

# Metadata Application Profile, version 4.0

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### 1.0 Introduction

The DPLA Metadata Application Profile (MAP) is designed to build on the experience of the Europeana Data Model (EDM). In addition, it incorporates feedback from the DPLA community and digital hub pilot participants to create a balanced framework that allows us to accommodate existing and emerging data models for library, archive, and museum resources.

The changes reflected in Version 4 of the MAP represent a significant leap forward in incorporating linked open data (LOD) within the DPLA framework. MAP v4 reflects an increasing reliance on URI references to open data sources and incorporates several metadata namespaces not found in the previous version. This profile features an updated geographic class and the addition of concept and agent classes that all take advantage of LOD. Additionally, an annotation class is described in Appendix A. The annotation class would refer to DPLA objects, but would not be referred to by them and is therefore not included in the MAP domain model.

These changes have necessitated the deprecation of a few elements, mostly from the geographic class. A full list of all deprecated elements appears at the end of the profile along with an itemized list of changes.

A new DPLA API endpoint will be made available in the near future that utilizes MAP v4. Until then the current API will continue to provide data in accordance with MAP v3.1. In addition, more complete documentation and user guides for the DPLA MAP will be released soon.

It is not possible for this documentation to account for all properties used by current or future DPLA content providers. The following documentation provides developers a baseline of properties available via DPLA services.

#### 1.1 EUROPEANA AND OTHER DATA MODELS

As noted above, the DPLA map was built on the foundations of the Europeana Data Model (EDM). EDM enables the integration of descriptions provided by content providers that respects the properties they have assigned to resources. Developers using DPLA services should refer to the Europeana Data Model (<a href="mailto:pro.europeana.eu/edm-documentation">pro.europeana.eu/edm-documentation</a>) for additional information.

In addition, the DPLA MAP is closely aligned with DCMI Metadata Terms. Most properties in the map are asserted as DC or DCTERMS properties. This allows the MAP to align very closely with the metadata schemas used by many of our partners.

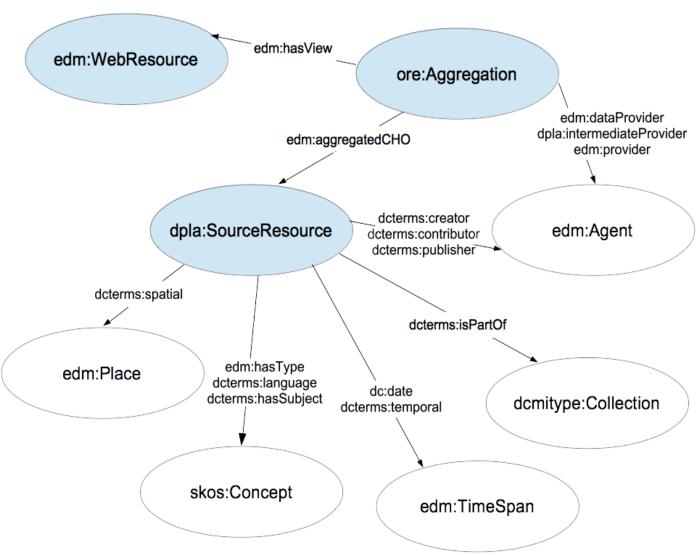
#### 1.2 Namespaces Referenced

DPLA MAP uses the following namespaces:

- dpla: <a href="http://dp.la/about/map/">http://dp.la/about/map/</a>
- cnt: http://www.w3.org/2011/content#
- dc: <a href="http://purl.org/dc/elements/1.1/">http://purl.org/dc/elements/1.1/</a>
- dcterms: http://purl.org/dc/terms/
- dcmitype: <a href="http://purl.org/dc/dcmitype/">http://purl.org/dc/dcmitype/</a>
- edm: <a href="http://www.europeana.eu/schemas/edm/">http://www.europeana.eu/schemas/edm/</a>
- gn: http://www.geonames.org/ontology#
- oa: http://www.w3.org/ns/oa#
- ore: <a href="http://www.openarchives.org/ore/terms/">http://www.openarchives.org/ore/terms/</a>
- rdf: http://www.w3.org/1999/02/22-rdf-syntax-ns#
- rdfs: http://www.w3.org/2000/01/rdf-schema#
- skos: http://www.w3.org/2004/02/skos/core#
- wgs84: <a href="http://www.w3.org/2003/01/geo/wgs84">http://www.w3.org/2003/01/geo/wgs84</a> pos#

### 2.0 DIGITAL PUBLIC LIBRARY OF AMERICA DOMAIN MODEL, V4

Core classes highlighted in blue.



