

OPM Profile for Dublin Core Terms (Version 0.3)

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This document describes how provenance-related Dublin Core metadata terms [1] map to OPM graphs. The intention is to allow existing Dublin Core provenance to be re-expressed in OPM, so that it can be connected to wider provenance information available in OPM data. Specifically, the motivating goals are:

- Allow currently existing provenance-related metadata expressed using Dublin Core to be exported as an OPM graph, so that services capable of parsing OPM can query that graph and integrate with OPM data on connected processes.
- Provide a way for those currently using Dublin Core to start adding metadata regarding the processes which produced their resources, e.g. to specify exactly *how* a resource came to be created, the order in which contributions were made to a resource, describe what is shared in the history of two resources without repetition etc.

Note, that there is a small outstanding issue with this draft. For some Dublin Core terms (such as *available*, *valid*), these can specify a single date or a period, but we currently only provide mapping for the former. This omission will be addressed in a future draft.

The document is structured as follows. Section 1 sets out general guidance on how the mapping is performed and described, Section 2 is the mapping itself, where the OPM equivalent is given for each provenance-related Dublin Core term, Section 3 describes how the non-provenance metadata of Dublin Core is incorporated into the mapping, and Section 4 applies the mapping to an existing set of Dublin Core metadata.

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1 Prerequisites

1.1 Resources

Dublin Core terms are types of metadata about *resources*. Resources do not have a direct correspondence in OPM, so the mapping process must start by defining how resources and functionality which manipulates them, should be mapped to OPM.

An OPM artifact can represent a data or physical *resource* in one of several states which it takes over time. Therefore, we need a notion of one artifact being a version another artifact, where both represent the same resource in different states. Dublin Core provides a term `dc:isVersionOf` which represents this relationship (between resources). Therefore, whenever we wish to express that one artifact in an OPM graph is not just derived from but is the same resource as another, we add an annotation to the `wasDerivedFrom` relation between the two, with type `opm:type` and value `dc:isVersionOf`.

1.2 Graphs

Many Dublin Core terms map to patterns in OPM, i.e. sub-graphs with a particular structure. We show these patterns in figures throughout this document. For brevity, we use the following conventions:

- Unless stated otherwise, an edge from a process to an artifact denotes a `used` relationship; from an artifact to a process denotes a `wasGeneratedBy` relationship; from a process to an agent denotes a `wasControlledBy` relationship; from an artifact to an artifact denotes a `wasDerivedFrom` relationship.
- Where an edge is labelled with a single term, this denotes an annotation of the edge with type `opm:type` and the value given by the label.
- Where an edge is labelled in the manner `x=y`, this denotes an annotation of the edge with type `x` and value `y`.

So, for example, the edge between A2 and A1 in Figure 2 denotes a `wasDerivedFrom` edge with an annotation of type `opm:type` and a value `dc:isVersionOf`, while the edge between A2 and P denotes a `wasGeneratedBy` edge with an annotation of type `opm:time` and a value `T`.

2 Dublin Core Term Mapping

2.1 Accrual Method

In Dublin Core, an *accrual method* is defined as “The method by which items are added to a collection” [1]. It is assigned the URL:

<http://purl.org/dc/terms/accrualMethod>

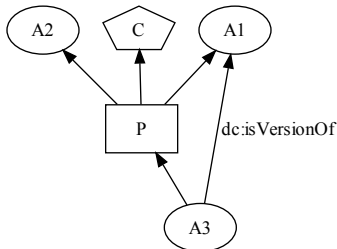


Figure 1: OPM graph mapping of an accrual method term

This term is not solely provenance-related: it may be about the past but is also about the future. We only consider it with regards to how it informs of how items *have been* added to a collection here.

In OPM, an *accrual method* to a collection resource is the actor performing a process to add items to that collection. Each instance of addition should be documented in the OPM graph, and the generalisation of those instances is the accrual method actor. For each addition, the OPM pattern in Figure 1 is observed, C being the accrual method, P being the process of addition of an item to a collection, A1 being the collection before adding item A2, A3 being the collection after adding A2.

Therefore to map a Dublin Core relationship A3 `dc:accrualMethod` C to OPM, we use the pattern above, adding an artifact to denote the resource before each addition took place (A1), the item added (A2), and the act of addition as a process (P).

More details about the way to model collection operations in OPM will be provided in a separate profile.

2.2 Available

In Dublin Core, *available* is defined as the “Date (often a range) that the resource became or will become available.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/available`

In OPM, *being available* is part of the a state which a resource may take, and therefore corresponds to a subset of artifacts corresponding to that resource.

When referring to the future, the available date is simply an annotation to any artifact, marking when the resource it corresponds to will be available. When in the past, the available date may have a richer mapping as follows.

