression	Definition:	The type and level of compression.
	Example:	zip file, CCIT 4, MPEG 3
1.8 Other File Information	Definition:	Any other relevant file information.
	Example:	2. Single Track, (The number of tracks and how they are related to each other).

Input guidelines:

- The file description information is automatically recorded by the system.

FIXITY INFORMATION	
Label	Fixity Information
Sub-Element	1.1 Authentication Type , 1.2 Authentication Result , 1.3 Date , 1.3.1 First Created Date , 1.3.2 Last Checked Date
UNTL Definition	Information (authenticating data) that can be used to validate authenticity.
Comment	Further work is needed to define the range of attributes and values appropriate for a variety of authentication mechanisms.
Required	
Repeatable	
Data Type	See sub-elements

1.1 Authentication Type	
Label	Authentication Type
Sub-Element	—
UNTL Definition	Specific data describing the technique used to authenticate the digital resource.
Comment	Provide sufficient information about the tool (algorithm) used to construct the output message. If not automatic, the recommended best practice is that type value should be taken from a controlled vocabulary. (E.g. MD5, Adler-32, HAVAL, SHA-1, SHA-256, SHA-384, SHA-512, TIGER, WHIRLPOOL, etc.).
Required	Recommended
Repeatable	No
Data Type	String

1.2 Authentication Result

Label	Authentication Result
Sub-Element	—
UNTL Definition	Result or output of the most recent use of this authentication type (message digest algorithm)
Comment	This must be stored so that it can be compared in future fixity checks, which provide the basis for assessing authenticity of the digital object.
Required	Mandatory
Repeatable	No
Data Type	String

1.3 Date

Label	Date
Sub-Element	1.3.1 First Created Date , 1.3.2 Last Checked Date
UNTL Definition	Identify the first and last dates of authentication methods applied to the digital resource.
Comment	The UNTL uses the ISO 8601 standard for recording dates. (For further description, see also W3C standard below)
Required	Recommended
Repeatable	No
Data Type	Date/Time

1.3.1 First Created Authentication Date

Label	First Created Date
Sub-Element	—
UNTL Definition	Date of very first application of an authentication method to the content digital resource.
Comment	Complete date plus hours, minutes, seconds and time zone: YYYY-MM-DDThh:mm:ssTZA (e.g. 1997-07-16T19:20:30+01:00)
Required	Mandatory
Repeatable	No
Data Type	Date/Time

1.3.2 Last Checked Authentication Date

Label	Last Checked Date
Sub-Element	—
UNTL Definition	Date of most recent use of this authentication type.
Comment	Establish temporal benchmark against which later version or copies of the digital resource can be compared.
Required	Mandatory
Repeatable	No
Data Type	Date/Time

Input guidelines:

- The fixity information is automatically calculated and recorded by the system.
- The output must be stored so that it can be compared in future fixity checks.
- According to the newest version of the [W3C](#) standard, the date and time format for the complete date plus hours, minutes, and seconds will be as follows:
YYYY-MM-DDThh:mm:ssTZD (e.g. 1997-07-16T19:20:30+01:00)
where:
YYYY = four-digit year
MM = two-digit month (01=January, etc.)
DD = two-digit day of month (01 through 31)
hh = two digits of hour (00 through 23) (am/pm NOT allowed)
mm = two digits of minute (00 through 59)
ss = two digits of second (00 through 59)
TZD = time zone designator (Z or +hh:mm or -hh:mm)

Examples:

- **Authentication Type:**
MD5,
Adler-32,
HAVAL,
TIGER,
WHIRLPOOL
SHA-1, SHA-256, SHA-384, SHA-512, etc.
- **Authentication Result:**
17ce4779782cbaf36a91fedc69b020d3,
64365bc208481c9b6fba8a23ecf9c93c.
- **Date:**
2005-04-05T08:14:30-05:00 (Corresponds to April 5, 2005, 8:14:30 am, US Eastern Standard Time.)
2005-04-03, 13:14:30 (Corresponds to the same instant.)

SYSTEM ENVIRONMENT	
Label	System Environment
Sub-Element	1.1 <u>Software</u>, 1.2 <u>Hardware</u>
UNTL Definition	Hardware/software combinations supporting use of the object
Comment	<p>System Environment is both the technical environment that the digital resources are created and the means by which the user renders and interacts with content. Separation of digital content from its environmental context can result in the content becoming unusable.</p> <p>Different hardware and software environments can support different uses of objects. For example, the environment needed to edit and modify a file can be quite different than the environment needed to render it.</p> <p>Despite the difficulty of collecting and maintaining this information, this unit is recommended because of the critical importance of technical environment metadata for ensuring long-term access.</p>
Required	Recommended
Repeatable	
Data Type	String

Input guidelines:

Creating Application Software Name:

- Included manufacturer and title of the software and hardware application helps to identify or disambiguate the product, e.g. use “Adobe Photoshop” rather than “Photoshop”.
- Application name applies to both objects created external to the repository and subsequently ingested, and to objects created by the repository (for example, through migration events).
- Several different layers of software and hardware can be required to create and support an object. For example, a file could have been created by MSWord and later turned into a PDF using Adobe PhotoShop. Details of both the Word and PhotoShop applications could be recorded.

SOFTWARE	
Label	Software
Sub-Element	1.1 Creation Application SW , 1.2 Access Application SW , 1.3 Other SW Information
UNTL Definition	A description of the software environment required to create, access, or use the object.
Comment	The software environment is the means by which the user renders and interacts with content. Separation of digital content from its environmental context can result in the content becoming unusable.
Required	Recommended
Repeatable	
Data Type	String

1.1 Creation Application Software	
Label	Creation Application Software
Sub-Element	1.1.1 Creation Application SW Name , 1.1.2 Creation Application SW Version
UNTL Definition	Information about the application that created the object.
Comment	Information about the creation application, including the version of the application can be useful for problem solving purposes. For example, it is not uncommon for certain versions of software to be known for causing conversion errors or introducing artifacts.
Required	Recommended
Repeatable	Yes
Data Type	String

1.1.1 Creation Application Software Name	
Label	Creation Application Software Name
Sub-Element	—
UNTL Definition	The name of the software program that created the digital object.
Comment	<p>If the object was created outside the participant institutions, it might also be extracted from the file itself: the name of the creation application is often embedded within the file.</p> <p>The creation application software name sub-element is repeatable if more than one application processed the object in turn. For example, a file could have been created by MSWord and later turned into a PDF using Adobe PhotoShop. Details of both the Word and PhotoShop applications could be recorded.</p>
Required	Recommended
Repeatable	Yes
Data Type	String

1.1.2 Creation Application Software Version	
Label	Creation Application Software Version
Sub-Element	—
UNTL Definition	The version(s) of the application software program(s) referenced in the creation application software name sub-element.
Comment	<p>Provide sufficient information about the creation application, including the version of the application and the date the file was created, to facilitate access and preservation activities.</p>
Required	Recommended
Repeatable	Yes
Data Type	String

Input guidelines:

Creation Application Software Name:

- Despite the difficulty of collecting and maintaining creation software information, this element is recommended because of its critical importance in a technical environment where specialized software is required to create or use resources. See also [Analysis of System Environment](#).
- The creation application software name sub-element applies both to objects created external to the repository and subsequently ingested, and to objects created by the repository (for example, through migration events).
- Data will be manually entered, and recommended best practice is that the value should be taken from a controlled vocabulary.
- The name of the creation software is often embedded within the file, and it might be extracted from the file itself.
- Including both the manufacturer and title of the software application helps to identify or disambiguate the product, e.g. use “Adobe Photoshop” rather than “Photoshop.”
- Several different layers of software can be required to support an object. The creation application software sub-element is repeatable if more than one application processed the object in turn. For example, a file could have been created by MSWord and later turned into a PDF using Adobe PhotoShop. Details of both the Word and PhotoShop applications could be recorded.

Creation Application Software Version:

- Enter the version of the software listed in the creation application software name sub-element.
- If there is no formal version, the date of issuance can be used. Formulate the date as YYYY, YYYY-MM, or YYYY-MM-DD.

Examples:

For a file created with MSWord 2003.

Creation Application Software Name: Microsoft Office Word

Creation Application Software Version: 2003

For a file created with Photoshop 5.5.