### 3.0 How to Use This Guide

Each Class of the DPLA MAP is provided as a table below. Columns indicate:

**Label:** a human-readable label for the property

**Source:** the supplier of the data value contained in the property (see note 3 below)

**Property:** the RDF value of the metadata element

**Sub-property of:** a master RDF value that the property belongs to **Range:** an indication of the data type of the value of the property

Usage: description of how the property should be used

**Vocab Schema:** a controlled vocabulary to be applied to the value of the property

Syntax Schema: a syntax for the value of the property

**Obligation:** the requirement for the number of properties that can exist

#### Some additional notes are below:

| Label       | Source 3 | Property   | Sub-<br>property of | Range                   | Usage   | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|-------------|----------|--|---------------------|-------------------------|---|-----------------|------------------|------------|
| Aggreg 1    | D        | edm:aggregatedCHO,<br>.aggregatedCHO                 |                     | edm:Provid<br>edCHO     | Unambiguous ID to SR. Ref.  |                 |                  | 1          |
| Collection* | D        | dcterms:isPartOf,<br>-sourceResource.collect<br>ion. | dc:relation         | dcmitype:<br>Collection | Collection or aggregation of which described resource is a part. Ref. 5 |                 |                  | 0-n        |
| Title* 2    | Р        | dcterms:title 4 .sourceResource.title                |                     |                         | Primary name given to the described resource. Literal.                  |                 |                  | 1- n       |

- 1. In the tables below, "SR" is an abbreviation for "SourceResource" and refers in all cases to the dpla:SourceResource class.
- 2. Labels in bold display in the DPLA portal. Labels with asterisks (\*) indicate values that are required, required when available, or strongly recommended. See Appendix C for more specific guidelines.
- 3. Values in the Source column include: Partner-supplied (P) or created by DPLA based on partner-supplied data (D). In cases where the source is indicated as "D," the value is typically derived by DPLA from literal values supplied by the Data Provider. These original literal values are then captured in the related contextual class.
- 4. Wherever possible, the DCTERMS namespace was preferred over the DC namespace unless limitations imposed on the value type could not be met.
- 5. Usage values that are indicated as "Ref" indicate a reference, such as a URI, to an instance of whatever class is defined as the range for that property. If the value MUST contain a URI, that more specific requirement is indicated.
- 6. All properties with a maximum value of "1" can be interpreted as 1 instance per language. Properties with a maximum value of "n" are unlimited.

### **4.0 DPLA MAP CLASSES**

### 4.1 CORE CLASSES

The core classes are required for all DPLA objects.

### 4.1.A class = dpla:SourceResource

This class is a subclass of "edm:ProvidedCHO," which comprises the described resources (in EDM called "cultural heritage objects") about which DPLA collects descriptions. It is here that attributes of the described resources are located, not the digital representations of them.

| Label              | Source | Property   | Sub-<br>property of | Range                   | Usage  | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|--------------------|--------|--|---------------------|-------------------------|--|-----------------|------------------|------------|
| Alternate<br>Title | Р      | dcterms:alternative<br>.sourceResource.alternati<br>ve | dc:title            |                         | Any alternative title of the described resource including abbreviations and translations. Literal. |                 |                  | 0 - n      |
| Collection*        | D      | dcterms:isPartOf,<br>.sourceResource.collectio<br>n    | dc:relation         | dcmitype:<br>Collection | Collection or aggregation of which described resource is a part. Ref.                              |                 |                  | 0 – n      |
| Contributor        | D      | dcterms:contributor<br>.sourceResource.contribut<br>or |                     | edm:Agent               | Entity responsible for making contributions to described resource. Ref.                            |                 |                  | 0 – n      |
| Creator*           | D      | dcterms:creator<br>.sourceResource.creator             |                     | edm:Agent               | Entity primarily responsible for making described resource. Ref.                                   |                 |                  | 0 – n      |
| Date*              | Р      | dc:date<br>.sourceResource.date                        |                     | edm:Time<br>Span        | Date value as supplied by Data<br>Provider. Ref.   |                 |                  | 0 – n      |

