LIDO - Lightweight Information Describing Objects

November 2009

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ATHENA Project.

Generated from a TEI representation of LIDO schema:
  Last Modified   November 2009 (v0.8)

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1 Introduction

There is a common view within the museum community that a DC derived metadata schemas do not deliver a rich enough view of museum content. The importance of a museum object, especially outside the area of fine art, is often not covered adequately. DC-based systems 'flatten out' museum metadata, with most of the data going into limited subset of elements. Taking as an example from SPECTRUM the date-related elements:

- Object production date;
- Field collection date;
- Content - date;
- Associated date;
- Associated event date.

The data from all these will end up in the same date element in a simple DC-based. There are similar effects for the 'who' 'what', 'where' classes of museum metadata elements. Also there is a loss of the relationships between the different classes and the events they relate to. So it becomes difficult to query the data in complex ways. Finally the ATHENA survey revealed the lack of standard DC-based metadata scheme, built into its design which allows for extensions. This is a barrier to interoperability.

All the above problems with DC-based schemes led the ATHENA Project to seek to use, or develop, a metadata schema suitable for harvesting museum data into the service environment. The end result of the process was the decision to create a schema based on the existing museumdat schema – LIDO (Light Information Describing Objects).

Sources for LIDO

LIDO is not really a new schema. It builds on existing standards and best practise from a number of different countries in Europe and the rest of the world. Here we do not give full descriptions of these sources but discuss them in the context of the development of LIDO.

CDWA Lite

CDWA Lite was created by the J. Paul Getty Trust as an XML schema for harvesting data using the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). CDWA Lite is based on the Categories for the Description of Works of Art (CDWA) which was designed to describe art, and other material culture related, collection databases in terms of 532 categories and subcategories. CDWA Lite is a 'core' of these.

One of the important features of CDWA Lite is the use of two types of element for display and indexing:

- Indexing elements containing data that is designed to facilitate machine retrieval from the portal's database;
- Display elements containing data in a form that is designed for a human to be able to use easily.

An example of using these is where the indexing element's data for a creator's name appears 'reversed': Family Name, Forename(s). The corresponding display element data will have the 'normal' order and may also have additional biographical information such as birth and death dates.

CIDOC CRM

The CIDOC Conceptual Reference Model (CIDOC CRM) is the result of over 10 years work by CIDOC Documentation Standards Working Group and CIDOC CRM SIG. It is also an ISO standard.

The CIDOC CRM is a formal standard that defines cultural heritage documentation concepts and the relationships between those concepts. Its purpose is to give those working in cultural heritage a flexible standard framework that any of their data can be mapped to. This means domain experts and those who are implementing information systems are able to create sensible requirements for those systems. It also gives a way to link together different sources of information in a meaningful way.

museumdat

museumdat is the foundation for the new LIDO XML harvesting schema that was developed within the work of WP3 of the ATHENA project. It is an XML harvesting format that is optimised for the search, retrieval and publication of potentially rich museum metadata. The data is extracted is some way from an organisation's collections management system and published on a portal site. It was created by using both CDWA Lite and the CIDOC CRM.

CDWA Lite met most of the needs of a schema for use with German cultural portals. However it was decided that it needed to be reconfigured to allow the harvesting data about objects from wider areas than CDWA Lite supports; for example from social history and natural sciences. This led to the reduction of mandatory elements to:

- Object / Work Type;
- Title or Object Name;
- Record Element with ID and Source.

Also added were element attributes for:
- Multilingual support;
- Control of data conversion;
- Handling of controlled vocabularies.

museumdat was also designed so that it complied with the CIDOC CRM. The important aspect of the CIDOC CRM is its event-oriented approach. Using this led to the:

Descriptive elements to be grouped by:

- Classification;
- Identification;
- Description;

- Event;
- Relation.

Introduction of Event Set with groups of information for:

- Actor,
- Date;
- Location.

museumdat is successfully being used in the cross domain BAM Portal in Germany.

SPECTRUM

SPECTRUM is the final standard that was used in the creation of LIDO. SPECTRUM is the UK and international standard for Collections Management. It consists of two main sections:

- Procedures;
- Information requirements.

Procedures define best practice for collections management in terms of 21 different activities that commonly take place in collections holding organisations, for example: Object entry; Loans in; Acquisition; Location movement control; Cataloguing; Conservation and collections care; Rights management; Use of collections; Object exit; Loans out; and Deaccession and disposal.

Information requirements are those Units of information that need to be recorded and maintained in order to properly document the procedures and the collections themselves. Sets of related Units are brought together into Information groups. These enable the recording of: an object (both physically and with regard to events in its history); events that take place in the organisation (e.g. an audit); persons, organisations, peoples and places, etc. associated with objects and events. The Units are available as an XML schema.

As discussed above SPECTRUM is the recommended standard for collections management in museums in the ATHENA project.

In relationship to the creation of LIDO SPECTRUM's role was to 'inform' museumdat with concepts from its Units of information. The result was significant change to museumdat and also was a factor to the change of name to LIDO. SPECTRUM's contribution was to allow:
- The information on all relevant entities to be recorded together with their relationships to each other - events, people, persons, organisations, places, locations, objects and subjects;
- The rights associated with content to be more fully described;
- Different language versions of the same data to be supported in a flexible way.

Outline of LIDO

The first point to make about LIDO is that it is a harvesting schema. It should not be used as a basis for a collection management system. It is for delivering metadata for use in the service environment of an organisation's online collections database, portals, and aggregations, including Europeana itself. In particular it does not support such activities as loans and acquisition. Its strength lies with its ability to support the full range of descriptive information about museum objects.

LIDO is made up of a nested set of 'wrapper' and 'set' elements which structure records in culturally significant ways. An important part its design is concept of events, taken from the CIDOC CRM. So, for example, the creation, collection, and use of an object are defined as events which have associated entities such as date, places and actors. These can then all be represented in a consistent way.

The structural elements of LIDO contain 'data elements' which hold the information that is being harvested and ultimately delivered to the user of the service environment.

LIDO also allows for the recording of information about the sources for data (e.g. in a book) and controlled terminology (e.g. the identification code for a term in a thesaurus).

Conceptually there are 7 areas in a LIDO record for an object:

Object Identification - basic information about the object:
- Title (or object name if no title) [mandatory];
- Inscriptions – transcript and/or description;
- Repository – the organisation that holds the physical object and its identifier;
- Display and edition information – especially for prints;
- Description – descriptive text;
- Measurements.

Object Classification - information about the type of object:

- Object name [mandatory];
- Other classification terms for the object – e.g. form, age, sex, status and phase.

Relation - relations of the object to:

- Its subject (content or visual) – concepts, actors, events, dates, places, events, and objects;
- Other objects.

Event - events that the object has taken part in, such as:

- Creation;
- Field collection;
- Acquisition;
- Exhibition;
- Use, etc.

For each event, information, if relevant, about:

- Event ID;
- Event type;
- Object's role in the event;
- Event name;
- Actors (persons and organisations);
- Cultures involved;
- Dates (or periods);
- Places;
- Event method;
- Materials and techniques used;
- Other objects present at the event;
- Related events;
- Description of the event.

Rights Work - information about the rights associated with the object, metadata and the digital surrogate being harvested into the service environment (especially copyright):

- Rights type;
- Rights holder;
- Rights dates;
- Credit line.

Record - basic information about the record:

- ID [mandatory];
- Type; Source;
- Metadata about the record.

Resource - information about digital resource being supplied to the service environment (e.g. Europeana):

- Link – URL of the resource;
- Resource ID;
- Relationship type – e.g. conservation, historical, reconstruction;
- Resource type – its medium (e.g. x-ray);
- Resource rights – of the resource where different from the object;
- View description;
- View type – vantage point of the resource;
- View date;
- Resource source – if not from the holding organisation;
- Related resources;
- Resource metadata location – pointer to other information about the resource.

2 Global wrapper elements

The following elements define the top level elements of a LIDO documents:

2.1 Wrapper for the whole document

Definition

Holds one or multiple object records.