Creation Application Software Name: Adobe Photoshop

Creation Application Software Version: 5.5

1.2 Access Application Software	
Label	Access Application Software
Sub-Element	<u>1.2.1 Access Application SW Name, 1.2.2 Access Application SW Version</u>
UNTL Definition	Name and version of the application software that is required to render and use the digital resources.
Comment	The access application software translates the digital byte stream into human-readable content. Suggested values for an environment include minimum and recommended, however, the criteria for “recommended” may be different for different users.
Required	Recommended
Repeatable	Yes
Data Type	String

1.2.1 Access Application Software Name	
Label	Access Application Software Name
Sub-Element	—
UNTL Definition	Name of the application software that is required to access the digital resource.
Comment	The name of the software that translates the archived byte stream into human-readable content.
Required	Recommended
Repeatable	Yes
Data Type	String

1.2.2 Access Application Software Version	
Label	Access Application Software Version
Sub-Element	—
UNTL Definition	The version(s) of the application software program(s) referenced in the access application software name sub-element.
Comment	Providing sufficient information about the access application software version facilitates long-term access to the resource. If there is no formal version, the date of issuance can be used.
Required	Recommended
Repeatable	Yes
Data Type	String

Input guidelines:

Access Application Software Name.

- Preface the software name with a consistent qualifier. Suggested values are:
 - **Renderer =**
Application that can display/play/execute the format instance. Examples are image viewers, video players, the Java virtual machine, etc.
 - **Ancillary =**
Required ancillary software, and it may also be a non-executable component such as a font or a stylesheet. Examples are run time libraries, browser plug-ins, compression/decompression routines, utilities, operating system emulators, etc.
 - **Operating System =**
Software that supports application execution, process scheduling, memory management, file systems, etc.
 - **Driver =**
Software with the primary function of communicating between hardware and the operating system or other software.
- Including both the manufacturer and title of the software application helps to identify or disambiguate the product, e.g. use “Adobe Acrobat” rather than “Acrobat.”

Access Application Software Version:

- Enter the version of the software listed in the creation application software name sub-element.
- If there is no formal version, the date of issuance can be used. Formulate the date as YYYY, YYYY-MM, or YYYY-MM-DD.

Examples:

For a .pdf file that must be viewed with Acrobat.

Access Application Name: Renderer = Adobe Acrobat

Access Application Software Version: 6.0

For a file that requires a Java plug-in to be accessed.

Access Application Name: Ancillary = Java Plug-in

Access Application Software Version: 1.4

1.3 Other Software Information	
Label	Other Software Information
Sub-Element	—
UNTL Definition	Other software-related information about a resource, component, or associated (dependent) file needed to use or render the digital resource or representation.
Comment	Use this sub-element to record additional software requirements or instructions necessary to render a file or representation.
Required	Optional
Repeatable	No
Data Type	String

Input guidelines:

Other Software Information.

- This note could be used to record the context of the environment information. For example, if a file can be rendered through a PC client application or through a browser with a plug-in, this note could be used to identify which situation applies.
- The text entered in the other software information sub-element can be supplemented in more rigorous form elsewhere, such as: a link to documentation, a schema, a DTD or an entity file declaration.
- For required software information, see [1.2.1 Access Application Software Name](#).

HARDWARE	
Label	Hardware
Sub-Element	1.1 Creation Hardware , 1.2 Access Hardware , 1.3 Other Hardware Information
UNTL Definition	Hardware components needed to create, access, and use the digital resource.
Comment	Recommended where specialized hardware is required to create or use the digital resource. Data will be manually entered.
Required	Recommended
Repeatable	
Data Type	See sub-elements

1.1 Creation Hardware	
Label	Creation Hardware
Sub-Element	—
UNTL Definition	Device and hardware components used to create the digital resource.
Comment	Manufacturer, model, and version (if applicable) of the hardware.
Required	Recommended
Repeatable	Yes
Data Type	String

1.2 Access Hardware	
Label	Access Hardware
Sub-Element	—
UNTL Definition	Hardware components required by the software referenced in the Access Application Software Name sub-element or needed by the human user of the referenced software
Comment	Manufacturer, model and version (if applicable) of the hardware.
Required	Optional
Repeatable	Yes
Data Type	String

1.3 Other Hardware Information	
Label	Other Hardware Information
Sub-Element	—
UNTL Definition	Additional Information (requirements, instructions, etc.) related to the hardware referenced in 1.1 Creation Hardware and 1.2 Access Hardware .
Comment	For hardware, the amount of computing resources required (such as memory, storage, processor speed, etc.) may need to be documented. In addition, more detailed instructions may be needed to install and/or operate the hardware.
Required	Optional
Repeatable	No
Data Type	String

Input guidelines:

- Hardware environment information can be very difficult to provide. Many different hardware environments may apply; there are a huge number of combinations of maker and type of cpu, memory, video drivers, and so on. Although at least one hardware environment should be recorded (particularly, if specialized hardware is required), it is not necessary to record them all. See also [Analysis of System Environment](#)
- Different environments can support different uses of objects. For example, the environment needed to edit and modify a file can be quite different from the environment needed to render it.
- The best practice is to provide both the manufacturer and version of the software application when this helps to identify or disambiguate the product.
- Specify if the software (name and version), is the minimum or recommended environment.
- In addition, for more detailed instructions, this could be linked to hardware documentation.

Examples:

For creation or access hardware.

Suggested values:

- Capturing Device:
 - Scanner:
 - Flatbed scanner (Canon Canoscan FS 4000US, Fujitsu Fi-4340C Simple/Duplex Scanner, UMAX Powerlook 2100XL Scanner, etc.)
 - Wide-format scanner (Vidar Wide-format scanner)
 - Book Scanner (Zeutschel book scanners)
 - Film scanner (Canon Canoscan FS 4000US)
 - Camera:
 - Digital still camera (BetterLight Super 8k, Canon EOS D30, etc.)
 - Video camera (Sony DCCR-PC120bt Camcorder, etc.)

- Processor: (Intell Pentium 3, etc.)
- RAM: (32MB minimum, etc.)
- Hard drive (CPUs, etc.)
- Input/Output device (Mouse, Monitor, Joystick, etc.)

For other hardware information.

- Required RAM for Apache is unknown.

DOCUMENTATION	
Label	Documentation
Sub-Element	—
UNTL Definition	Any standards, procedures, or supporting documentation necessary or useful for the management of the digital resource.
Comment	Link the digital resource to any relevant supporting documentation.
Required	Recommended
Repeatable	No
Data Type	String

Input guidelines:

- Link the digital resource to supporting documentation useful for rendering and understanding its content.

Examples:

- Manual, Procedure, Glossary, etc.

STRUCTURAL COMPOSITION	
Label	Structural Composition
Sub-Element	—
UNTL Definition	Internal structure of a complex digital resource that is bundled with other files. That is, an enumeration of the components of a complex object, along with their interrelationships.
Comment	Managing preservation requires knowing and managing the structure of complex digital resources as well as their components
Required	Recommended (Mandatory for complex objects)
Repeatable	No
Data Type	String

Input guidelines:

- It will be system provided. The system will have to attempt to identify the composition from the object itself or from associated metadata.
- This file describes the individual files that comprise a complex object, including the overall hierarchical position of each file, to enable component files of a preservation master to be reassembled in their correct structure.

Examples:

- Web page (consists of one ASCII HTML file, along with three embedded static GIF files and one embedded audio WAV file).
- CD-ROM containing 22 files (14.gif image files, 3.wav audio files, 3.txt files and 2.ex executables assembled in accordance with ISO 9660).

STORAGE MEDIUM	
Label	Storage Medium
Sub-Element	—
UNTL Definition	The physical medium on which the bit stream is recorded.
Comment	Knowing the medium on which an object is stored helps to know how and when to do media refreshment and media migration.
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

- Any replication on different media must be managed.
- Because multiple storage media are possible, this unit is repeatable.

Examples:

- Magnetic tape
- Hard disk
- CD-ROM
- DVD

ACCESS INHIBITORS	
Label	Access Inhibitors
Sub-Element	1.1 Inhibitor Key
UNTL Definition	Description of any features of the digital resources intended to inhibit access.
Comment	Features of the object intended to inhibit access, copying, dissemination, or migration. Common inhibitors are encryption and password protection.
Required	Optional
Repeatable	Yes
Data Type	String

1.1 Inhibitor Key	
Label	Inhibitor Key
Sub-Element	—
UNTL Definition	The tools (decryption key, password, etc.) that enable access to the digital resources.
Comment	It is possible that without this information the digital resource may not be accessed, copied or migrated.
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

Input guidelines for Access Inhibitors

- Access inhibitors information may indicate whether a file is password-protected or encrypted.
- When encryption is used, the type of encryption should be specifically indicated, e.g. “DES”, for “encryption” type.