|             |   |   |                     |   |  |       | , ,   |
|-------------|---|---|---------------------|---|--|-------|-------|
| Description | Р | dcterms:description,<br>.sourceResource.descripti<br>on |                     |   | Includes but is not limited to:<br>an abstract, a table of<br>contents, or a free-text<br>account of described resource.<br>Literal.         |       | 0 – n |
| Extent      | Р | dcterms:extent,<br>.sourceResource.extent               | dc:format           |   | Size or duration of described resource. Literal.   |       | 0 – n |
| Format*     | Р | dc:format,<br>.sourceResource.format                    |                     |   | Physical medium or dimensions of described resource. Literal.  |       | 0 – n |
| Genre       | D | edm:hasType,<br>.sourceResource.genre                   | edm:is<br>RelatedTo | skos:<br>Concept  | Captures categories of described resource in a given field. Does not capture aboutness. Ref.   | AAT   | 0 – n |
| Identifier  | Р | dcterms:identifier,<br>.sourceResource.identifier       |                     | rdfs:Literal  | ID of described resource within a given context. Literal.  |       | 0 – n |
| Language*   | D | dcterms:language,<br>.sourceResource.language           |                     | dcterms:<br>Linguistic<br>System<br>(as skos:<br>Concept) | Language(s) of described resource. Strongly recommended for text materials. Ref.   | Lexvo | 0 – n |
| Place*      | D | dcterms:spatial,<br>.sourceResource.spatial             |                     | dpla:Place  | Spatial characteristics of described resource, such as a country, city, region, address or other geographical term. Captures aboutness. Ref. |       | 0 – n |

|               |   |  |             |           |   |  | 3/3/201 |
|---------------|---|--|-------------|-----------|---|--|---------|
| Publisher*    | D | dcterms:publisher,<br>.sourceResource.publisher          |             | edm:Agent | Entity responsible for making the described resource available, typically the publisher of a text (not edm:dataProvider or edm:provider). Ref.  |  | 0 – n   |
| Relation      | D | dc:relation,<br>.sourceResource.relation                 | dc:relation |           | Related resource. Literal and/or URI.   |  | 0 – n   |
| Replaced By   | Р | dpla:isReplacedBy<br>.sourceResource.isReplace<br>dBy    | dc:relation |           | Another resource that references, cites or otherwise points to the described resource. Literal.   |  | 0 – n   |
| Replaces      | Р | dpla:replaces<br>.sourceResource.replaces                | dc:relation |           | A related resource that is supplanted, displaced, or superseded by the described resource. Literal.   |  | 0 – n   |
| Rights*       | P | dc:rights,<br>.sourceResource.rights                     |             |           | Information about rights held in and over the described resource. Typically, rights information includes a statement about various property rights associated with the described resource, including intellectual property rights. Literal. |  | 1 - n   |
| Rights Holder | Р | dcterms:rightsholder<br>.sourceResource.rightsHol<br>der |             | edm:Agent | A person or organization owning or managing rights over the resource. Ref.  |  | 0 – n   |

| Subject*             | D | dcterms:subject<br>.sourceResource.subject    |                 | skos:<br>Concept | Topic of described resource.<br>Ref.   |                      | 0 – n |
|----------------------|---|---|-----------------|------------------|--|----------------------|-------|
| Temporal<br>Coverage | D | dcterms:temporal,<br>.sourceResource.temporal | dc:<br>coverage | edm:Time<br>Span | Temporal characteristics of the described resource. Captures aboutness. Ref. |                      | 0 – n |
| Title*               | Р | dcterms:title<br>.sourceResource.title        |                 |                  | Primary name given to the described resource. Literal.                       |                      | 1- n  |
| Type*                | D | dcterms:type,<br>.sourceResource.type         |                 | rdf:Class        | Nature or genre of described resource. Ref. Strongly recommended.            | dcterms:D<br>CMIType | 0 – n |

### 4.1.B class = edm:WebResource

Contains the attributes of the digital representation of the web resource, not SR.

| Label       | Source | Property                         | Sub-<br>property of | Range | Usage   | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|-------------|--------|----------------------------------|---------------------|-------|---|-----------------|------------------|------------|
| File Format | Р      | dc:format,<br>.[property].format |                     |       | Web resource format. Literal.   | dcterms:<br>imt |                  | 0 – n      |
| Rights      | Р      | dc:rights,<br>.[property].rights |                     |       | Statement about various property rights associated with the webResource, including intellectual property rights. Literal. |                 |                  | 0 – n      |

| Standardized<br>Rights<br>Statement* | Р | edm:rights,<br>.[property].rightsStateme<br>nt | dc:rights | dcterms:<br>Rights<br>Statement | The value given here should be the rights statement that applies to the digital representation as given (for example) in edm:object or edm:isShownAt/By, when these resources are not provided with their own edm:rights. This property requires a controlled set of values. Ref. |  |  | 0-1 |
|--------------------------------------|---|--|-----------|---------------------------------|---|--|--|-----|
|--------------------------------------|---|--|-----------|---------------------------------|---|--|--|-----|