The attribute relatedencoding contains the source format for the attributes encodinganalog and label (see Object type). This may be any metadata standard like Dublin Core, but also MIDAS, KNORR or system-specific formats. This attribute is optional.

CDWA Lite v1.1: cdwaliteWrap

museumdat v1.0: museumdatWrap

Element properties

name	lidoWrap

Content model

Wrapper for an object record

Element properties

maxOccurs	unbounded
ref	lido:lido

Attribute: relatedencoding

Attribute properties

type	xsd:string
name	relatedencoding

2.2 Wrapper for an object record

Definition

Holds the metadata of an object.

CDWA Lite v1.1: cdwalite

museumdat v1.0: museumdat

Element properties

name	lido

Content model
LIDO Metadata Record-ID

Definition
A unique lido record identification, preferably composed of an identifier for the contributor and a record identification in the contributor's (local) system.

Element properties
name	lidoRecID
maxOccurs	unbounded
type	lido:identifier

Category

Element properties
minOccurs	0
ref	lido:category

Descriptive Metadata

Element properties
maxOccurs	unbounded
ref	lido:descriptiveMetadata

Administrative Metadata

Element properties
maxOccurs	unbounded
ref	lido:administrativeMetadata

2.3 Descriptive Metadata

Definition
Holds the descriptive metadata of an object record.

The attribute xml:lang is mandatory and specifies the language of the descriptive metadata.

For fully multi-lingual resources, repeat this element once for each language represented.

If only a few data fields (e.g. title) are provided in more than one language, the respective text elements may be repeated specifying the lang attribute on the text level.

CDWA Lite v1.1: descriptiveMetadata

museumdat v1.0: descriptiveMetadata

Element properties

name	descriptiveMetadata

Content model

Object Classification Wrapper

Element properties

ref	lido:objectClassificationWrap

Object Identification Wrapper

Element properties

ref	lido:objectIdentificationWrap

Event Wrapper

Element properties

minOccurs	0
ref	lido:eventWrap

Relation Wrapper

Element properties

minOccurs	0
ref	lido:objectRelationWrap

Attribute: lang

Attribute properties

use	required
ref	xml:lang

2.4 Administrative Metadata

Definition

Holds the administrative metadata of an object record.

The attribute xml:lang is mandatory and specifies the language of the administrative metadata.

For fully multi-lingual resources, repeat this element once for each language represented.

If only a few data fields (e.g. creditline) are provided in more than one language, the respective text elements may be repeated specifying the lang attribute on the text level.

CDWA Lite v1.1: administrativeMetadata

museumdat v1.0: administrativeMetadata

Element properties
name   administrativeMetadata

Content model

Rights for Work Wrapper

Element properties
maxOccurs   1
minOccurs   0
ref   lido:rightsWorkWrap

Record Wrapper

Element properties
ref   lido:recordWrap

Resource Wrapper

Element properties
minOccurs   0
ref   lido:resourceWrap

Attribute: lang

Attribute properties
use   required
ref   xml:lang

In the ATHENA system the elements in this section are 'hidden' from the user. The groups of global elements in the next sections are where museum object data is actually held.

3 Object Identification elements

The some Units from the following SPECTRUM Information groups are mapped into child elements here: Object collection (Field collection number), Object description (inscriptions, measurements, and technical attributes), Object history and association (Object history note), Object identification (Title or Object name, descriptive texts and numbers associated with the object), Reference (Catalogue number).

3.1 Object Identification Wrapper

Definition
A Wrapper for information that identifies the object.

CDWA Lite v1.1: no equivalent

museumdat v1.0: identificationWrap corresponds to lido:objectIdentificationWrap

Element properties
name   objectIdentificationWrap

Content model

Title or Object Name Wrapper

Element properties
ref   lido:titleWrap

Inscriptions and other Marks Wrapper

Element properties
minOccurs   0
ref   lido:inscriptionsWrap

Custody/Repository Location (Wrapper)

Element properties
minOccurs   0
ref   lido:repositoryWrap

Display State/Edition Wrapper

Element properties
minOccurs   0
ref   lido:displayStateEditionWrap

Object Description/Descriptive Note Wrapper

Element properties
minOccurs	0
ref	lido:objectDescriptionWrap

Object Measurements Wrapper

Element properties
minOccurs	0
ref	lido:objectMeasurementsWrap

3.2 Title or Object Name Wrapper

Definition
Wrapper for Object name / Title information.

CDWA Lite v1.1: titleWrap

museumdat v1.0: titleWrap

Element properties
name	titleWrap

Content model

Title or Object Name Set

Definition
Wrapper for one title or object name and its related information. If there is more than one title, repeat the Title Set element.

CDWA Lite v1.1: titleSet

museumdat v1.0: titleSet

Element properties
name	titleSet
maxOccurs	unbounded
type	lido:appellation

3.3 Inscriptions and other Marks Wrapper

Definition
A wrapper for information about inscriptions and other marks.

CDWA Lite v1.1: inscriptionsWrap

museumdat v1.0: inscriptionsWrap

Element properties

name   inscriptionsWrap

Content model

Inscriptions and other Marks

Definition
A description or transcription of any distinguishing or identifying physical lettering, annotations, texts, markings, or labels that are affixed, applied, stamped, written, inscribed, or attached to the work, excluding any mark or text inherent in the materials of which the work is made (record watermarks in Display Materials/Techniques).

The assigned type attribute allows to qualify text, e.g. to indicate that the text is a transcription of the inscription

CDWA Lite v1.1: inscriptions, with a newly assigned type attribute

museumdat v1.0: inscriptions, with a newly assigned type attribute

Element properties
name   inscriptions
maxOccurs   unbounded
minOccurs   0
type   lido:textType

3.4 Custody/Repository Location (Wrapper)

Definition
Wrapper for Repository/ Location information.

CDWA Lite v1.1: locationWrap is partly corresponding lido:repositorySet

museumdat v1.0: repositoryWrap - refined into lido:repositoryWrap (see repositoryName and repositoryLocation)

Element properties
name   repositoryWrap

Content model

Custody/Repository Location Set

Element properties
maxOccurs	unbounded
minOccurs	0
ref	lido:repositorySet

3.5 Custody/Repository Location Set

Definition

Wrapper for designation and identification of the institution of custody and, possibly, indication of the exact location of the object. If there are several designations known, e.g., a current one and former ones (see: type attribute), repeat the element.

CDWA Lite v1.1: locationSet is partly a subset of lido:repositorySet

museumdat v1.0: repositorySet - refined into lido:repositorySet (see repositoryName and repositoryLocation)

Element properties
name	repositorySet

Content model

Custody: Institution / Person

Definition

Unambiguous identification, designation and weblink of the institution of custody

CDWA Lite v1.1: locationName corresponds partly to lido:repositoryName

museumdat v1.0: repositoryName - refined into lido:repositoryName

Element properties
name	repositoryName
minOccurs	0
type	lido:legalBodyRef

Custody: Identification number

Element properties
maxOccurs	unbounded
minOccurs	0

| **ref** | lido:workID |

Location

Definition
Location of the object, especially relevant for architecture and archaeological sites.

Element properties
name	repositoryLocation
minOccurs	0
type	lido:place

Attribute: repositoryType

Attribute properties
| **name** | repositoryType |

Restriction

Restriction properties
| **base** | xsd:string |

enumeration
- current
- former

3.6 Custody: Identification number

Definition
An unambiguous numeric or alphanumeric identification number, assigned to the object by the institution of custody.

CDWA Lite v1.1: workID

museumdat v1.0: workID

Element properties
| **name** | workID |

Content model

Extension

Extension properties
| **base** | xsd:string |

Attribute: type

Attribute properties
ref   lido:type

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

3.7 Display State/Edition Wrapper

Definition
A wrapper for Display State Editions

CDWA Lite v1.1: displayStateEditionWrap

museumdat v1.0: displayStateEditionWrap

Element properties
name   displayStateEditionWrap

Content model

Display State

Definition
A description of the state of the work; used primarily for prints and other multiples

Formulated according to rules. For State, include state identification and known states, as appropriate.