Input guidelines for Inhibitors Key

- The decryption key or password should be provided if known. (However, it is not advisable to actually store the inhibitor keys in plaintext in an unsecured database).

Examples:

Examples of Access Inhibitors

Password protected

Cannot be printed

DES Encryption

PGP Encryption

Blowfish Encryption

Examples of Inhibitor Key

The password is XXXXXXXX.

DES decryption key

FUNCTIONALITY	
Label	Functionality
Sub-Element	—
UNTL Definition	Description of any significant functional properties or “look and feel” attributes of the rendered digital resource (in regards to its current manifestation).
Comment	Digital objects that have the same technical properties may still differ in terms of the properties that should be preserved for future presentation or use.
Required	Recommended
Repeatable	No
Data Type	String

Input guidelines:

- Functionality may be objective technical characteristics subjectively considered to be particularly important. For example, a PDF may contain internal links which are not considered important and JavaScript which is considered important.
- Functionality may also be subjectively determined characteristics, and the option chosen would depend upon a metadata cataloger's judgment of the significant properties of the digital object. For example, future migrations of a TIFF image may require optimization for line clarity or for color.
- Listing functionality implies the desire to preserve these significant properties in future preservation actions. If preservation actions or decisions result in loss of functionalities or modification of significant properties, then they should be recorded in the [Exception](#) element.
- More experience with digital preservation is needed to determine the best ways of representing both [Exception](#) and functionality information.

Examples:

- Web page: contains an interactive JavaScript application and embedded animations.

EXCEPTION	
Label	Exception
Sub-Element	—
UNTL Definition	Any characteristic that may appear as a loss in functionality or change in the look and feel of the digital resource resulting from preservation processes and procedures.
Comment	This element describes peculiarity or exceptions that occur as a result of migration or other preservation actions. It helps to assess the relative success of a preservation strategy and prevents time lost to trying to solve problems that were inherent in the object at the time the strategy was applied.
Required	Optional
Repeatable	No
Data Type	String

Input guidelines:

- This element describes peculiarity or exceptions that occur as a result of preservation actions.
- Exception can be considered the “negative” of [Functionality](#). Functionality metadata records all of the attributes, which existed in the original digital object. Conversely, the exception element (some call it "quirks") lists all of the attributes which no longer exist as part of the current digital object.
- More experience with digital preservation is needed to determine the best ways of representing both [Functionality](#) and exception information.

Examples:

- Digital object has been migrated from HTML to PDF (as a result, hyperlinks are broken; embedded JavaScript application no longer functional).
- The text format tag is no longer supported by many browsers due to changes in HTML 4.
- The Shockwave files could not be captured from the source document.

ALTERATION HISTORY	
Label	Alteration History
Sub-Element	1.1 Action Taken , 1.2 Date of Alteration , 1.3 Person/Agency Performing Alteration , 1.4 Other Information
UNTL Definition	This element documents what has happened to a particular digital resource. It describes any changes made, from the time of creation of the digital resource.
Comment	All relevant details of any process applied to a digital resource, including specific settings or actions that were required to produce the digital resource should be recorded here. This information is essential to document the preservation methods that have been applied to the digital resource and how the various copies or formats of the digital resource might differ from each other. This field probably stores information such as how the element was disintegrated into its integral parts or changed in format.
Required	Optional
Repeatable	Yes
Data Type	String

1.1 Action Taken	
Label	Action Taken
Sub-Element	—
UNTL Definition	This element describes significant steps involved in the process of changing the original digital resource.
Comment	This field stores information on the specific process applied to the digital resource. (To list hardware and software used to make changes to a digital resource, use System Environment). The series of linked records pertaining to the digital resource builds up a change history over time.
Required	Optional
Repeatable	Yes
Data Type	String

1.2 Date of Alteration

Label	Date of Alteration
Sub-Element	—
UNTL Definition	This element identifies the sequence of processes and provides a record of dates significant to the history of the digital resource.
Comment	Records the date, or range of dates, if relevant, of the process being carried out. Recommended best practice for encoding the date value is defined in a profile of ISO 8601 [W3CDTF] and follows the YYYY-MM-DD format.
Required	Optional
Repeatable	Yes
Data Type	String

1.3 Person/Agency Performing Alteration

Label	Person/Agency Performing Alteration
Sub-Element	—
UNTL Definition	The individual(s), agency, or institution that carried out the alteration process.
Comment	The individual(s), business unit, or institution that approved the process can be added here (if different).
Required	Optional
Repeatable	Yes
Data Type	String

1.4 Other Information	
Label	Other Information
Sub-Element	—
UNTL Definition	Any information relevant to the management of the digital resource will be added here.
Comment	Complete this field only if the Action Taken sub-element is insufficient to provide necessary information regarding the process/action, e.g. Why was the particular action necessary? Are there any noteworthy hardware/software used in performing the process? etc. Any standards or procedures used when performing the alteration process will be recorded in the Documentation element.
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

- Any history of actions performed on the digital object during its lifetime will be recorded here.
- List of values can be compiled for common actions (see examples below). The list below is likely to expand as additional preservation and related actions are determined.

Examples:

For action taken, describe:

- Creation of first preservation master from original.
- Creation of subsequent preservation master through migration.
- Creation of subsequent preservation master through emulation.
- Creation of new object from original.

METADATA INFORMATION	
Label	Metadata Information
Sub-Element	1.1 Metadata Editor/Modifier , 1.2 Date of Modification , 1.3 Metadata Modification Action , 1.4 Other Information
UNTL Definition	The details of metadata creation and modification.
Comment	<p>The metadata information entity records information about the metadata creation and the history of changes made:</p> <ul style="list-style-type: none"> • what: detailed information about the changes • by whom: name of the person doing the revision • when: date/time that this change to the metadata information was completed. <p>Note: recording information about changes to the metadata record underscores the importance of the metadata record itself as a component of the digital object that requires continuous management over time.</p>
Required	Recommended
Repeatable	Yes
Data Type	String

1.1 Metadata Editor/Modifier	
Label	Metadata Editor/ Modifier
Sub-Element	—
UNTL Definition	The name of the person and/or institution that has modified or updated the metadata record.
Comment	This element records responsibility for metadata modification.
Required	Recommended
Repeatable	Yes
Data Type	String

1.2 Metadata Modification Date	
Label	Modification Date
Sub-Element	—
UNTL Definition	This element identifies and records dates significant to the history of the metadata creation and modification.
Comment	Records the date, or range of dates the modification is carried out. Recommended best practice for encoding the date value is defined in a profile of ISO 8601 [W3CDTF] and follows the YYYY-MM-DD format.
Required	Recommended
Repeatable	Yes
Data Type	String

1.3 Modification Action	
Label	Modification Action
Sub-Element	—
UNTL Definition	This element describes the specific steps involved in the process of changing the original metadata records.
Comment	This field stores information on changes to the metadata, including a list of elements with content different from the original values. The description of action taken pertaining to the metadata records of the digital resources builds up a change history over time.
Required	Recommended
Repeatable	Yes
Data Type	String

1.4 Other Information	
Label	Other Information
Sub-Element	—
UNTL Definition	Any other information relevant to the management of the metadata record will be added here.
Comment	
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

- System-generated log would be used for recording metadata editor/modifier information.
- Recommended best practice for encoding the date value is defined in a profile of ISO 8601 [W3CDTF] and follows the YYYY-MM-DD format. See the [Date](#) element
- The description of action taken pertaining to the metadata records of the digital resources builds up a change history over time.

Examples:

Examples of Metadata Editor/Modifier.

- Daniel Alemneh, University of North Texas
- Nancy Reis

Examples of date of Modification.

- 2005-04-18
- 2005-03-26

Examples of Action Taken.

- The Date field was corrected and 'Digital Creation Date' changed from 1988 to 1998.
- Creator Name was checked in Name Authority Files (NAF) and modified from Kathy to Cathy.
- Application Software Version information was checked and modified from 3.1 to 3.2.