### **4.1.C** class = ore:Aggregation

The aggregation of attributes that apply to the described resource as a whole, grouped from edm:WebResource and dpla:SourceResource.

| Label             | Source | Property                           | Sub-<br>property of    | Range               | Usage  | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|-------------------|--------|------------------------------------|------------------------|---------------------|--|-----------------|------------------|------------|
| Aggregated<br>SR  | D      | edm:aggregatedCHO, .aggregatedCHO  |                        | edm:Provid<br>edCHO | Unambiguous ID to SR. Ref.   |                 |                  | 1          |
| Data<br>Provider* | D      | edm:dataProvider,<br>.dataProvider | dcterms:<br>provenance | edm:Agent           | The organization or entity that supplies data to DPLA through a Provider. If a Data Provider contributes data directly to DPLA (i.e., not via a Provider) the values in edm:dataProvider and edm:provider will be the same. Ref. |                 |                  | 1          |

| Digital<br>Resource<br>Original<br>Record | D | dpla:originalRecord,<br>.originalRecord           | ore:<br>aggregates | edm:<br>Information<br>Resource | Complete original record provided by partner. Ref.  |  | 1     |
|---|---|---|--------------------|---------------------------------|---|--|-------|
| Has View                                  | D | edm:hasView,<br>.hasView                          | ore:<br>aggregates | edm:<br>Web<br>Resource         | Relates an ore:Aggregation with an edm: WebResource. Ref.   |  | 0 – n |
| Intermediate<br>Provider                  | D | dpla:intermediateProvider , .intermediateProvider | edm:<br>hasMet     | edm:Agent                       | An intermediate organization that selects, collates, or curates data from a Data Provider that is then aggregated by a Provider from which DPLA harvests. The organization must be distinct from both the Data Provider and the Provider in the data supply chain. Ref. |  | 0-1   |
| Is Shown At*                              | Р | edm:isShownAt,<br>.isShownAt                      | edm:<br>hasView    | edm:<br>Web<br>Resource         | Unambiguous URL reference to digital object in its full information context. Ref.   |  | 1     |
| Object                                    | P | edm:object,<br>.object                            | edm:<br>hasView    | edm:<br>Web<br>Resource         | The URL of a suitable source object in the best resolution available on the website of the Data Provider from which edm:preview could be generated for use in a portal. URI.  |  | 0-1   |

|                                      |   |                                 |                 |                                 |   |  | -, -, |
|--------------------------------------|---|---------------------------------|-----------------|---------------------------------|---|--|-------|
| Preview*                             | P | edm:preview<br>.preview         | edm:<br>hasView | edm:<br>Web<br>Resource         | The URL of a thumbnail, extract, or other type of resource representing the digital object for the purposes of providing a preview. URI.  |  | 1     |
| Provider                             | D | edm:provider<br>.provider       | edm:<br>hasMet  | edm:Agent                       | Service or content hub aggregating or providing access to the Data Provider's content. May contain the same value as Data Provider. Ref.  |  | 1     |
| Standardized<br>Rights<br>Statement* | P | edm:rights,<br>.rightsStatement | dc:rights       | dcterms:<br>Rights<br>Statement | The value given here should be the rights statement that applies to the digital representation as given (for example) in edm:object or edm:isShownAt/By, when these resources are not provided with their own edm:rights. This property requires a controlled set of values. URI. |  | 0-1   |

### **4.2 CONTEXT CLASSES**

Context classes contain further information about agents, collections, concepts, places, and time spans referred to by an SR. Several context properties within the DPLA MAP apply to multiple properties of dpla:SourceResource. The expression "[property]" should stand in for the appropriate property depending on the context of use in those classes.

### 4.2.A class = edm:Agent

This class comprises people, either individually or in groups, who have the potential to perform intentional actions for which they can be held responsible.

| Label             | Source | Property  | Sub-<br>property of | Range | Usage  | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|-------------------|--------|---|---------------------|-------|--|-----------------|------------------|------------|
| Name              | Р      | skos:prefLabel<br>.[property].name              |                     |       | The preferred name of the Agent.<br>Literal  |                 |                  | 0-1        |
| Provided<br>Label | Р      | dpla:providedLabel<br>.[property].providedLabel | rdfs:label          |       | The label extracted from the original provided data prior to DPLA enhancement. Literal |                 |                  | 0-1        |
| Note              | D or P | skos:note<br>.[property].note                   |                     |       | Information relating to the agent. Literal.  |                 |                  | 0-1        |
| Scheme            | D or P | skos:inScheme<br>.[property].inScheme           |                     |       | The URI of a agent scheme. URI.  |                 |                  | 0-1        |
| Exact Match       | D or P | skos:exactMatch<br>.[property].exactMatch       |                     |       | An equivalent URI from an external data source. Used for high-confidence matches. URI. |                 |                  | 0 – n      |
| Close Match       | D or P | skos:closeMatch<br>.[property].closeMatch       |                     |       | A similar URI from an external data source. URI.                                       |                 |                  | 0 – n      |