Repeat this element only for language variants!

CDWA Lite v1.1: displayState

museumdat v1.0: displayState

Element properties
name   displayState
maxOccurs   unbounded

minOccurs	0
type	lido:text

Display Edition

Definition
A description of the edition of the work; used primarily for prints and other multiples.

Formulated according to rules. For Edition, include impression number, edition size, and edition number, or edition name, as appropriate.

Repeat this element only for language variants!

CDWA Lite v1.1: displayEdition

museumdat v1.0: displayEdition

Element properties
name	displayEdition
maxOccurs	unbounded
minOccurs	0
type	lido:text

Source Display State/Edition

Definition
The published source of the state or edition information.

CDWA Lite v1.1: sourceStateEdition

museumdat v1.0: sourceStateEdition

Element properties
name	sourceStateEdition
maxOccurs	unbounded
minOccurs	0
type	lido:text

3.8 Object Description/Descriptive Note Wrapper

Definition
A wrapper for Description/Descriptive Note information.

CDWA Lite v1.1: descriptiveNoteWrap

museumdat v1.0: descriptiveNoteWrap

Element properties

name	objectDescriptionWrap

Content model

Description/Descriptive Note Set

Definition
A wrapper for a descriptive note and its sources. If there is more than one descriptive note, repeat this sub-element.

Includes usually a relatively brief essay-like text that describes the content and context of the work, including comments and an interpretation that may supplement, qualify, or explain the physical characteristics, subject, circumstances of creation or discovery, or other information about the work.

Data values for the type attribute: Object history, description, catalogue text etc.

CDWA Lite v1.1: descriptiveNoteSet

museumdat v1.0: descriptiveNoteSet

Element properties

name	objectDescriptionSet
maxOccurs	unbounded
minOccurs	0
type	lido:descriptiveNote

3.9 Object Measurements Wrapper

Definition
A wrapper for the Measurements.

Element properties

name	objectMeasurementsWrap

Content model

Object Measurements Set

Element properties

name	objectMeasurementsSet
maxOccurs	unbounded
minOccurs	0
type	lido:objectMeasurementsSet

4 Event elements

The great majority SPECTRUM Units of information in the following Information groups are mapped here: Acquisition, Object collection, Object description, Object history and association, Object production, Use of collections.

4.1 Event Wrapper

Definition

Wrapper for event sets.

CDWA Lite v1.1: no equivalent

museumdat v1.0: eventWrap corresponds to lido:eventWrap

Element properties

name	eventWrap

Content model

Event Set

Element properties

name	eventSet
maxOccurs	unbounded
minOccurs	0
type	lido:eventSet

5 Object Classification elements

The following SPECTRUM Units of information are mapped into 'term' elements with 'label' attributes with the same text as the SPECTRUM Unit: Age, Colour, Form, Object status, Phase, Sex, Object name.

5.1 Object Classification Wrapper

Definition

Wrapper for data classifying the object.

CDWA Lite v1.1: no equivalent

museumdat v1.0: objectClassificationWrap

Element properties

name	objectClassificationWrap

Content model

Object/Work Type Wrapper

Element properties

ref	lido:objectWorkTypeWrap

Classification Wrapper

Element properties

minOccurs	0
ref	lido:classificationWrap

5.2 Object/Work Type Wrapper

Definition

A wrapper for Object/Work Types.

Element properties

name	objectWorkTypeWrap

Content model

Object/Work Type

Definition
Object Work Types are identifying the specific kind of object or work being described. For a collection, include repeating instances for identifying all of or the most important items in the collection.

CDWA Lite v1.1: objectWorkType (assigns a term) corresponds to lido:objectWorkType (assigns a concept with its identifiers and various terms)

museumdat v1.0: objectWorkType (assigns a term) corresponds to lido:objectWorkType (assigns a concept with its identifiers and various terms)

Element properties
name	objectWorkType
maxOccurs	unbounded
type	lido:concept

5.3 Classification Wrapper

Definition
A wrapper for classification information.

Element properties
name	classificationWrap

Content model

Classification

Definition
Term used to categorize a work by grouping it together with other works on the basis of similar characteristics. The category belongs to a systematic scheme (classification) which groups objects of similar characteristics according to uniform aspects. This grouping / classification may be done according to material, form, shape, function, region of origin, cultural context, or historical or stylistic period. In addition to this systematic grouping it may also be done according to organizational divisions within a museum (e.g., according to the collection structure of a museum).If the work is assigned to multiple classifications, repeat this element.

CDWA Lite v1.1: classification (assigns a term) corresponds to lido:classification (assigns a concept with its identifiers and various terms)

museumdat v1.0: classification (assigns a term) corresponds to lido:classification (assigns a concept with its identifiers and various terms)

Element properties

name	classification
maxOccurs	unbounded
minOccurs	0
type	lido:concept

6 Relation elements

Units from the SPECTRUM Description Information group describing the visual content of an object (e.g. a painting) are mapped here. Also Associated activity and Associated concept from the Object history and association Information group.

6.1 Relation Wrapper

Definition

Wrapper for indexing related topics and works, collections, etc.

CDWA Lite v1.1: no equivalent

museumdat v1.0: relationWrap corresponds to lido:objectRelationWrap

Element properties
name   objectRelationWrap

Content model

Subject Wrapper

Element properties
minOccurs   0
ref   lido:subjectWrap

Related Works Wrapper

Element properties
minOccurs   0
ref   lido:relatedWorksWrap

6.2 Subject Wrapper

Definition

A wrapper for Subject information.

Element properties
name   subjectWrap

Content model

Subject Set

Element properties
maxOccurs   unbounded
minOccurs   0
ref   lido:subjectSet

6.3 Subject Set

Definition
A single set of subject indexing information, together with its textual equivalent.

Element properties
name   subjectSet

Content model

Display Subject

Definition
A free-text description of the subject matter represented by/in the object, corresponding to the following subject element

Repeat this element only for language variants!

Element properties
name   displaySubject
maxOccurs   unbounded
minOccurs   0
type   lido:text

Subject

Element properties
maxOccurs   unbounded
minOccurs   0
ref   lido:subject

6.4 Subject

Definition

A wrapper for one set of Subject Indexing information. These identify, describe, and/ or interpret what is depicted in and by a work or what the work is about. If a work has multiple parts or otherwise has separate, multiple subjects, repeat this element with Extent Subject. This element may also be repeated to distinguish between subjects that reflect what a work is *of* (description and identification) from what it is *about* (interpretation).

While not required, it is highly recommended to include subject information, even for non-objective art, for which the function or purpose of the work may be included as subject.

CDWA Lite v1.1: indexingSubjectSet, but refined

museumdat v1.0: indexingSubjectSet, but refined

Element properties

name	subject

Content model

Extent Subject

Definition

When there are multiple subjects, a term indicating the part of the work to which these subject terms apply.

Data values: recto, verso, side A, side B, main panel, predella, ...

CDWA Lite v1.1: extentSubject

museumdat v1.0: extentSubject

Element properties

name	extentSubject
minOccurs	0
type	lido:text

Subject Term

Definition

Subject terms - these may include iconography, themes from literature, or generic terms describing the material world, or topics (e.g., concepts, themes, or issues). However, references to people, events, places are

indicated in the the respective sub-elements Subject: Actor, Subject: Event, Subject: Place.

Data values should be controlled, e.g. Iconclass, AAT, museumsvokabular.de, SWD.

CDWA Lite v1.1: subjectTerm, but restricted to concepts - cf. new sub-elements subjectActor, subjectEvent, subjectPlace

museumdat v1.0: subjectTerm, but restricted to concepts - cf. new sub-elements subjectActor, subjectEvent, subjectPlace

Element properties

name	subjectConcept
maxOccurs	unbounded
minOccurs	0
type	lido:concept

Subject Actor Set

Definition
A person, group, or institution depicted in or by an object, or the object is about.