COMMENTS	
Label	Comments
Sub-Element	—
UNTL Definition	Any other information relevant to the digital object's preservation.
Comment	Information in the comments element will not be displayed to the public.
Required	Optional
Repeatable	No
Data Type	String

Input guidelines:

- Any information that is relevant to the preservation of the object, but that cannot be entered in other elements, should be added here.
- For descriptive notes, use the [Note](#) element. For preservation and metadata management-related information, please use the "Other Information" sub-elements in the [Alteration History](#) and/or [Metadata Information](#) elements.

Examples:

For a photograph with unknown provenance.

Comments: Coverage date determined by analysis of clothing and hairstyle of the subject in the photograph: Hair is worn back and up. Bell-skirt, narrow waist. Feathered hat on chair next to her from 1890s-1900s style.

DIGITAL OBJECTS

DIGITAL OBJECT	
Label	Digital Object
Sub-Element	1.1 Digital Object Upload , 1.2 Digital Object Description
UNTL Definition	Digital Object is a tool for uploading the digital object file and adding a brief description.
Comment	See sub-elements below.
Required	See sub-elements below.
Repeatable	Yes
Data Type	See sub-elements below.

1.1 Digital Object Upload	
Label	Digital Object Upload
Sub-Element	—
UNTL Definition	Digital Object Upload is a tool for uploading the digital object file.
Comment	
Required	Mandatory
Repeatable	Yes
Data Type	String

1.2 Digital Object Description	
Label	Description
Sub-Element	—
UNTL Definition	The Digital Object Description element will contain information about the digital object file.
Comment	Use this element to indicate specific information about the digital file. It displays to users directly beneath the image it is associated with and so may be used to label the front and back of an object, point to a specific section of a book, differentiate between an album caption and other text or images, and so on. To describe the intellectual content of the object, use the Content Description element. To describe physical features of the object such as pagination, dimensions, hachures, etc., use the Physical Description element. To provide detailed technical description and other important requirements, use elements in the preservation metadata section including: Hardware , Exception , etc.
Required	Optional
Repeatable	Yes
Data Type	String

Input guidelines:

Digital Object Description.

- Enter specific and descriptive text about the digital file.
- As a rule of thumb, provide a digital object description only if there is some peculiar information about the file that needs to be described or if the description will help users more readily identify the image they want to look at.

Examples:

Digital Object Description.

- Front
- Back
- Signature page
- Caption
- Sophomore photo section
- List of organizations
- Athletics section

APPENDICES

Appendix 1: CONTROLLED VOCABULARIES FOR THE UNTL METADATA

The University of North Texas Libraries (UNTL) created the following controlled vocabulary list of values for selected metadata elements. The list will enable data enterers to easily select appropriate values. In addition, selecting a value from a controlled list ensures that arbitrary values cannot be applied to those particular elements so that metadata consistency and precision across all digital resources will be maintained.

The pre-defined vocabularies consider general standards-related issues as well as specific local requirements. Besides, to accommodate changes and future developments, the system will have the option of using a free-text string to add terms that fit the new requirements. If the data enterer cannot find the right value for a digital resource, s/he should notify the metadata administrators of suggested new terms. All proposed additional vocabularies will be refined by subject-matter experts or the metadata working group. This flexible approach of pre-defined and custom-generated vocabularies provides maximum flexibility to capture complete, consistent, and high-quality metadata for all digital resources. Also, in order to describe the digital resources adequately, some fields may be repeated as necessary. Please consult the detailed [metadata creation guidelines](#) for each element.

If you have any comments or suggestions regarding the list of controlled vocabularies or the UNTL Metadata Elements in general, please contact Cathy Nelson Hartman at chartman@library.unt.edu or Daniel Gelaw Alemneh at dalemneh@library.unt.edu.

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TITLE ROLE
<ul style="list-style-type: none">• Added Title
<ul style="list-style-type: none">• Alternate Title
<ul style="list-style-type: none">• Official Title
<ul style="list-style-type: none">• Parallel Title
<ul style="list-style-type: none">• Serial Title
<ul style="list-style-type: none">• Series Title
<ul style="list-style-type: none">• Uniform Title
<ul style="list-style-type: none">• No Attribute
<ul style="list-style-type: none">• Other

INSTITUTION

- UNT - University of North Texas
- APL - Alvord Public Library
- CHOS - Courthouse-on-the-Square Museum
- DHS - Dallas Historical Society
- DSCL - Deaf Smith County Library
- EPL - Euless Public Library
- FBM - Fort Bend Museum
- GLO - Texas General Land Office
- IPL - Irving Archives
- KDL - Kentuckiana Digital Library
- BPL - Lena Armstrong Public Library, Belton, Texas
- LCAM - Library of Congress American Memory Project
- PCBG - Private Collection of Bouncer Goin
- RPL - Richardson Public Library
- SJMH - San Jacinto Museum of History
- SMU - Southern Methodist University Libraries
- TCC - Tarrant County College Northeast
- TSLAC - Texas State Library and Archives Commission

<ul style="list-style-type: none">• TriDL - Triptych: The TriCollege Digital Library
<ul style="list-style-type: none">• UH - University of Houston Libraries' Special Collections
<ul style="list-style-type: none">• UM - The University of Michigan, University Library, Digital Library Production Service Collections
<ul style="list-style-type: none">• UT - University of Texas
<ul style="list-style-type: none">• UTA - University of Texas at Arlington Libraries
<ul style="list-style-type: none">• UTSW - UT Southwestern Medical Center Library
<ul style="list-style-type: none">• OTHER - Other

<u>COLLECTION</u>	
Vocabulary	Description
AAP - Aubrey Area Photographs	Photographs of people, places, and things associated with life in Aubrey, Texas. The photographs are drawn from private collections.
ACE - U.S. Army Corps of Engineers Collection	
AD - From Republic to state: debates and Documents Relating to the Annexation of Texas, 1836-1856	Drawn from collections at the UNT Libraries, these materials pertain to the history of Texas's Annexation to the United States.
AM - American Memory	
BMB - Bill and Marcella Bradly Collection	
BLA - Benson Latin American Collection	
BRYN - Bryn Mawr College Special Collections	
CAH - The Center for American History	
CCS - Charles and Catherine Schulze Collection	
CRS - Congressional Research Service Reports	Reports produced by the Congressional Research Service for use by members of Congress and Congressional committees
FB - Fort Bend Museum Collection	
GLT - Gammel's Laws of Texas	H.P.N. Gammel's The Laws of Texas, 1822-1897 has long been one of the most important primary resources for the study of Texas' complex history during the Nineteenth Century. His monumental compilation charts Texas from the time of colonization through to statehood and reveals Texas' legal history during crucial times in its development. The Laws consist of documents not only covering each congressional and legislative session but comprise other documents of significance, including the constitutions, select journals from the constitutional conventions, and early colonization laws.
HFC - Harpool Farm Collection	
HR - Tarrant County College NE, Heritage Room	
HT - Humanities Texas Grant	
KDL - Kentuckiana Electronic Texts Collection	
LDO - Lorenzo de Zavala	

Online: Empresario, Statesman and Texas Rev	
MOA - Making of America	
MJC - Mary (Mrs. Anson) Jones Letters	Letters from a special collection in the University of Houston Libraries. <i>Note: Mary Jones correspondence from other repositories should be coded with a different collection name.</i>
OEB - O.D. and Estelle Bates Collection	
PAT - J. L. Patton Collection	
TFG - Tocker Foundation Grant	
THC - Texas History Collection	Drawn from collections at the UNT Libraries, these materials about Texas history include artifacts, books, documents, manuscripts, photographs, maps, letters, and more.
TP - Photographing Texas	
TR - Texas Register	The <i>Texas Register</i> is published weekly, (52 times a year) by the Office of the Secretary of State. The <i>Texas Register</i> Archive is hosted by the UNT Libraries, and includes issues published since June 1991. The most current issue <i>is available at</i> the Texas Secretary of State's Web site.
UNTA - University of North Texas Archives	
UNTRB - Rare Book and Texana Collection	

CREATOR/CONTRIBUTOR ROLE

The list of roles in the controlled vocabulary is based on the relator codes found in the Library of Congress's [MARC Code Lists for Relators, Sources, Description Conventions](#). Please note that, except where specified, codes and definitions for the roles come from that document.