### **4.2.B** class = dcmitype:Collection

A collection is an aggregation of items. The term collection means that the resource is described as a group; its parts may be separately described and navigated.

Note: dcmitype:Collection objects can be expressed either as top-level objects in the DPLA API, or as components of an item's dpla:SourceResource description. The JSON-LD expression describes the properties used when expressed as part of a dpla:SourceResource.

| Label                   | Source | Property   | Sub-<br>property of | Range | Usage   | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|-------------------------|--------|--|---------------------|-------|---|-----------------|------------------|------------|
| Collection<br>Title*    | P      | dcterms:title, .sourceResource.collection .title                   |                     |       | Name of the collection or aggregation. Literal  |                 |                  | 0-1        |
| Collection Description* | P      | dcterms:description,<br>.sourceResource.collection<br>.description |                     |       | Free-text account of aggregation, for example an abstract or content scope note. Literal. |                 |                  | 0 – 1      |

### 4.2.C class = skos:Concept

A unit of thought or meaning that comes from an organized knowledge base (such as subject terms from a thesaurus or controlled vocabulary) where URIs or local identifiers have been created to represent each concept. In the cultural heritage world there are many controlled vocabularies such as the Library of Congress Subject Headings or AAT.

| Label             | Source | Property  | Sub-<br>property of | Range | Usage  | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|-------------------|--------|---|---------------------|-------|--|-----------------|------------------|------------|
| Concept           | D or P | skos:prefLabel<br>.[property].name              | rdfs:label          |       | The preferred form of the name of the concept. Literal.                                |                 |                  | 0-1        |
| Provided<br>Label | Р      | dpla:providedLabel<br>.[property].providedLabel | rdfs:label          |       | The label extracted from the original provided data prior to DPLA enhancement. Literal |                 |                  | 0 – 1      |

| Note        | D or P | skos:note<br>.[property].note             |  | Information relating to the concept. Literal.  |  | 0-1   |
|-------------|--------|---|--|--|--|-------|
| Scheme      | D or P | skos:inScheme<br>.[property].inScheme     |  | The URI of a concept scheme.<br>URI.   |  | 0-1   |
| Exact Match | D or P | skos:exactMatch<br>.[property].exactMatch |  | An equivalent concept from an external data source. Used for high-confidence matches. URI. |  | 0 – n |
| Close Match | D or P | skos:closeMatch<br>.[property].closeMatch |  | A similar concept from an external data source. URI.                                       |  | 0 – n |

### 4.2.D class = edm:Place

Description of a specific place or region related to the SR.

| Label             | Source | Property   | Sub-<br>property of | Range | Usage  | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|-------------------|--------|--|---------------------|-------|--|-----------------|------------------|------------|
| Name              | P      | skos:prefLabel<br>.sourceResource.spatial.na<br>me |                     |       | The name of the place as supplied by the Data Provider. Literal.                       |                 |                  | 0-1        |
| Provided<br>Label | P      | dpla:providedLabel<br>.[property].providedLabel    | rdfs:label          |       | The label extracted from the original provided data prior to DPLA enhancement. Literal |                 |                  | 0-1        |
| Latitude          | D      | wgs84_pos:lat<br>.sourceResource.spatial.lat       |                     |       | Latitude of feature. Literal.  |                 | wgs84            | 0-1        |