Element properties

name	subjectActor
maxOccurs	unbounded
minOccurs	0
type	lido:actorSet

Subject Date Set

Definition
A time specification or period depicted in or by an object, or the object is about.

Element properties

name	subjectDate
maxOccurs	unbounded
minOccurs	0
type	lido:dateSet

Subject Event Set

Definition
An event depicted in or by an object, or the object is about.

Element properties

name	subjectEvent
maxOccurs	unbounded
minOccurs	0
type	lido:eventSet

Subject Place Set

Definition
A place depicted in or by an object, or the object is about.

Element properties

name	subjectPlace
maxOccurs	unbounded
minOccurs	0
type	lido:placeSet

Subject Object

Definition
An object - e.g. a building or a work of art depicted in or by an object, or the object is about.

Element properties

name	subjectObject
maxOccurs	unbounded
minOccurs	0
type	lido:objectSet

Attribute: type

Attribute properties

ref	lido:type

6.5 Related Works Wrapper

Definition
A wrapper for Related Works information.

Element properties

name	relatedWorksWrap

Content model

Related Work Set

Element properties
maxOccurs   unbounded
minOccurs   0
ref   lido:relatedWorksSet

6.6 Related Work Set

Definition
A wrapper for one work, group, collection, or series that is directly related to the work at hand, including direct relationships between two works, between a work and its components, and between an item and the larger group, collection, or series of works. Objects referred to may be corresponding objects or objects created to be shown together with the object in question, but also e.g., literature (bibliographic objects) in which the object is documented or mentioned forms a "relatedWorkSet". If there is more than one object referred to the set should be repeated.

Element properties
name   relatedWorksSet

Content model

Related Work

Element properties
name   relatedWork
maxOccurs   unbounded
minOccurs   0
type   lido:objectSet

Related Work Relationship Type

Definition
A term describing the nature of the relationship between the work at hand and the related entity.

Recommended data values: part of, larger context for, model of, model for, study of, study forrendering of, copy of, ... The default is "related to".

Note: For implementation of the data: Note that relationships are conceptually reciprocal, but the Relationship Type is often different on either side of the relationship (e.g., one work is part of a second work, but from the

point of view of the second record, the first work is the larger context for the second work). Whether or not relationships are physically reciprocal as implemented in systems is a local decision.

Element properties

name	relatedWorkRelType
minOccurs	0
type	lido:text

7 Rights for Work elements

The Units from the SPECTRUM Object Rights information group are mapped here. Specifically:

7.1 Rights for Work Wrapper

Definition

Wrapper for rights information.

CDWA Lite v1.1: no equivalent (cdwalite:rightsWork is not wrapped)

museumdat v1.0: no equivalent (museumdat:rightsWork is not wrapped)

Element properties

name	rightsWorkWrap

Content model

Rights for Work Set

Definition

Information about rights management; may include copyright and other intellectual property statements required for use of the metadata.

CDWA Lite v1.1: rightsWork / rightsResource - semantics of the simple text elements correspond to the structured lido:rights

museumdat v1.0: rightsWork / rightsResource - semantics of the simple text elements correspond to the structured lido:rights

Element properties

name	rightsWorkSet
maxOccurs	unbounded
minOccurs	0
type	lido:rights

8 Record elements

SPECTRUM is usually part of the collections management 'use environment' of an individual organisation. Therefore these elements on the source of digital content are not stored as data but are usually implicit. Content providers foor ATHENA system should to provide data for the appropriate LIDO elements.

8.1 Record Wrapper

Definition

A wrapper for information about the record that contains the cataloguing information.

CDWA Lite v1.1: recordWrap

museumdat v1.0: recordWrap

Element properties

name	recordWrap

Content model

Record ID

Definition
A unique record identification in the contributor's (local) system.

Element properties

name	recordID
maxOccurs	unbounded
type	lido:identifier

Record Type

Definition
Term establishing whether the record represents an individual item or a collection, series, or group of works.

It is required to designate the Record type. The default is item. Other data values: collection, series, group, volume, fonds,

Element properties

name	recordType
type	lido:text

Record Source

Definition
The source of information in this record, generally the repository or other institution.

Element properties
name	recordSource
maxOccurs	unbounded
type	lido:legalBodyRef

Record Metadata Information Set

Element properties
maxOccurs	unbounded
minOccurs	0
ref	lido:recordInfoSet

8.2 Record Metadata Information Set

Definition
Wrapper for metadata information about this record.

Note: The metadata information contains the reference to the "lido"-metadata set but may also be constituted by reference to an "object data sheet" in an online database.

CDWA Lite v1.1: recordInfoWrap

museumdat v1.0: recordInfoSet

Element properties
name	recordInfoSet

Content model

Record Info ID

Definition
Unique ID of the metadata. Record Info ID has the same definition as Record ID but out of the context of original local system, such as a persistent identifier or an oai identifier (e.g., oai1:getty.edu:paintings/00001234 attribute type= oai).

Element properties
name	recordInfoID

maxOccurs	unbounded
minOccurs	0
type	lido:identifier

Record Info Link

Definition
Link of the metadata, e.g., to the object data sheet (not the same as link of the object).

Element properties
name	recordInfoLink
maxOccurs	unbounded
minOccurs	0
type	lido:webResource

Record Relationship ID

Definition
Unique ID of the metadata of the related object.

Element properties
name	recordRelID
maxOccurs	unbounded
minOccurs	0
type	lido:identifier

Record Metadata Location

Definition
Pointer(s) to other metadata (administrative, technical, structural).

Element properties
name	recordMetadataLoc
maxOccurs	unbounded
minOccurs	0
type	lido:text

Record Metadata Date

Definition
Creation date or date modified of the metadata record. Format will vary depending upon implementation.

Element properties

name	recordMetadataDate
maxOccurs	unbounded
minOccurs	0
type	lido:text

Attribute: type

Attribute properties

ref	lido:type

9 Resource elements

Most importantly the SPECTRUM References that contain URLs that eventually map to the Europeana elements: IsShownAt (digital content in context), IsShownBy (digital content - object surrogate) and object (thumbnail).

9.1 Resource Wrapper

Definition

A wrapper for image information. An identification of an image (visual surrogate) of the work, including digital images, slides, transparencies, photographs, and moving images, but excluding items that are considered works in their own right. For works such as drawings, prints, paintings, or photographs considered art, and other works that themselves contain representations of other works, use Related Works and/or Subjects.

CDWA Lite v1.1: resourceWrap

museumdat v1.0: resourceWrap

Element properties

name   resourceWrap

Content model

Resource Set

Element properties
maxOccurs   unbounded
minOccurs   0
ref   lido:resourceSet

9.2 Resource Set

Definition

A wrapper for sets of resource information. If there are multiple resources associated with the work, repeat the Resource Set sub-element.

CDWA Lite v1.1: resourceSet

museumdat v1.0: resourceSet

Element properties

name   resourceSet

Content model

Link Resource

Definition
A uri/url reference that is universal in the worldwide web environment.

Element properties
name	linkResource
maxOccurs	unbounded
minOccurs	0
type	lido:webResource

Resource Identification Number

Definition
The unique numeric or alphanumeric identification of the resource.

Element properties
name	resourceID
minOccurs	0
type	lido:identifier

Resource Relationship Type

Definition
The relationship of an image or other resource to the work being described.

Data values: conservation image, documentary image, contextual image, historical image, reconstruction, installation image...

Element properties
name	resourceRelType
maxOccurs	unbounded
minOccurs	0
type	lido:text

Resource Type

Definition
The generic identification of the medium of the image or other resource.

Data values: Controlled. Digital image, photograph, slide, videotape, X-ray photograph, negative,

Element properties

name	resourceType
maxOccurs	unbounded
minOccurs	0
type	lido:term

Rights for Resource

Definition
Information about rights regarding the image or other resource. Use this sub-element if the holder of the reproduction rights for the image/resource differs from the holder of rights for the work. See also Rights Work above. (E.g., the work rights are " National Museum of African Art, Smithsonian Instituition (Washing DC), " but the image rights are "Photo Frank Khoury.")