Vocabulary	Definition
act - Actor	A person or organization who principally exhibits acting skills in a musical or dramatic presentation or entertainment.
adp - Adaptor	A person or organization who 1) reworks a musical composition, usually for a different medium, or 2) rewrites novels or stories for motion pictures or other audiovisual medium.
ann - Annotator	A person who writes manuscript annotations on a printed item.
arc - Architect	A person or organization who designs structures or oversees their construction.
arn - Artisan *	A person or organization who conceives and usually also produces a craft work such as a ceramic pot, textile, piece of jewelry, or furniture. *
arr - Arranger	A person or organization who transcribes a musical composition, usually for a different medium from that of the original; in an arrangement the musical substance remains essentially unchanged.
art - Artist	A person (e.g., a painter) or organization who conceives, and perhaps also implements, an original graphic design or work of art For book illustrators, prefer Illustrator [ill].
att - Attributed name	A person or organization associated with or found in an item or collection, which cannot be determined to be that of a Former owner [fmo] or other designated relator indicative of provenance.
aut - Author	A person or organization chiefly responsible for the intellectual or artistic content of a work, usually printed text. This term may also be used when more than one person or body bears such responsibility.
cmp - Composer	A person or organization who creates a musical work, usually a piece of music in manuscript or printed form.
cnd - Conductor	A person who directs a performing group (orchestra, chorus, opera, etc.)
col - Collector	A person or organization who has brought together material from various sources that has been arranged, described, and cataloged as a collection. A collector is neither the creator of the material nor a person to whom manuscripts in the collection may have been addressed.
com - Compiler	A person or organization who produces a work or publication by selecting and putting together material from the works of various persons or bodies.
cph - Copyright holder	A person or organization to whom copy and legal rights have been granted or transferred for the intellectual content of a work. The copyright holder, although not necessarily the creator of the work, usually has the exclusive right to benefit financially from the sale and use of the work to which the associated copyright protection applies.

crp - Correspondent	A person or organization who was either the writer or recipient of a letter or other communication.
ctg - Cartographer	A person or organization responsible for the creation of maps and other cartographic materials.
dnr - Donor	A person or organization who is the donor of a book, manuscript, etc., to its present owner.
dsr - Designer	A person or organization responsible for a design
dst - Distributor	A person or organization that has exclusive or shared marketing rights for an item.
edt - Editor	A person or organization who prepares for publication a work not primarily his/her own, such as by elucidating text, adding introductory or other critical matter, or technically directing an editorial staff.
egr - Engraver	A person or organization who cuts letters, figures, etc. on a surface, such as a wooden or metal plate, for printing.
fnd - Funder	A person or organization that furnished financial support for the production of the work.
ill - Illustrator	A person or organization who conceives, and perhaps also implements, a design or illustration, usually to accompany a written text.
ive - Interviewee	A person or organization who is interviewed at a consultation or meeting, usually by a reporter, pollster, or some other information gathering agent.
ivr - Interviewer	A person or organization who acts as a reporter, pollster, or other information gathering agent in a consultation or meeting involving one or more individuals.
lbt - Librettist	A person or organization who is a writer of the text of an opera, oratorio, etc.
oth - Other	Use for relator codes from other lists which have no equivalent in the MARC list or for terms which have not been assigned a code.
pht - Photographer	A person or organization responsible for taking photographs, whether they are used in their original form or as reproductions.
pro - Producer	A person or organization responsible for the making of a motion picture, including business aspects, management of the productions, and the commercial success of the work.
prt - Printer	A person or organization who prints texts, whether from type or plates.
scl - Sculptor	A person or organization who models or carves figures that are three-dimensional representations.
trc - Transcriber	A person who prepares a handwritten or typewritten copy from original material, including from dictated or orally recorded material.
trl - Translator	A person or organization who renders a text from one language into another, or from an older form of a language into the modern form.
* Locally developed code and definition.	

CREATOR/CONTRIBUTOR TYPE

- Individual
- Organization

IDENTIFIER TYPE

Vocabulary	Description
<ul style="list-style-type: none">• URI	Uniform Resource Locator: The global address of documents and other resources on the World Wide Web. The first part of the address indicates what protocol to use, and the second part specifies the IP address or the domain name where the resource is located.
<ul style="list-style-type: none">• URN	Uniform Resource Name: A particular scheme, urn:, specified by RFC2141 and related documents, intended to serve as persistent, location-independent, resource identifiers. A URI that has an institutional commitment to persistence, availability, etc. Note that this sort of URI may also be a URL. See, for example, PURLs .
<ul style="list-style-type: none">• DOI	Digital Object Identifier, the opaque string used as an identifier by the DOI System. DOIs may be used to identify any intellectual property entity, including those already identified by systems such as ISBN.
<ul style="list-style-type: none">• ISBN	The ISBN (International Standard Book Number) is a unique machine-readable identification number, which marks any book unmistakably. This number is defined in ISO Standard 2108.
<ul style="list-style-type: none">• ISSN	The ISSN (International Standard Serial Number) is an eight-digit number which identifies periodical publications as such, including electronic serials . More than one million ISSN numbers have so far been assigned.
<ul style="list-style-type: none">• OCLC No.	The Online Computer Library Center (OCLC) is an online cataloging system shared by libraries worldwide, and an "OCLC number" is a unique identifying number attached to all records in the OCLC cataloging and interlibrary loan database. In WorldCat, the "OCLC number" is called the Accession number.
<ul style="list-style-type: none">• Report No.	A publisher-supplied number identifying a report-- usually within a series of similar reports. The report number will normally be found on the title page, documentation page, and/or cover of a report. The number may be a standard technical report number formulated to the ANSI/NISO Z39.23 standard, or a less standardized number designed to work within an

	organizational scheme of the issuing agency's publications.
<ul style="list-style-type: none"> Government Document No. 	A unique identifier which designates documents published by government agencies. This element may contain Superintendent of Documents Classification (SuDoc) numbers for federal documents, or Texas Document Classification (TxDoc) numbers for Texas state documents.
<ul style="list-style-type: none"> Accession or Local Control No. 	Other pointers to the metadata in the local system. Most commonly, these will be accession numbers assigned by a museum, archive, or special collection, or local numbers used by a collector to identify elements of his or her collection.
<ul style="list-style-type: none"> UNT Catalog No. 	A unique identifier within the UNT Libraries' online catalog system. From the current III catalog, the bibliographic record number will be used.
<ul style="list-style-type: none"> RISM No. 	A unique identifier within <i>Répertoire International des Sources Musicales</i> (RISM), the International Inventory of Musical Sources.
<ul style="list-style-type: none"> Other 	Other types of identifiers not specified in sub-elements 1.1-1.9. At UNT, Library of Congress (LC) or Dewey call numbers associated with our catalog are placed in the "other" sub-element.

LANGUAGE
eng - English
cze - Czech
dan - Danish
fre - French
ger - German
heb - Hebrew
ita - Italian
lat - Latin
spa - Spanish
oth - Other
nol - No Language

SUBJECT/KEYWORDS TYPE (Controlled Vocabulary)
Art and Architecture Thesaurus (Getty)
Keyword
Library of Congress Subject Headings
NMC Chenhalls
Sears List of Subject Headings
University of North Texas Libraries Browse Structure
Thesaurus for Graphic Materials (LC)
Other

COVERAGE TIME PERIOD	
Vocabulary	Definition
The Texas Landscape	Focuses on materials relating to the geographic regions, flora, and fauna of Texas throughout its history.
The First Texans	Illuminates Native American activities in Texas while attempting to illustrate the diversity of the various tribal cultures.
European Explorers in Texas, 1519-1689	Traces European exploration of Texas from the Alonso Alvarez de Pineda expedition through LaSalle's abortive attempt at establishing a French colony; including the relationship between explorers and Native Americans.
Spanish Texas, 1690-1821	Covers the period of Spanish rule from the Alonso de León expedition through Mexican Independence, together with the relationship between the Spanish and Native Americans in Texas.
Mexican Texas, 1821-1835	Encompasses Texas history from the independence of Mexico through the early stages of the Texas Revolution, emphasizing Anglo-American immigration and the relationship with Native Americans.
The Texas Revolution, 1835-1836	Deals with people and events associated with the Texas Revolution, from its outbreak through the establishment of the Republic of Texas.
The Republic of Texas, 1836-1846	Comprises historical topics associated with the Republic of Texas, from the election of September, 1836, through annexation; including the relationship between the Republic and Native Americans.
Annexation, 1844-1846	Includes materials related to the annexation of Texas by the United States, from the early negotiations with the Tyler administration to the annexation ceremony of February 19, 1846.