|   |        |   |                      |   |          | 3/3/2013 |
|---|--------|---|----------------------|---|----------|----------|
| Longitude                                   | D      | wgs84_pos:long<br>.sourceResource.spatial.lo<br>ng            |                      | Longitude of feature. Literal.  | wgs84    | 0-1      |
| Altitude                                    | D      | wgs84_pos:alt<br>.sourceResource.spatial.alt                  |                      | Altitude of feature. Literal.   | wgs84    | 0-1      |
| Geometry (please see footnote) <sup>1</sup> | D      | geojson:geometry<br>.sourceResource.spatial.ge<br>ometry      | geojson:<br>Geometry | Defines the boundaries of the place as a list of coordinates. URI.                          |          | 0 - 1    |
| Parent<br>Feature                           | D      | gn:parentFeature<br>.sourceResource.spatial.pa<br>rentFeature | edm:Place            | A feature parent of the current one, in either administrative or physical subdivision. URI. |          | 0 – n    |
| Country<br>Code                             | D      | gn:countryCode<br>.sourceResource.spatial.co<br>untryCode     |                      | A two letter country code in the ISO 3166 list. Literal.                                    | ISO 3166 | 0 – 1    |
| Note  | D or P | skos:note<br>.[property].note                                 |                      | Information relating to the place.<br>Literal.  |          | 0-1      |

- GeoJSON-LD
- GeoSPARQL
- GeoRSS
- NeoGeo Geometry Ontology
- Schema.org GeoShapes

<sup>&</sup>lt;sup>1</sup> We are continuing to investigate options for representing geographic geometries and bounding boxes in RDF. Our goal is to deliver easy to consume JSON for geographic shapes, while balancing the need for structured data, free from domain-specific microsyntaxes.

To this end, we are exploring:

| Scheme      | D or P | skos:inScheme<br>.[property].inScheme                     |                              |                  | The URI of a place scheme. URI.  |  | 0-1   |
|-------------|--------|---|------------------------------|------------------|--|--|-------|
| Exact Match | D      | skos:exactMatch<br>.sourceResource.spatial.ex<br>actMatch | skos:<br>mapping<br>Relation | skos:<br>Concept | An equivalent URI from an external data source. Used for high-confidence matches. URI. |  | 0 – n |
| Close Match | D      | skos:closeMatch<br>.sourceResource.spatial.cl<br>oseMatch | skos:<br>mapping<br>Relation | skos:<br>Concept | A similar URI from an external data source. URI.                                       |  | 0 – n |

### **4.2.E** class = edm:TimeSpan

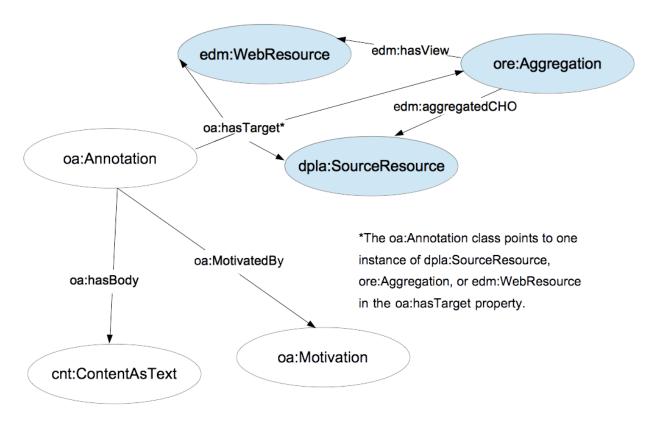
TimeSpan is used to declare more complete information about a specific date or range of time related to an SR.

| Label                   | Source | Property  | Sub-<br>property of | Range | Usage   | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|-------------------------|--------|---|---------------------|-------|---|-----------------|------------------|------------|
| Original<br>Source Date | Р      | dpla:providedLabel<br>.[property].providedLabel |                     |       | Date value as supplied by data provider. Literal. |                 |                  | 0 – n      |
| Begin                   | D      | edm:begin<br>.[property].begin                  |                     |       | Date timespan started. Literal.                   |                 | EDTF             | 0-1        |
| End                     | D      | edm:end<br>.[property].end                      |                     |       | Date timespan finished. Literal.                  |                 | EDTF             | 0-1        |

### **APPENDIX A: ANNOTATION CLASS AND SUBCLASSES**

### 1.0 class = oa:Annotation

In general terms, an Annotation expresses the relationship between two or more resources, and their metadata. Typically an Annotation has a single Body, which is the comment or other descriptive resource, and a single Target that the Body is somehow "about". The Body provides the information which is annotating the Target. This "aboutness" may be further clarified or extended to notions such as classifying or identifying, as described in the oa:Motivation subclass. (source: <a href="http://www.openannotation.org/spec/core/core.html">http://www.openannotation.org/spec/core/core.html</a>).