Element properties

name	rightsResource
maxOccurs	unbounded
minOccurs	0
type	lido:rights

Resource View Description

Definition
A description of the spatial, chronological, or contextual aspects of the work as captured in the view of this particular image or other resource.

Element properties

name	resourceViewDescription
minOccurs	0
type	lido:text

Resource View Type

Definition
The specific vantage point or perspective of the view.

Element properties

name	resourceViewType
maxOccurs	unbounded
minOccurs	0
type	lido:text

Resource View Subject Term

Definition
Terms or phrases that characterize the subject matter of the work as it is depicted in a specific image or other resource.

Data values: Controlled. E.g., IconClass, museumsvokabular.de, SWD, AAT

Recommended values for type attribute: conceptTerm, iconography, eventName, personalName, corporateBodyName, geographicName

Element properties
name	resourceViewSubjectTerm
maxOccurs	unbounded
minOccurs	0
type	lido:conceptType

Resource View Date

Element properties
minOccurs	0
ref	lido:resourceViewDate

Resource Source

Definition
Identification of the agency, individual, repository, or publication from which the image or other resource was obtained, including a bibliographic citation in the case of copy photography. Include this sub-element when the source of the image/resource differs from the source named in Record Source.

Element properties
name	resourceSource
maxOccurs	unbounded
minOccurs	0
type	lido:text

Link Related Resource

Element properties
maxOccurs	unbounded
minOccurs	0
ref	lido:linkRelatedResource

Resource Metadata Location

Definition
Pointer(s) to other metadata (administrative, technical, structural).

Element properties
name	resourceMetadataLoc
maxOccurs	unbounded
minOccurs	0
type	lido:text

9.3 Resource View Date

Definition
A date or range of dates associated with the creation or production of the image. This is not necessarily the same as the date of production of the resource (e.g., a print of a negative may be made years after the image was first captured on film). For the date of the resource, use Resource Date. Format will vary depending upon implementation.

Element properties
name	resourceViewDate

Content model

Extension

Extension properties
base	xsd:string

Attribute: earliestdate

Attribute properties
type	xsd:string
name	earliestdate

Attribute: latestdate

Attribute properties
type	xsd:string
name	latestdate

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

9.4 Link Related Resource

Definition
A reference to an image or other resource that is related to the resource in this Resource Set, generally linking a group or collection of images or other resources to members of the group or collection. For multiple related resources, repeat this element.

Element properties
name   linkRelatedResource

Content model

Related Resource Relationship Type

Definition
A term describing the nature of the relationship between the resource at hand and the related resource.

Recommended values: part of, larger context for, related to, ...

Element properties
name   relatedResourceRelType
minOccurs   0
type   lido:text

Label for Related Resource

Definition
An identification of the related image or other resource that will be meaningful to end-users.

Element properties
name   labelRelatedResource
maxOccurs   unbounded

minOccurs	0
type	lido:text

Attribute: linkscheme

Attribute properties

ref	lido:linkscheme

10 Global elements

The following elements are globally available within the LIDO schema:

10.1 Appellation

Definition

Appellations, e.g. titles, identifying phrases, or names given to an item, but also name of a person or corporation, also place name etc.

CDWA Lite v1.1: e.g. title, nameCreator, locationName correspond to lido:appellationValue

museumdat v1.0: e.g. title, repositoryName, nameActor, nameLocation correspond to lido:appellationValue

Element properties

name   appellationValue

Content model

Extension

Extension properties
base   xsd:string

Attribute: pref

Attribute properties
ref   lido:pref

Attribute: type

Attribute properties
ref   lido:type

Attribute: lang

Attribute properties
ref   xml:lang

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

10.2 Earliest Date

Definition
A year or exact date that broadly delimits the beginning of an implied date span.
Format: YYYY[-MM[-DD]]

CDWA Lite v1.1: earliestDate

museumdat v1.0: earliestDate

Element properties
name   earliestDate

Content model

Extension

Extension properties
base   xsd:string

Attribute: source

Attribute properties
ref   lido:source

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

10.3 Latest Date
A year or exact date that broadly delimits the end of an implied date span. Format:
YYYY[-MM[-DD]]

CDWA Lite v1.1: latestDate

museumdat v1.0: latestDate

Element properties
name   latestDate

Content model

Extension

Extension properties
base   xsd:string

Attribute: source

Attribute properties
ref   lido:source

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

10.4 Measurements Set

Definition
The dimensions or other measurements for one aspect of a work (e.g., width); may be combined with extent, qualifier, and other sub-elements as necessary.

Data values for value: Whole numbers or decimal fractions.

Data values for unit: cm, mm, m, g, kg, kb, Mb, Gb.

Data values for type: height, width, depth, length, diameter, circumference, stories, count, area, volume, running time, size, ...

All three attributes - unit, value and type - are mandatory attributes for the measurementsSet.

Element properties
name   measurementsSet

Attribute: unit

Attribute properties
use	required
type	xsd:string
name	unit

Attribute: type

Attribute properties
use	required
ref	lido:type

Attribute: value

Attribute properties
use	required
type	xsd:string
name	value

Attribute: encodinganalog

Attribute properties
ref	lido:encodinganalog

Attribute: label

Attribute properties
ref	lido:label

10.5 Source Appellation

Definition
The source for the appellation, generally a published source.

CDWA Lite v1.1: e.g. sourceTitle, sourceNameCreator correspond to lido:sourceAppellation

museumdat v1.0: e.g. sourceTitle, sourceNameActor correspond to lido:sourceAppellation

Element properties
name	sourceAppellation

Content model
Extension

Extension properties
base   xsd:string

Attribute: lang

Attribute properties
ref   xml:lang

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

10.6 Vital Dates Actor

Definition
A description of the lifespan of the person or the existence of the corporate body, using "ca." and any other expressions of uncertainty or nuance. For Birth and Death date attributes, record years of birth and death, estimated where necessary. For a corporate body, use birthdate and deathdate to record the dates of founding and dissolution.

Although this is not a mandatory field the use of birth date and death date is strongly recommended in the case of artists.

If only a reference period (not the exact period of life) of a person is known, and the event in which the person took part cannot be exactly dated, then the reference period should be taken as the dating of the event.

CDWA Lite v1.1: vitalDatesCreator is generalized into vitalDatesActor

museumdat v1.0: vitalDatesActor

Element properties
name   vitalDatesActor

Content model

Extension

Extension properties
base   xsd:string

Attribute: birthDate

Attribute properties
type   xsd:string
name   birthDate

Attribute: deathDate

Attribute properties
type   xsd:string
name   deathDate

Attribute: source

Attribute properties
ref   lido:source

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

10.7 Category

Definition
The CRM category of which this item is an instance.

Preferably the source attribute refers to a CRM RDF version, e.g. http://cidoc.ics.forth.gr/rdfs/cidoc_crm_v5.0.1.rdfs

Element properties
name   category

Content model
Extension

Extension properties
base   xsd:string

Attribute: ref

Attribute properties
ref   lido:source

11 Complex types

The following complex types are globally available within the LIDO schema:

11.1 Event Set

Definition

Wrapper for display and index elements for events (e.g. creation, find, use etc.), in which the described object participated. For multiple events repeat the element.

Content model

Display Event

Definition

Display element for an event, corresponding to the following event element.

Repeat this element only for language variants!

Element properties

name	displayEvent
maxOccurs	unbounded
minOccurs	0
type	lido:text

Event

Element properties

name	event
minOccurs	0
type	lido:event

11.2 Actor Set

Definition

Wrapper for display and index elements for an actor. For multiple actors repeat this element.

Content model

Display Actor

Definition

Display element for an actor, corresponding to the following actor element.

May include name, brief biographical information of the named actor, presented in a syntax suitable for display to the end-user. If there is no known actor, make a reference to the presumed culture or nationality of the unknown actor.

May be concatenated from the respective Actor element. The name should be in natural order, if possible, although inverted order is acceptable. Include nationality and life dates. For unknown actors, use e.g.: "unknown," "unknown Chinese," "Chinese," or "unknown 15th century Chinese."