The *available date* of a resource is the timestamp annotated to the generation of the artifact representing that resource first in an available state. The OPM pattern shown in Figure 2 is observed, with A2 as the artifact made available,

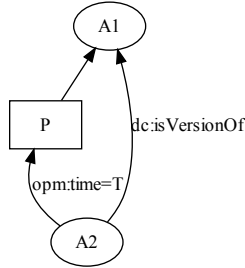


Figure 2: OPM graph mapping of an available term

A1 as the artifact before being made available, P the process by which it was made available, and T the time at which this process completed, where part of the state of A2 is that it is available.

Therefore to map a Dublin Core relationship `A2 dc:available T` to OPM, where A2 is in an available state, we use the pattern above, adding the act of being made available as a process (P) and the resource prior to availability (A1).

2.3 Bibliographic Citation

In Dublin Core, a *bibliographic citation* is defined as “A bibliographic reference for the resource” [1]. It is assigned the URL:

`http://purl.org/dc/terms/bibliographicCitation`

As all bibliographic information may be contained in an OPM graph, including much of that mapped from other Dublin Core terms, the bibliographic citation can be seen as the results of a query over the OPM graph. This can return, for example, the creator, contributors, date published, method and collection in which it was published, all of which information should be present in the OPM graph.¹

2.4 Contributor

In Dublin Core, a *contributor* is defined as “An entity responsible for making contributions to the resource” with the comment “Examples of a Contributor include a person, an organization, or a service. Typically, the name of a Contributor should be used to indicate the entity” [1]. It is assigned the URL:

`http://purl.org/dc/terms/contributor`

¹When a generic query language for OPM has been expressed, this profile may be revised to define a query for retrieving a bibliographic citation for a resource.

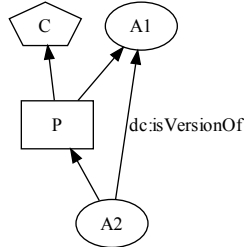


Figure 3: OPM graph mapping of a contributor term

In OPM, a *contributor* to a resource is the actor performing the state-changing process for that resource. The OPM pattern shown in Figure 3 is observed, with C being the contributor and A2 being the resource following contribution.

Therefore to map a Dublin Core relationship `A2 dc:contributor C` to OPM, we use the pattern in Figure 3, adding an artifact to denote the resource before the contribution took place (A1) and the act of contribution as a process (P).

2.5 Creator

In Dublin Core, a *creator* is defined as “An entity primarily responsible for making the resource” with the comment “Examples of a Creator include a person, an organization, or a service. Typically, the name of a Creator should be used to indicate the entity” [1]. It is assigned the URL:

`http://purl.org/dc/terms/creator`

In OPM, the *creator* of a resource is the actor performing the creation process for that resource. A creation process is as defined above: a process which generates an artifact corresponding to that resource, where there should be no causally-prior artifact in the OPM graph which is a version of the created artifact. The OPM pattern shown in Figure 4 is observed, with C being the creator and A1 being the created resource, and where there is no artifact A0 for which `A1 dc:isVersionOf A0`.

Therefore to map a Dublin Core relationship `A1 dc:creator C` to OPM, we use the pattern above, adding the act of creation as a process (P) and ensuring no prior artifact of the same resource exists in the graph.

2.6 Date

In Dublin Core, a *date* is defined as “A point or period of time associated with an event in the lifecycle of the resource” with the comment “Date may be used

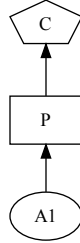


Figure 4: OPM graph mapping of a creator term

to express temporal information at any level of granularity. Recommended best practice is to use an encoding scheme, such as the W3CDTF profile of ISO 8601” [1]. It is assigned the URL:

`http://purl.org/dc/terms/date`

Applying times to artifacts and processes is already covered by the core OPM specification.

2.7 Date Accepted

In Dublin Core, *date accepted* is defined as the “Date of acceptance of the resource.” with the comment “Examples of resources to which a Date Accepted may be relevant are a thesis (accepted by a university department) or an article (accepted by a journal).” [1]. It is assigned the URL:

`http://purl.org/dc/terms/dateAccepted`

The same mapping specified for *available* above applies here, but with the resource entering an ‘accepted’ instead of ‘available’ state.

2.8 Date Copyrighted

In Dublin Core, *date copyrighted* is defined as the “Date of copyright.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/dateCopyrighted`

The same mapping specified for *available* above applies here, but with the resource entering an ‘copyrighted’ instead of ‘available’ state.

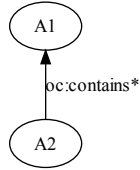


Figure 5: OPM graph mapping of a Contains term (oc: is the OPM collections profile namespace)

2.9 Date Submitted

In Dublin Core, *date submitted* is defined as the “Date of submission of the resource.” with the comment “Examples of resources to which a Date Submitted may be relevant are a thesis (submitted to a university department) or an article (submitted to a journal)” [1]. It is assigned the URL:

`http://purl.org/dc/terms/dateSubmitted`

The same mapping specified for *available* above applies here, but with the resource entering an ‘submitted’ instead of ‘available’ state.