### class = oa:Annotation

| Label                   | Source | Property       | Sub-<br>property of | Range   | Usage   | Vocab<br>Schema         | Syntax<br>Schema | Obligation |
|-------------------------|--------|----------------|---------------------|---|---|-------------------------|------------------|------------|
| Resource<br>Annotated   | D or P | oa:hasTarget   |                     | dpla:<br>Source<br>Resource,<br>edm:WebRes<br>ource, or ore:<br>Aggregation | Resource that is being annotated. Ref.  |                         |                  | 1          |
| Body                    | D or P | oa:hasBody     |                     | cnt:ContentA<br>sText   | Reference to the Content As<br>Text subclass or other resource<br>(image, semantic concept)<br>containing the body of the<br>annotation. Ref. |                         |                  | 0 – n      |
| Annotator               | D or P | oa:annotatedBy |                     | edm:Agent   | Information relating to the creator of the annotation. Ref  |                         |                  | 0-1        |
| Source Of<br>Annotation | Р      | dc:relation    |                     | edm:<br>InformationR<br>esource   | A representation of the annotation (e.g. as a web page) from the provider. Ref.   |                         |                  | 0-1        |
| Date<br>Created         | D or P | oa:annotatedAt | dc:date             | xsd:date<br>Time  | Date of creation of the annotation. Literal.  |                         |                  | 1          |
| Motivation              | D or P | oa:motivatedBy |                     | oa:<br>Motivation   | The type of/reason for the annotation. Ref  | oa:motivati<br>onScheme |                  | 1          |

### 2.0 class = cnt:ContentAsText

A class assigned to the Body for embedding textual resources within the Annotation. (source: http://www.openannotation.org/spec/core/core.html#BodyEmbed)

| Label    | Source | Property    | Sub-<br>property of | Range        | Usage                            | Vocab<br>Schema | Syntax<br>Schema     | Obligation |
|----------|--------|-------------|---------------------|--------------|----------------------------------|-----------------|----------------------|------------|
| Text     | D or P | cnt:chars   |                     | rdfs:Literal | Text of the annotation. Literal. |                 |                      | 1          |
| Format   | D or P | dc:format   |                     |              | Annotation format. Literal.      | dcterms:<br>imt |                      | 1          |
| Language | D or P | dc:language |                     |              | Language(s) of content. Literal. |                 | dcterms:IS<br>O639-3 | 0 – n      |

### 3.0 class = oa:Motivation

In many cases it is important to understand the reasons why the Annotation was created, not just the agents involved. The Motivation for an Annotation is a reason for its creation, and might include things like Replying to another annotation, Commenting on a resource, or Linking to a related resource. (source: <a href="http://www.openannotation.org/spec/core/core.html#Motivations">http://www.openannotation.org/spec/core/core.html#Motivations</a>).

| Label   | Source | Property       | Sub-property of | Range | Usage   | Vocab<br>Schema | Syntax<br>Schema | Obligation |
|---------|--------|----------------|-----------------|-------|---|-----------------|------------------|------------|
| Name    | D      | skos:prefLabel |                 |       | The name or label of the motivation. Literal.           |                 |                  | 1          |
| Comment | D      | rdfs:comment   |                 |       | A human readable description of the motivation. Literal |                 |                  | 1          |

# APPENDIX B: REQUIRED, REQUIRED IF AVAILABLE, AND RECOMMENDED PROPERTIES

### dpla:SourceResource

This class is mandatory. Required or recommended properties are listed below. All others are optional.

| Label      | Obligation              |
|------------|-------------------------|
| Collection | Required when available |
| Creator    | Recommended             |
| Date       | Strongly Recommended    |
| Format     | Recommended             |
| Language   | Required when available |
| Place      | Strongly Recommended    |
| Publisher  | Recommended             |
| Rights     | Required                |
| Subject    | Strongly Recommended    |
| Title      | Required                |
| Туре       | Required when available |

### edm:WebResource

This class is mandatory. The fields below are required, all others are optional.

| Label                         | Obligation |
|-------------------------------|------------|
| Standardized Rights Statement | Required   |

### ore:Aggregation

This class is mandatory. The fields below are required, all others are optional.

| Label         | Obligation |  |  |  |
|---------------|------------|--|--|--|
| Data Provider | Required   |  |  |  |
| Is Shown At   | Required   |  |  |  |

| Preview                       | Required when available |
|-------------------------------|-------------------------|
| Provider                      | Required                |
| Standardized Rights Statement | Required                |

### dcmitype:Collection

This class is not mandatory, but is strongly recommended. When it is present the properties below are required.

| Label                  | Obligation  |  |  |
|------------------------|-------------|--|--|
| Collection Title       | Required    |  |  |
| Collection Description | Recommended |  |  |

### oa:Annotation

This class is not mandatory. When it is present the properties below are required.