Repeat this element only for language variants!

CDWA lite v1.1: displayCreator corresponds partly to lido:displayActor (without role information)

museumdat v1.0: displayCreator corresponds partly to lido:displayActor (without role information)

Element properties

name	displayActor
maxOccurs	unbounded
minOccurs	0
type	lido:text

Actor

Element properties

name	actor
minOccurs	0
type	lido:actor

11.3 Date Set

Definition
Wrapper for display and index elements for date information.

Content model

Display Date

Definition
Display element for a date specification, corresponding to the following date element.

It is a concise description of the date, presented in a syntax suitable for display to the end-user and including any necessary indications of uncertainty, ambiguity, and nuance.

Repeat this element only for language variants!

CDWA lite v1.1: displayCreationDate is generalized into lido:displayDate

museumdat v1.0: displayCreationDate is generalized into lido:displayDate

Element properties

name	displayDate
maxOccurs	unbounded
minOccurs	0
type	lido:text

Date

Element properties

name	date
minOccurs	0
type	lido:date

11.4 Materials/Technique

Definition

Materials and techniques for retrieval; if multiple parts of the work require separate materials and techniques, or if you are recording media and support separately, repeat the materialsTechSet element qualifying the extent sub-element.

Content model

Term Materials Techniques

Definition

A term to index materials and/or technique.

Data values for Type-Attribut: technique, material, implement, mark (e.g., watermark or other mark inherent in the material)

Element properties

name	termMaterialsTech
maxOccurs	unbounded
minOccurs	0
type	lido:conceptType

Extent Materials Techniques

Definition

An explanation of the part of the work to which the materials or technique are applicable; included when necessary for clarity.

Element properties
name	extentMaterialsTech
maxOccurs	unbounded
minOccurs	0
type	lido:text

Source Materials Techniques

Definition
The source of the information about materials and technique, often used when citing a published source of watermarks.

Element properties
name	sourceMaterialsTech
maxOccurs	unbounded
minOccurs	0
type	lido:text

11.5 Term / Label

Definition
A name for a concept / term, usually from a controlled vocabulary.

The attributes are to be used as follows:
- pref - has allowable values: preferred | alternate. Indicates whether it is the preferred name of the concept / term, or an alternative name.
- xml:lang - specifies the language of the concept / term.
- addedSearchTerm - has allowable values: yes | no. Default is "no". imported = "yes" means that the item includes an additional item (e.g. synonym, generic term) from the standard vocabulary used, which is included only for retrieval purposes.
- encodinganalog and label - used to indicate the category of data from the source system from the data values were taken. encodinganalog refers to the internal label for the external field name. The reference format is specified in lidoWrap.

The attributes are optional.

Content model

Extension

Extension properties
base	xsd:string

Attribute: pref

Attribute properties
ref   lido:pref

Attribute: addedSearchTerm

Attribute properties
ref   lido:addedSearchTerm

Attribute: lang

Attribute properties
ref   xml:lang

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

11.6 Event

Definition
Complex type for one event related with the work and its related information. If there is more than one event described, repeat the Event Set element.

CDWA Lite v1.1: no equivalent

museumdat v1.0: indexingEventSet is extended and refined into lido:event

Content model

Event Identifier

Element properties
name   eventID
maxOccurs   unbounded
minOccurs   0
type   lido:identifier

Event Type

Definition
Qualifier of the event, e.g. creation, find, ... Data values to be controlled.
Recommended: Defined list of subclasses of CRM entity E5 Event.

CDWA Lite v1.1: no equivalent

museumdat v1.0: eventType is refined into lido:eventType

Element properties
name	eventType
type	lido:concept

Role in Event

Definition
The role played within this event by the object being recorded.

Element properties
name	roleInEvent
maxOccurs	unbounded
minOccurs	0
type	lido:concept

Event Name

Element properties
name	eventName
maxOccurs	unbounded
minOccurs	0
type	lido:appellation

Event Actor

Element properties
name	eventActor
maxOccurs	unbounded
minOccurs	0
type	lido:actorInRoleSet

Cultural context

Definition
Name of a culture, people, or nationality participating in the event. Controlled.

CDWA Lite v1.1: culture

museumdat v1.0: culture

Element properties

name	culture
maxOccurs	unbounded
minOccurs	0
type	lido:concept

Event Date

Definition
Date specification of the event.

Element properties

name	eventDate
minOccurs	0
type	lido:dateSet

Event Place

Definition
Place specification of the event. An event can take place only in one place!

Element properties

name	eventPlace
minOccurs	0
type	lido:placeSet

Event Method

Definition
The method by which the event is carried out. Used e.g. for SPECTRUM Units of Information "field collection method", "acquisition method".

Element properties

name	eventMethod
maxOccurs	1
minOccurs	0
type	lido:concept

Event Materials/Technique

Definition
Indicates the substances or materials used within the event (e.g. the creation of a work), as well as any implements, production or manufacturing techniques, processes, or methods incorporated.

Element properties

name	eventMaterialsTech
maxOccurs	unbounded

minOccurs	0
type	lido:materialsTechSet

Thing Present

Definition
References an other object that was present at this same event.

Element properties
name	thingPresent
maxOccurs	unbounded
minOccurs	0
type	lido:objectSet

Related Event

Definition
An event which is linked in some way to this event, e.g. a field trip within which this object was collected.

Element properties
name	relatedEvent
maxOccurs	unbounded
minOccurs	0
type	lido:eventSet

Event Description

Definition
A description of the event.

Element properties
name	eventDescriptionSet
maxOccurs	unbounded
minOccurs	0
type	lido:descriptiveNote

11.7 Identifier

Definition
There is no controlled list of identifier types. Suggested values include, but are not limited to the following:
- doi (Digital Objects Identifier)
- guid (Globally unique identifier)
- hdl (Handle)
- isbn (International Standard Book Number)
- ismn (International Standard Music Number)

- isrc (International Standard Recording Code)
- issn (International Standard Serials Number)
- local
- permalink
- purl (Persistent Uniform Resource Locator)
- url (Uniform Resource Locator)
- urn (Uniform Resource Name)

Content model

Extension

Extension properties
base   xsd:string

Attribute: pref

Attribute properties
ref   lido:pref

Attribute: type

Attribute properties
use   required
ref   lido:type

Attribute: source

Attribute properties
ref   lido:source

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

11.8 Legal Body Reference

Definition
Reference information to a legal body

Content model

Legal Body ID

Definition
Unambiguous identification of the institution or person.

Element properties
name	legalBodyID
maxOccurs	unbounded
minOccurs	0
type	lido:identifier

Legal Body Name

Definition
Appellation of the institution or person.

Element properties
name	legalBodyName
maxOccurs	unbounded
minOccurs	0
type	lido:appellation

Legal Body Weblink

Definition
Weblink of the institution or person.

Element properties
name	legalBodyWeblink
maxOccurs	unbounded
minOccurs	0
type	lido:webResource

11.9 Text

Definition
Simple text element with encodinganalog and label attribute

Content model

Extension

Extension properties
base	xsd:string

Attribute: lang

Attribute properties
ref   xml:lang

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

11.10 Webresource

Definition
A uri/url reference to a web resource that describes / represents the item, e.g. a metadata record. Note that it differs from an identifier for the item itself.

Content model

Extension

Extension properties
base   xsd:string

Attribute: pref

Attribute properties
ref   lido:pref

Attribute: lang

Attribute properties
ref   xml:lang

Attribute: formatResource

Attribute properties
type   xsd:string
name   formatResource

11.11 Place Set

Definition
Wrapper for display and index elements for place information.

Content model

Display Place

Definition
Display element for a place specification, corresponding to the following place element.

Repeat this element only for language variants!

Element properties
name	displayPlace
maxOccurs	unbounded
minOccurs	0
type	lido:text

Place

Element properties
name	place
minOccurs	0
type	lido:place

11.12 Appellation Set

Definition
Wrapper for a name of an entity, and its related information. If there is more than one name, repeat the appellation element.