The Texas Frontier, 1846-1861	Embraces the history of the southern and western frontiers of Texas from the Mexican-American War through the outbreak of the Civil War, with an emphasis on the conflict with Native American tribes.
Slavery and Antebellum Texas Culture, 1821-1865	Involves the culture of Texas and the institution of slavery from the Anglo-American migration into the state to the close of the Civil War.
Civil War and Reconstruction, 1861-1876	Highlights materials relating to the Civil War and Reconstruction in Texas, including the defeat of the Native American tribes.
The Cattle Boom, 1865-1890	Incorporates the rise of the cattle industry in Texas from the conclusion of the Civil War through the establishment of cattle ranching as a business.
Oil and Gas, 1901-Present	Features the petroleum industry in the state from the discovery of the Spindletop field through the present era.
New South, Populism, Progressivism, and the Great Depression, 1877-1939	Traces the major social, economic, political, and military developments in late 19th and early 20th century Texas.
Into Modern Times, 1939-Present	Includes materials relating to modern Texas, from the outbreak of World War II to the present.

FORMAT	
Vocabulary	Definition
Audio	Data stored in a sound file format.
Image	A two-dimensional graphical representation of a scene. It is a visual pattern used by interfaces to display units and terrain.
Text	A written or printed document. There are no pictures, graphic art, sounds or moving video; just the words you see on the screen.
Video	Recorded moving images such as those seen on television. A video camera is used to photograph real objects or people and the single images are played back at a rate of anywhere from about 8 to 30 frames per second. Often, video includes accompanying audio, and in some cases, it also includes some computer-generated animation.
Other	Formats that do not fit into any of the other categories on this list.

RESOURCE TYPE		
Vocabulary	Definition	
Collection	An aggregation of items. The term collection means that the resource is described as a group; its parts may be separately described and navigated.	
Dataset	Information encoded in a defined structure (for example, Statistical data file, tables, databases, etc.), intended to be useful for direct machine processing.	
Image	A primarily symbolic visual representation other than text. For example - images and photographs of physical objects, paintings, prints, drawings, other images and graphics, diagrams, maps, musical notation. Note that image may include both electronic and physical representations.	
	Image - Artwork	
	Image - Map	
	Image - Photograph	
	Image - Poster	
	Image - Musical Score/Notation	
Interactive Resource	A resource which requires interaction from the user to be understood, executed, or experienced. For example - forms on web pages, applets, multimedia learning objects, chat services, virtual reality.	
Software	A computer program in source or compiled form which may be available for installation non-transiently on another machine. For software which exists only to create an interactive environment, use interactive resource instead.	
Sound	A resource consisting of content primarily intended to be rendered as audio. For example - a music playback file format, an audio compact disc, and recorded speech or sounds.	
Text	A resource consisting of content that is primarily words for reading. For example - books, letters, dissertations, poems, newspapers, articles, archives of mailing lists. Note that facsimiles or images of texts are still considered to be the resource type " text."	
	Text - book	
	Text - Letters	
	Text - Newspapers	
Physical Object	An inanimate, three-dimensional object or substance. For example -- a computer, a wooden box, a sculpture. Use "physical object" to categorize museum objects that have digital representations in the Portal. Use "image" to categorize physical objects that are incidentally represented in photographs.	
Video	A moving image or relating to a series of visual representations that, when shown in succession, impart an impression of motion.	

Other	Resources that do not fit into any of the other categories on this list. E.g. Braille
-------	---

Appendix 2: ANALYSIS OF DATE RELATED ELEMENTS

A resource may have several dates associated with it, including: creation date, copyright date, revision date, edition date, modification date, etc.

As listed in Table-1 below, to record dates significant to the history of the digital resources, various date elements and sub-elements may be used in the UNTL metadata system. Each element has a specific application. For example, the [Dublin Core Metadata Initiative](#) (DCMI) distinguishes between the date and the temporal aspect of the coverage elements as follows:

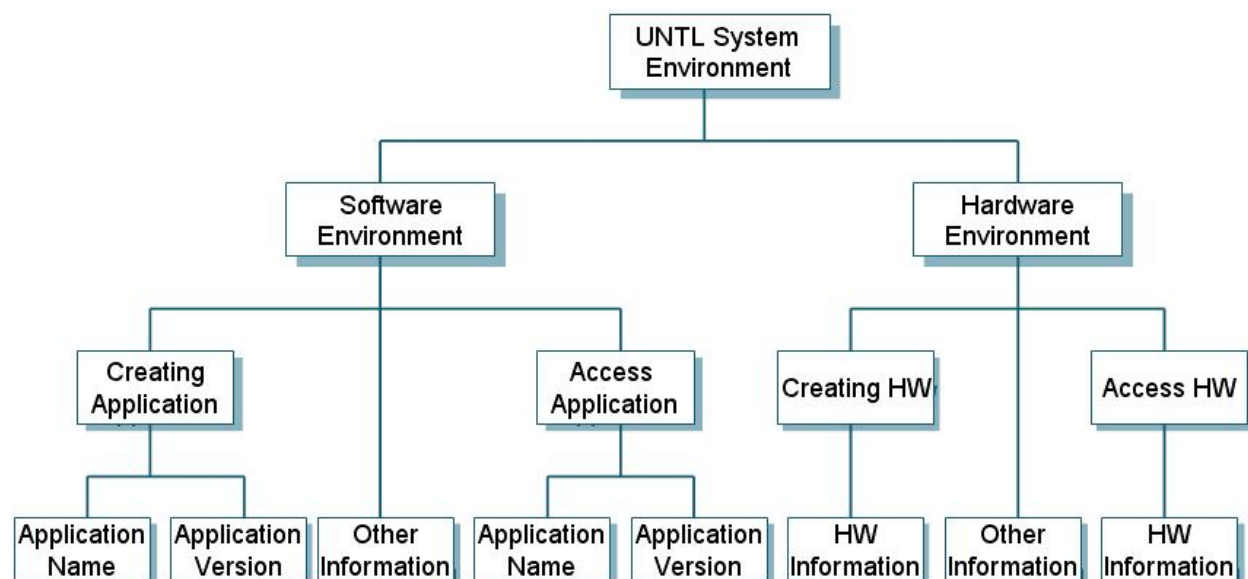
The date element is associated with the life cycle of the resource itself (when it was created, when it was digitized, when it was published, etc.). The coverage element is associated with the 'temporal period' of the content of the resource (the era that a photograph is from -- World War II, for example). The recommended best practice for the date element is to use the YYYY-MM-DD format. The recommended best practice for the temporal aspect of the coverage element is to use a controlled vocabulary with named time periods rather than date ranges.

Thus, the purpose of this page is to bring together all date-related elements and normalize their usages in the UNTL. For details, descriptions, and examples, please go to the specific elements guideline pages.

Summary of different dates significant to the history of the digital resources in the UNTL metadata system		
UNTL Metadata	Definition	Description and Example
DATES		
<u>Original Creation Date</u>	Creation date of the original (analog or born digital) resource.	For this date sub-element, record the date of creation of the original source item that was digitized. For an image this will be the date that the photograph or slide was taken; for a monograph, the date of publication in hard copy; for a video, the date the videotape or video disc was released; for a sound file, the date that it was issued on disc or tape; for a "born digital" item, the date that the intellectual content was created in digital form.
<u>Digital Creation Date</u>	Date or Date/Time the digital	For this date sub-element, record the

	resource was created	date on which the object was converted to or created in digital format. (Born digital items such as photographs taken with digital cameras will normally have the same date in both the Original Resource Creation Date field and the Digital Creation Date field.) Date of Digital Version record the year in which the object (s) were converted to or created in digital format (born digital eg. digital camera used).
<u>COVERAGE</u>		
<u>Time Period</u>	The time period associated with the intellectual content of the resource. From <u>Controlled terms</u>	Civil War and Reconstruction, 1861-1876
<u>Date</u>	The single date associated with the intellectual content of the resource.	(YYYY-MM-DD) 1845-12-29, (YYYY-MM) 1910-5, (YYYY) 1970
<u>Date Range</u>	The range of dates associated with the intellectual content of the resource, if there is no acceptable named time period.	1950 -1959
<u>ALTERATION HISTORY</u>		
<u>Date of Alteration</u>	Modification date of the resource	YYYY-MM-DD
<u>METADATA INFORMATION</u>		
<u>Metadata Creation/Modification Date</u>	Date on which the metadata was created/modified	YYYY-MM-DD

Appendix 3: ANALYSIS OF SYSTEM ENVIRONMENT



System (Hardware and Software) environment information can be very difficult to provide. Many different hardware and software environments may apply; there are a huge number of combinations of maker and type of [Hardware](#) (cpu, memory, video drivers, and so on) and [Software](#) including:

- **creating software** e.g. MSWord, Adobe PhotoShop etc.
- **renderer software** e.g. image viewer, video player, Java virtual machine, etc.
- **ancillary software** e.g. run time libraries, browser plug-ins, compression/ decompression routines, utilities, operating system emulators, etc.).