| Label              | Obligation |
|--------------------|------------|
| Resource Annotated | Required   |
| Date Created       | Required   |
| Motivation         | Required   |

### cnt:ContentAsText

This class is not mandatory. When it is present the properties below are required.

| Label  | Obligation |  |  |  |
|--------|------------|--|--|--|
| Text   | Required   |  |  |  |
| Format | Required   |  |  |  |

### oa:Motivation

This class is not mandatory. When it is present the properties below are required.

| Label   | Obligation |  |  |
|---------|------------|--|--|
| Name    | Required   |  |  |
| Comment | Required   |  |  |

### **APPENDIX C: CHANGES FROM VERSION 3.1**

- Addition of the following properties to dpla:sourceResource
  - o alternate title
  - o replacedBy
  - o replaces
  - o rightsholder
- Change from DC to DCTERMS namespaces for the following properties in dpla:sourceResource
  - o contributor
  - o creator
  - description
  - o identifier
  - o language
  - o subject
  - o title
  - o type
- Change from literal to Ref value for the following properties in dpla:sourceResource
  - o creator
  - o genre
  - o language
  - o place
  - o publisher
  - o relation
  - o subject
  - o type

These Refs will be added by DPLA based on literal values.

- Deprecation of State Located In property within dpla:sourceResource
- Change to Ref pointer for Digital Resource Source Record instead of storing original record as a literal within dpla:sourceResource
- Addition of the Preview property for thumbnail pointers within edm:webResource
- Addition of dcterms:RightsStatement for the range of the Standardized Rights Statement properties
- Creation of Agent class to describe persons or organizations referred to in dpla:sourceResource and ore:Aggregation
- Creation of Concept class for the description of any topic or subject heading
- Skos:Concept for range of subject
- Addition of the following properties in the edm:Place class
  - Latitude
  - Longitude
  - o Altitude
  - Geometry

- o Parent Feature
- Parent Country
- o Same as
- Deprecation of the following properties in the edm:Place class
  - o City
  - o State
  - o County
  - o Region
  - o Country
  - o Coordinates
- Addition of the oa:Annotation class and cnt:ContentAsText and oa:Motivation subclasses

### **APPENDIX D: DEPRECATED PROPERTIES**

The following deprecated properties are no longer supported in MAP v4.0.

### class = dpla:SourceResource

| Label               | Source | Property   | Sub-<br>property of | Range | Usage   | Vocab<br>Schema              | Syntax<br>Schema | Obligation |
|---------------------|--------|--|---------------------|-------|---|------------------------------|------------------|------------|
| State Located<br>In | Р      | edm:currentLocation,<br>.sourceResource.stateLoc<br>atedIn | dcterms:spat<br>ial |       | Name of the state in which the described resource is held. Literal. Deprecated. | dcterms:is<br>o3166[1,2<br>] |                  | 0 - n      |

### class = edm:Place

| Label  | Source | Property   | Sub-<br>property of | Range | Usage  | Vocab<br>Schema | Syntax<br>Schema             | Obligation |
|--------|--------|--|---------------------|-------|--|-----------------|------------------------------|------------|
| City   | D      | dpla:city,<br>.sourceResource.spatial.cit<br>y     | dcterms:<br>spatial |       | Name of a city. Literal.<br>Deprecated                             |                 |                              | 0-1        |
| State  | D      | dpla:state,<br>.sourceResource.spatial.st<br>ate   | dcterms:<br>spatial |       | ISO 3166-2 code for a U.S. state or territory. Literal. Deprecated |                 | dcterms:<br>iso3166[1,<br>2] | 0-1        |
| County | D      | dpla:county,<br>.sourceResource.spatial.co<br>unty | dcterms:<br>spatial |       | Name of a<br>U.S. county. Literal. Deprecated.                     |                 |                              | 0-1        |

| Region      | D | dpla:region,<br>.sourceResource.spatial.re<br>gion                 | dcterms:<br>spatial | Name of a region, e.g., "Upstate<br>New<br>York." Literal. Deprecated.   |                              | 0-1 |
|-------------|---|--|---------------------|--|------------------------------|-----|
| Country     | D | dpla:country, .sourceResource.spatial.co untry                     | dcterms:<br>spatial | ISO 3166-1 code for a country  | dcterms:<br>iso3166[1,<br>2] | 0-1 |
| Coordinates | D | wgs84_pos:lat_long,<br>.sourceResource.spatial.co<br>ordin<br>ates |                     | Latitudinal and longitudinal coordinates for the most specific geographic location provided. Literal. Deprecated | wgs84                        | 0-1 |