Content model

Appellation

Element properties
ref	lido:appellationValue

Source Appellation

Element properties
maxOccurs	unbounded
minOccurs	0

ref	lido:sourceAppellation

11.13 Description/Descriptive Note Set

Definition
A wrapper for a descriptive note and its sources. If there is more than one descriptive note, repeat this set.

Content model

Description/Descriptive Note

Definition
Usually a relatively brief essay-like text that describes the entity.

Element properties
name	descriptiveNoteValue
minOccurs	0
type	lido:text

Source Description/Descriptive Note

Definition
The source for the descriptive note, generally a published source.

Element properties
name	sourceDescriptiveNote
maxOccurs	unbounded
minOccurs	0
type	lido:text

Attribute: type

Attribute properties
ref	lido:type

11.14 Place

Definition
Structured element for place information

CDWA Lite v1.1: locationSet corresponds partly to lido:place

museumdat v1.0: indexingLocationWrap is refined into lido:place

Content model

Place Identifier

Element properties
name	placeID
maxOccurs	unbounded
minOccurs	0
type	lido:identifier

Place Name Set

Definition
The name of the geographic place. If there are different names of the same place, e.g. today's and historical names, repeat this element.

CDWA Lite v1.1: locationName corresponds partly to lido:namePlaceSet/ lido:appellation

museumdat v1.0: nameLocationSet

Element properties
name	namePlaceSet
maxOccurs	unbounded
minOccurs	0
type	lido:appellation

_GML

Definition
GML-conformant Content, instantiation to be included

Element properties
minOccurs	0
ref	gml:_GML

Part of Geographical Entity

Definition
Allows for indexing larger geographical entities.

Element properties
name	partOfPlace
maxOccurs	unbounded
minOccurs	0
type	lido:place

Place Classification

Definition
A classification of the place, e.g. by geological complex, stratigraphic unit or habitat type.

Element properties
name	placeClassification
maxOccurs	unbounded
minOccurs	0
type	lido:conceptType

Attribute: politicalEntity

Definition
Data values can include: Gemeinde, Kreis, Bundesland, Staat, Herzogtum, city, county, country, civil parish

Attribute properties
ref	lido:politicalEntity

Attribute: geographicalEntity

Definition
Data values can include: Naturraum, Landschaft, natural environment, landscape

Attribute properties
ref	lido:geographicalEntity

11.15 Concept

Definition
Set for identifiers and terms of a concept.

Content model

Concept Identifier

Element properties
name	conceptID
minOccurs	0
type	lido:identifier

Term / Label

Element properties

name	term
maxOccurs	unbounded
minOccurs	0
type	lido:term

11.16 Concept (with Type)

Definition
Set for identifiers and terms of a concept, qualified by a type.

Content model

Concept Identifier

Element properties

name	conceptID
minOccurs	0
type	lido:identifier

Term / Label

Element properties

name	term
maxOccurs	unbounded
minOccurs	0
type	lido:term

Type

Attribute properties

ref	lido:type

11.17 Text (with Type)

Definition
Text element with encodinganalog, label and type attribute

Content model

Extension

Extension properties
base   xsd:string

Attribute: lang

Attribute properties
ref   xml:lang

Attribute: encodinganalog

Attribute properties
ref   lido:encodinganalog

Attribute: label

Attribute properties
ref   lido:label

Attribute: type

Attribute properties
name   type
type   xsd:string

11.18 Rights

Definition
Information about rights management; may include copyright and other intellectual property statements.

Content model

Rights Type

Definition
The specific type of right being recorded. For example: copyright, publication right, data protection right, trademark.

Element properties
name   rightsType
maxOccurs   unbounded

minOccurs	0
type	lido:text

Rights Date

Definition
The date on which a right is or was current.

Element properties
name	rightsDate
maxOccurs	unbounded
minOccurs	0
type	lido:date

Rights Holder

Definition
The holder of the right.

Element properties
name	rightsHolder
maxOccurs	unbounded
minOccurs	0
type	lido:legalBodyRef

Creditline

Definition
Acknowledgement of the rights associated with the physical and/or digital object.

Repeat this element only for language variants.

Element properties
name	creditLine
maxOccurs	unbounded
minOccurs	0
type	lido:text

11.19 Object Set

Definition
Wrapper for display and reference elements for an other object.

Content model

Display Object

Definition
A free-text description of the object, corresponding to the following object element

Repeat this element only for language variants!

Element properties
name	displayObject
maxOccurs	unbounded
minOccurs	0
type	lido:text

Object

Element properties
name	object
maxOccurs	1
minOccurs	0
type	lido:object

11.20 Actor

Definition
Contains identifying, indexing actor information.

Content model

Actor Identifier

Element properties
name	actorID
maxOccurs	unbounded
minOccurs	0
type	lido:identifier

Name Actor Set

Definition
A wrapper for name elements, if there exists more than one name for a single actor, repeat Name Actor Set.

Indicates names, appellations, or other identifiers assigned to an individual, group of people, firm or other corporate body, or other entity.

CDWA Lite v1.1: nameCreatorSet is generalized into nameActorSet

museumdat v1.0: nameActorSet

Element properties
name	nameActorSet
maxOccurs	unbounded
type	lido:appellation

Nationality Actor

Definition
National or cultural affiliation of the person or corporate body. Controlled.

CDWA Lite v1.1: nationalityCreator is generalized into nationalityActor

museumdat v1.0: nationalityActor

Element properties
name	nationalityActor
maxOccurs	unbounded
minOccurs	0
type	lido:concept

Vital Dates Actor

Element properties
maxOccurs	1
minOccurs	0
ref	lido:vitalDatesActor

Gender Actor

Definition
The sex of the individual. Not applicable for corporate bodies.

Data values: male, female, unknown, not applicable.

CDWA Lite v1.1: genderCreator is generalized into genderActor

museumdat v1.0: genderActor

Element properties
name	genderActor
minOccurs	0
type	lido:text

Attribute: Type Actor

Definition

Indicates if the actor is an individual, a group of individuals or a corporation (firm or other corporate body).

CDWA Lite v1.1: nameCreator@type is replaced by actorType (as it characterizes the actor self and not the name)

museumdat v1.0: nameActor@type is replaced by actorType (as it characterizes the actor self and not the name)

Attribute properties

name   actorType

Restriction

Restriction properties

base   xsd:string

enumeration

- person
- corporation
- group

11.21 Date

Definition

A wrapper a date specification: This may be a period or a set of years in the proleptic Gregorian calendar delimiting the span of time. If it is an exact date, repeat the same date in earliest and latest dates. For ca. and other uncertain or approximate dates, estimate the greatest possible span for indexing. Uncertainty should be indicated in the display element.

CDWA Lite v1.1: indexingDatesSet is generalized and refined into lido:date

museumdat v1.0: indexingDates is refined into lido:date

Content model

Earliest Date

Element properties

ref   lido:earliestDate

Latest Date

Element properties
ref   lido:latestDate

Period Name

Definition
A period name defining the range of dates. Data values should be controlled.

Element properties
name	periodName
maxOccurs	1
minOccurs	0
type	lido:concept

11.22 Object

Definition
Reference to an object.

Content model

Object: Webresource

Definition
A Uri/Url-Reference representing the object in the worldwide web environment.

CDWA Lite v1.1: linkRelatedWork

museumdat v1.0: linkRelatedWork

Element properties
name	objectWebResource
maxOccurs	unbounded
minOccurs	0
type	lido:webResource

Object Identifier

Definition
Unique identifier of the referenced object.

CDWA Lite v1.1: locRelatedWork@relWorkID corresponds to lido:objectID

museumdat v1.0: locRelatedWork@relWorkID corresponds to lido:objectID

Element properties

name	objectID
maxOccurs	unbounded
minOccurs	0
type	lido:identifier

Object Note

Definition

A descriptive identification of the object that will be meaningful to end-users, including some or all of the following information, as necessary for clarity and if known: title, object/work type, important actor, date and/or place information, potentially location of the object.