Although at least one software and hardware environment should be recorded, it is not necessary to record them all and we will have to make decisions about which software and hardware environments to record (as bare minimum requirements). For example, a file could have been created by MSWord and later turned into a PDF using Adobe PhotoShop. Details of both the Word and PhotoShop applications could be recorded. Needles to mention other events, like objects created externally and subsequently ingested, and objects created by our archive system (for example, through migration or other preservation activities).

Because of the difficulty recording this information comprehensively, the UNTL MERIT (Metadata Enrichment and Revamping Initiative Team) recommends that it would be more feasible if we can develop documentation that can serve as central registries for UNTL system environment information. In many cases the environment of a file object is directly associated with the file [format](#), making registry lookup by format optimal. In the meantime, we will start developing our own local (departmental)

registries, which can be a subset (representative sample) of the library wide software and hardware environment.

The above figure shows the overall structure of the UNTL metadata system environment. The following table summarized the broad system (software and hardware) environment information that needs to be collected. For the detail and complete notes, please go to the [Software](#) and [Hardware](#) description pages.

SYSTEM ENVIRONMENT	
Label	System Environment
Sub-Element	Software , Hardware
UNTL Definition	Hardware/software combinations supporting use of the object
Comment	<p>System Environment is both the technical environment that the digital resources are created and the means by which the user renders and interacts with content. Separation of digital content from its environmental context can result in the content becoming unusable.</p> <p>Different hardware and software environments can support different uses of objects. For example, the environment needed to edit and modify a file can be quite different than the environment needed to render it.</p> <p>Despite the difficulty of collecting and maintaining this information, this unit is mandatory because of the critical importance of technical environment metadata for ensuring long-term access.</p>
Required	
Repeatable	
Data Type	String

Appendix 4: UNTL/Dublin Core/MARC Crosswalk

A mapping among the widely used metadata elements is important in order to facilitate accurate conversions among various syntaxes. Accordingly, the Dublin Core (DC) to MARC and to UNTL Metadata Crosswalk is created to facilitate harvesting metadata records from other DC and/or Marc compatible records to populate our UNTL metadata records. The crosswalk will also enable the exportation/importation of MARC records from/to our own library online catalogs.

MARC is the acronym for MACHine-Readable Cataloging. It provides the mechanism by which computers exchange, use, and interpret bibliographic information. Its data elements make up the foundation of most library catalogs used today. MARC became USMARC in the 1980s and MARC 21 in the late 1990s. The Network Development and MARC Standards Office at the Library of Congress and the Standards and Support Office at the National Library of Canada maintain the MARC 21 formats. Input for its development is provided by all MARC 21 users, including libraries, library networks and utilities, and library system vendors from around the world. Definitions of MARC elements may be found at: <http://www.loc.gov/marc/bibliographic/ecbdhome.html>

The Dublin Core metadata element set is a standard for cross-domain information resource description which promotes the widespread adoption of interoperable metadata standards. Ongoing efforts of DC initiative participants include the collaborative development and continual refinement of metadata conventions based on research and feedback between Working Groups, which are organized around specific problem domains. The complete and fairly up-to-date DC related information can be accessed from: <http://dublincore.org/usage/terms/history/#A2>.

The detailed descriptions of UNTL metadata element set is available at: <http://www.library.unt.edu/digitalprojects/metadata/>. Please note that preservation metadata elements listed and defined by UNTL have not been included because they are not generally found in Dublin Core and MARC data. The preservation metadata section will be mapped to the emerging preservation metadata standard recommended by the [PREMIS](#) (Preservation Metadata: Implementation Strategies) working group.

If you have any comments or suggestions regarding the crosswalk, please contact Cathy Nelson Hartman at chartman@library.unt.edu or Daniel Gelaw Alemneh at dalemneh@library.unt.edu.

UNTL TO DUBLIN CORE AND MARC			
UNTL	DUBLIN CORE	MARC	
		General	Detail
<u>Title</u>	Title	245 00\$a (Title Statement/Title proper)	
<u>Parallel Title</u>			
<u>Alternate Title</u>			
<u>Added Title</u>			
<u>Series Title</u>			
<u>Serial Title</u>			
<u>Other</u>			
<u>Creator</u>	Creator	720 ##\$a (Added Entry--Uncontrolled Name/Name) with \$e=author	720\$a or e, 700\$a, 710\$a, 711\$a, 111, 110, 100,
<u>Name</u>		Personal: 700 1#\$a (Added Entry--Personal Name) Corporate: 710 2#\$a (Added Entry--Corporate Name) Conference: 711 2#\$a (Added Entry--Conference Name)	
<u>Creator Role</u>		Role: 720 ##\$e (Added Entry--Uncontrolled Name/Relator term) Role (Personal): 700 1#\$e (Added Entry--Personal Name/Relator term) Role (Corporate): 710 2#\$e (Added Entry--Corporate Name/Relator term)	
<u>Creator Information</u>			
<u>Contributor</u>	Contributor	720 ##\$a (Added	

		Entry--Uncontrolled Name/Name) with \$e=collaborator (or other term used as value of role qualifier.)	
<u>Contributor Name</u>		Personal: 700 1#\$a (Added Entry--Personal Name) Corporate: 710 2#\$a (Added Entry--Corporate Name) Conference: 711 2#\$a (Added Entry--Conference Name)	
<u>Contributor Role</u>		Role: 720 ##\$e (Added Entry--Uncontrolled Name/Relator term) Role (Personal): 700 1#\$e (Added Entry--Personal Name/Relator term). Role (Corporate): 710 2\$e (Added Entry--Corporate Name/Relator term)	720\$a, 700\$a, 710\$a, 711\$a
<u>Contributor Information</u>			
<u>Publisher</u>	<u>Publisher</u>	260 ##\$b (Publication, Distribution, etc. (Imprint)/Name of publisher, distributor, etc.)	270\$a-o, 260\$a or b, 700\$a, 710\$a, 711\$a, 720\$e
<u>Publisher Name</u>			
<u>Place of Publication</u>			
<u>Publisher Information</u>			
<u>Date</u>	<u>Date</u>	260 ##\$c (Date of publication, distribution, etc.)	260\$c or g, 518\$a, 541\$d,

<u>Original Creation Date</u>			307\$a, 567\$a, 362\$a 583 \$d
<u>Digital Creation Date</u>			
<u>Language</u>	<u>Language</u>	546 ##\$a	546\$a, 041\$a
<u>Description</u>	<u>Description</u>		
<u>Content Description</u>		520 ##\$a (Summary, etc. note)	520\$a, 505 0#\$a> 521\$a, 586\$a,
<u>Physical Description</u>		300 ##\$a (Physical Description) [Extent]	
<u>Subject and Keywords</u>	<u>Subject</u>	653 ##\$a (Index Term-Uncontrolled)	650\$a, 653\$a, 651\$a, 050\$a, 082\$a, 600\$a, 610\$a,
<u>Primary Source</u>	<u>Primary Source</u>		
<u>Coverage</u>	<u>Coverage</u>	500\$a (General note)	
<u>Place Name</u>		Spatial: 522 ##\$a (Geographic Coverage Note)	513\$b, 500\$a, 255\$c,
<u>Time Period</u>		Temporal: 513 ##\$b (Type of Report and Period Covered Note/Period covered)	522\$a, 513\$b, 033\$a, 034\$a, 043\$a, 523\$a
<u>Date</u>			
<u>Date Range</u>			
<u>Source</u>	<u>Source</u>	786 0#\$n (Data Source Entry/Note)	786\$n, 786\$o, 040\$a, 561\$a 650 #7\$a
<u>Relation</u>	<u>Relation</u>	787 0#\$n (Nonspecific Relationship Entry/Note)	787\$n, 787\$o 776\$o, 776\$n,, 773\$n, 773\$o, 774\$o, 774#\$o, 775\$n, 775\$o, 786\$n, 786\$o, 510\$a, 538\$a,