The information should ideally be generated from fields/elements in the related record.

CDWA Lite v1.1: labelRelatedWork

museumdat v1.0: labelRelatedWork

Element properties

name	objectNote
maxOccurs	unbounded
minOccurs	0
type	lido:text

11.23 Materials Technique Set

Definition

Wrapper for display and index elements for materials and technique information.

Indicates the substances or materials used, as well as any implements, production or manufacturing techniques, processes, or methods incorporated.

Content model

Display Materials Technique

Definition

Display element for materials/technique, corresponding to the following materialsTech-Element.

It is presented in a syntax suitable for display to the end-user and including any necessary indications of uncertainty, ambiguity, and nuance.

Repeat this element only for language variants!

Element properties

name	displayMaterialsTech
maxOccurs	unbounded
minOccurs	0
type	lido:text

Materials Technique

Element properties

name	materialsTech
maxOccurs	1
minOccurs	0
type	lido:materialsTech

11.24 Object measurement

Definition

The dimensions, size, shape, scale, format, or storage configuration of the work, including volume, weight, area or running time. Measurements are formatted to allow retrieval; preferably in metric units where applicable.

CDWA Lite v1.1: indexingMeasurementsSet, with all sub-elements

museumdat v1.0: indexingMeasurementsSet, with all sub-elements

Content model

Measurements Set

Element properties

maxOccurs	unbounded
minOccurs	0
ref	lido:measurementsSet

Extent Measurements

Definition

An explanation of the part of the work being measured; included when necessary for clarity.

Data values: overall, components, sheet, plate mark, chain lines, pattern repeat, lid, base, laid lines, folios, leaves, columns per page, lines per page, tessera, footprint, panel, interior, mat, window of mat, secondary support, frame, mount, ...

Element properties

name	extentMeasurements

maxOccurs	unbounded
minOccurs	0
type	lido:text

Qualifier Measurements

Definition

A word or phrase that elaborates on the nature of the measurements of the work when necessary, as when the measurements are approximate.

Data values: approximate, sight, maximum, larges, smallest, average, variable, assembled, before restoration, before restoration, at corners, rounded, framed, with base, ...

Element properties

name	qualifierMeasurements
maxOccurs	unbounded
minOccurs	0
type	lido:text

Format Measurements

Definition

The configuration of a work, including technical formats, used as necessary.

Data values: Vignette, VHS, IMAX, DOS ...

Element properties

name	formatMeasurements
maxOccurs	unbounded
minOccurs	0
type	lido:text

Shape Measurements

Definition

The shape of a work, used for unusual shapes (e.g., an oval painting).

Data values: oval, round, square, rectangular, irregular, ...

Element properties

name	shapeMeasurements
maxOccurs	unbounded
minOccurs	0
type	lido:text

Scale Measurements

Definition

An expression of the ratio between the size of the representation of something and that thing (e.g., the size of the drawn structure and the actual built work). Used for studies, record drawings, models, and other representations drawn or constructed to scale.

Data values for scale: numeric (e.g., 1 inch = 1 foot), full-size, life-size, half size,monumental. and others as recommended in CCO and CDWA. Combine this tag with Measurement Sets for numeric scales. For measurementsSet type for Scale, use "base" for the left side of the equation, and "target" for the right side of the equation).

Element properties

name	scaleMeasurements
maxOccurs	unbounded
minOccurs	0
type	lido:text

11.25 Object Measurment Set

Definition

Wrapper for display and index elements for object measurements. If multiple parts of the work are measured, repeat the element

Holds information about the dimensions, size, or scale of the work. It may also include the number of the parts of a complex work, series, or collection.

Content model

Display Object Measurement

Definition

Display element for one object measurement, corresponding to the following objectMeasurement element.

Repeat this element only for language variants!

Element properties

name	displayObjectMeasurements
maxOccurs	unbounded
minOccurs	0
type	lido:text

Object Measurement

Element properties
name	objectMeasurements
maxOccurs	1
minOccurs	0
type	lido:objectMeasurements

11.26 Actor in Role

Definition
Describes an actor with role and (if necessary) attributions related to the event the actor participated in.

CDWA Lite v1.1: indexingCreatorSet is generalized into actorInRole

museumdat v1.0: indexingActorSet

Content model

Actor

Element properties
name	actor
type	lido:actor

Role Actor

Definition
Role of the Actor in the event. Controlled

CDWA Lite v1.1: roleCreator is generalized into roleActor

museumdat v1.0: roleActor

Element properties
name	roleActor
maxOccurs	unbounded
minOccurs	0
type	lido:concept

Attribution Qualifier Actor

Definition
A qualifier used when the attribution is uncertain, is in dispute, when there is more than one actor, when there is a former attribution, or when the attribution otherwise requires explanation.

Data values: attributed to, studio of, workshop of, atelier of, office of, assistant of, associate of, pupil of, follower of, school of, circle of, style of, after copyist of, manner of...

CDWA Lite v1.1: attributionQualifierCreator is generalized into attributionQualifierActor

museumdat v1.0: attributionQualifierActor

Element properties
name	attributionQualifierActor
maxOccurs	unbounded
minOccurs	0
type	lido:text

Actor: Extent of participation

Definition
Extent of the actor's participation in the event, if there are several actors.

Data values: design, execution, with additions by, figures, renovation by, predella, embroidery, cast by, printed by, ...

CDWA Lite v1.1: extentCreator is generalized into extentActor

museumdat v1.0: extentActor

Element properties
name	extentActor
maxOccurs	unbounded
minOccurs	0
type	lido:text

11.27 Actor in Role Set

Definition
Wrapper for display and index elements for an actor with role information (participating in an event). For multiple actors repeat the element.

Content model

Display Actor in Role

Definition
Display element for an actor, corresponding to the following actor element.

May include name, brief biographical information, and roles (if necessary) of the named actor, presented in a syntax suitable for display to the end-user and

including any necessary indications of uncertainty, ambiguity, and nuance. If there is no known actor, make a reference to the presumed culture or nationality of the unknown actor.

May be concatenated from the respective Actor element. The name should be in natural order, if possible, although inverted order is acceptable. Include nationality and life dates. For unknown actors, use e.g.: "unknown," "unknown Chinese," "Chinese," or "unknown 15th century Chinese."

Repeat this element only for language variants!

CDWA lite v1.1: displayCreator corresponds partly / is generalized into lido:displayActor

museumdat v1.0: displayCreator corresponds partly / is generalized into lido:displayActor

Element properties

name	displayActorInRole
maxOccurs	unbounded
minOccurs	0
type	lido:text

Actor in Role

Element properties

name	actorInRole
minOccurs	0
type	lido:actorInRole

12 Global attributes
The following attributes are globally available to all elements within the LIDO schema:

12.1 encodinganalog

Attribute properties
type	xsd:string
name	encodinganalog

12.2 geographicalEntity

Attribute properties
type	xsd:string
name	geographicalEntity

12.3 addedSearchTerm

Attribute properties
default	no
name	addedSearchTerm

Restriction

Restriction properties
base	xsd:string

enumeration
- yes
- no

12.4 label

Attribute properties
type	xsd:string
name	label

12.5 linkscheme

Attribute properties
type	xsd:string
name	linkscheme

12.6 politicalEntity

Attribute properties
type	xsd:string
name	politicalEntity

12.7 pref

Attribute properties
name	pref

Restriction

Restriction properties
base	xsd:string

enumeration
- preferred
- alternate

12.8 source

Attribute properties
type	xsd:string
name	source

12.9 type

Attribute properties
type	xsd:string
name	type

13 Imports
The following schemas are imported into the LIDO schema:

13.1 xml.xsd

Import properties
name   xml.xsd
schemaLocation   http://www.w3.org/2001/03/xml.xsd
namespace   http://www.w3.org/XML/1998/namespace

13.2 feature.xsd

Import properties
name   feature.xsd
schemaLocation   http://schemas.opengis.net/gml/3.1.1/base/feature.xsd
namespace   http://www.opengis.net/gml