			490\$a or x, 780\$t, 785\$t, 4xx, 580\$a, 800-830
<u>Collection</u>	---		072
<u>Institution</u>	---		
<u>Rights Management</u>	<u>Rights</u>	540 ##\$a (Terms Governing Use and Reproduction Note)	540\$a, 856\$u
<u>Resource Type</u>	<u>Type</u>	655 #7\$a (Index Term--Genre/Form)	655\$a, 516\$a
<u>Format</u>	<u>Format</u>	856 ##\$q (Electronic Location and Access/Electronic format type)	856\$q, 340\$a, 245\$h,
<u>Identifier</u>	<u>Identifier</u>	024 8#\$a (Other Standard Identifier/Standard no or code)	
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<u>Note</u>	---		500
<u>Metadata Information</u>	---		504

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Appendix 5: ASSOCIATED DOCUMENTS

The user guideline document contained the following documents to support the University of North Texas Libraries (UNTL) metadata initiative by providing commonly accepted and predefined encoding standards for data entry. As stated in the controlled vocabularies document description, the purpose of using them is to avoid duplication of effort and of course, to provide for interoperability with other widely used systems.

- [AACR2](http://www.aacr2.org/) - The Anglo-American Cataloguing Rules: <http://www.aacr2.org/> [Site visited on 06 June 2005].
- [AAT](http://www.getty.edu/research/conducting_research/vocabularies/aat/) - The Art and Architecture Thesaurus Online (Getty): http://www.getty.edu/research/conducting_research/vocabularies/aat/ [Site visited on 06 June 2005].
- [ANSI/NISO Z39.23](http://www.niso.org/standards/resources/Z39-23.pdf) - Standard for forming standard technical report numbers: <http://www.niso.org/standards/resources/Z39-23.pdf> [Site visited on 06 June 2005].
- [DOIs](http://www.doi.org/overview/sys_overview_021601.html) - Digital Object Identifiers for any intellectual property entities. http://www.doi.org/overview/sys_overview_021601.html [Site visited on 06 June 2005].
- [English country names and code elements](http://www.iso.org/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/list-en1.html) - ISO 3166 Code lists: <http://www.iso.org/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/list-en1.html> [Site visited on 06 June 2005].
- [GDFR](http://hul.harvard.edu/gdfr/) - Global Digital Format Registry: <http://hul.harvard.edu/gdfr/> [Site visited on 06 June 2005].
- [ISBN](http://www.isbn-international.org/) - International Standard Book Numbers identifying monographs: <http://www.isbn-international.org/> [Site visited on 06 June 2005].
- [ISO 8601:2004](http://www.iso.org) Data elements and interchange formats -- Information interchange -- Representation of dates and times. At: <http://www.iso.org> [Site visited on 22 March 2005]
- [ISO639-2](http://www.loc.gov/standards/iso639-2/englangn.html) Codes for the Representation of Names of Languages (three letter language codes) at: <http://www.loc.gov/standards/iso639-2/englangn.html> [Site visited on 22 March 2005]
- [ISSN](http://www.issn.org:8080/English/pub/faqs/issn) - International Standard Serial Numbers identifying periodical publications: <http://www.issn.org:8080/English/pub/faqs/issn> [Site visited on 06 June 2005].
- [JHOVE](http://hul.harvard.edu/jhove/) - JSTOR/Harvard Object Validation Environment: <http://hul.harvard.edu/jhove/> [Site visited on 06 June 2005].
- [Library of Congress Authorities](http://authorities.loc.gov/): <http://authorities.loc.gov/> [Site visited on 06 June 2005].
- [Library of Congress Subject Headings](http://authorities.loc.gov/): <http://authorities.loc.gov/> [Site visited on 06 June 2005].
- [MARC Code Lists for Relators, Sources, Description Conventions](#)
- [OCLC](http://www.oclc.org/bibformats/) - Bibliographic Formats Manual: <http://www.oclc.org/bibformats/> [Site visited on 06 June 2005].
- [Online Computer Library Center](http://www.oclc.org/) - Source of "OCLC numbers": <http://www.oclc.org/> [Site visited on 06 June 2005].

- [Revised Nomenclature for Museum Cataloging \(Chenhall's\)](#)
- [Sears List of Subject Headings](#) - 18th Edition: http://www.hwwilson.com/print/searslst_18th.cfm [Site visited on 06 June 2005].
- [Superintendent of Documents Classification](#) (SuDoc) Explanation of the SuDoc classification system for federal documents: http://www.access.gpo.gov/su_docs/fdlp/pubs/explain.html [Site visited on 06 June 2005].
- [Texas Document Classification](#) - (TxDoc) Outline of the TxDoc classification system for Texas state documents: [Site visited on 06 June 2005].
<http://www.tsl.state.tx.us/statepubs/classmanual.html>
- [TGM](#) - LC Thesaurus for Graphic Materials: <http://www.loc.gov/rr/print/tgm1/> [Site visited on 06 June 2005].
- [TGN](#) -The Getty Thesaurus of Geographic Names® Online: http://www.getty.edu/research/conducting_research/vocabularies/tgn/index.html [Site visited on 06 June 2005].
- [The Handbook of Texas Online](#): <http://www.tsha.utexas.edu/handbook/online/browse/we.html> [Site visited on 06 June 2005].
- [URLs](#) - a Persistent Uniform Resource Locator: <http://purl.oclc.org> [Site visited on 06 June 2005].
- [URN \(RFC2141\)](#) - Standard for Uniform Resource Names: <http://www.ietf.org/rfc/rfc2141.txt> [Site visited on 06 June 2005].

Appendix 6: SCHOLARS' DEFINITIONS OF PRIMARY SOURCES

The following quotes from scholars and academic institutions were selected by historian Justin Lyles to aid users in understanding the concept of primary sources:

"A primary source is firsthand testimony or direct evidence concerning a topic under investigation. The nature and value of a source cannot be determined without reference to the topic and questions it is meant to answer. The same document, or other piece of evidence, may be a primary source in one investigation and secondary in another. The search for primary sources does not, therefore, automatically include or exclude any category of records or documents."

--www.library.yale.edu

"By a 'source' the historian means material that is contemporary to the events being examined. Such sources include, among other things, diaries, letters, newspapers, magazine articles, tape recordings, pictures, and maps. Such material may have appeared in print before, edited or unedited, and still be a source. The term is meant to be restrictive rather than inclusive, in that it attempts to indicate that works of secondary scholarship, or synthesis, are not sources, since the data have been distilled by another person. ... One good way for the novice historian to lose Brownie points among his serious-minded fellows is to call a biography of George Washington or an analysis of the Magna Charta a 'source'."

--Robin Winks, *The historian as detective; essays on evidence* (New York: Harper & Row, 1969), p.xx.

"A primary source gives the words of the witnesses or the first recorders of an event. Primary sources include manuscripts, archives, letters, diaries, and speeches. ... Secondary sources are 'descriptions of the event derived from and based on primary sources'. The line between primary and secondary sources is often indistinct, for example, a single document may be a primary source on some matter and a secondary source on others."

--Helen J. Poulton, *The historian's handbook* (Norman, OK: University of Oklahoma Press, 1972), p.175-76.

"A primary source is distinguished from a secondary by the fact that the former gives the words of the witnesses or first recorders of an event -- for example, the diaries of Count Ciano written under Mussolini's regime. The researcher, using a number of such primary sources, produces a secondary source ."

--Jacques Barzun, *The modern researcher* . Fifth edition (Boston: Houghton Mifflin, 1992), p.114 note.

"Primary sources are manuscripts, first-person diaries, oral histories, letters, interviews, photographs, maps, films, sound recordings, music, song sheets—fragments of history, incomplete in themselves, but when assembled, analyzed, and researched, they can provide personal insights, human drama, and deep historical understandings. Primary sources can also be places and people. They are resources that speak directly to the viewer, the reader, and the listener without explanatory context. They evoke a sense of time and place. They often carry a point of view and thus, by definition, are not always neutral or objective. This means that one primary source can contradict another—or corroborate another. Educators must understand how to work with these ambiguities and help students construct the context for deeper understandings. This can be done even with very young children."

--Susan H. Veccia, *Uncovering our history: teaching with primary sources*. (Chicago: American Library Association, 2004), p. 3.