2.10 Has Part

In Dublin Core, *has part* is defined as “A related resource that is included either physically or logically in the described resource.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/hasPart`

In the OPM collections profile, the relation *contains* relates a collection to an item in that collection. Therefore to map a Dublin Core relationship `A1 dc:hasPart A2` to OPM, we use the pattern shown in Figure 5.

2.11 Has Version

In Dublin Core, *has version* is defined as “A related resource that is a version, edition, or adaptation of the described resource.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/hasVersion`

In OPM, we always use `dc:isVersionOf` annotating the `wasDerivedFrom` edge from later to earlier version of the same resource. Therefore, to map a Dublin Core relationship `A2 dc:hasVersion A1` to OPM, we use the edge between A2 and A1 as shown in Figure 6.

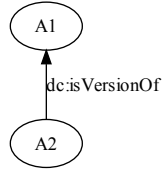


Figure 6: OPM graph mapping of a HasVersion or IsVersionOf term

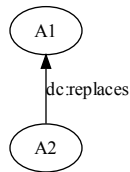


Figure 7: OPM graph mapping of an IsReplacedBy or Replaces term

2.12 Is Part Of

In Dublin Core, *is part of* is defined as “A related resource in which the described resource is physically or logically included.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/isPartOf`

In the OPM collections profile, the relation *contains* relates a collection to an item in that collection. Therefore, to map a Dublin Core relationship `A1 dc:isPartOf A2` to OPM, we use the pattern shown in Figure 5.

2.13 Is Replaced By

In Dublin Core, *is replaced by* is defined as “A related resource that supplants, displaces, or supersedes the described resource.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/isReplacedBy`

In OPM, *replaces* is a type of `wasDerivedFrom` edge, denoting that one artifact is a replacement for another artifact. Therefore, to map a Dublin Core relationship `A1 dc:isReplacedBy A2` to OPM, we instead annotate an edge in the opposite direction with the type `dc:replaces`, as shown in Figure 7.

2.14 Issued

In Dublin Core, *issued* is defined as the “Date of formal issuance (e.g., publication) of the resource.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/issued`

The same mapping specified for *available* above applies here, but with the resource entering an ‘issued’ instead of ‘available’ state.

2.15 Is Version Of

In Dublin Core, *is version of* is defined as “A related resource of which the described resource is a version, edition, or adaptation.” with the comment “Changes in version imply substantive changes in content rather than differences in format.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/isVersionOf`

In OPM, we use `dc:isVersionOf` annotating the `wasDerivedFrom` edge from later to earlier version of the same resource. Therefore, to map a Dublin Core relationship `A1 dc:isVersionOf A2` to OPM, we use the edge between `A2` and `A1` as shown in Figure 6.

2.16 Modified

In Dublin Core, *modified* is defined as the “Date on which the resource was changed.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/modified`

A *modified date* of a resource is a timestamp annotated to the generation of any artifact representing that resource. The OPM pattern shown in Figure 2 is observed, with `A2` as the artifact after modification, `A1` as the artifact before modification, `P` the process by which it was modified, and `T` the time at which this process completed.

Therefore, to map a Dublin Core relationship `A2 dc:modified T` to OPM, we use the pattern in Figure 2, adding the act of being modified as a process (`P`) and the resource prior to modification (`A1`).

2.17 Provenance

In Dublin Core, *provenance* is defined as “A statement of any changes in ownership and custody of the resource since its creation that are significant for its authenticity, integrity, and interpretation.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/provenance`

In OPM, the *provenance* of an artifact is an OPM graph in which there is a path from that artifact to every node (process, artifact) in the graph. Dublin Core-style provenance concerns the history of an artifact at a particular level of granularity, including only particular types of process, i.e. processes related to transfer of ownership.

Therefore, to map a Dublin Core relationship `A dc:provenance P` to OPM, we translate `P` to an OPM graph in which there is a path from `A` to every process, with these processes denoting the change in ownership.

2.18 Publisher

In Dublin Core, a *publisher* is defined as “An entity responsible for making the resource available” with the comment “Examples of a Publisher include a person, an organization, or a service. Typically, the name of a Publisher should be used to indicate the entity” [1]. It is assigned the URL:

`http://purl.org/dc/terms/publisher`

In OPM, *being published* is part of the a state which a resource may take, and therefore corresponds to a subset of artifacts corresponding to that resource.

The *publisher* of a resource is the actor performing the process which first generates an artifact which represents that resource and is in a published state. The OPM pattern shown in Figure 3 is observed, with `C` as the publisher, `A2` as the artifact published, and `A1` as the artifact before publication, where part of the state of `A2` is that it is published.

Therefore to map a Dublin Core relationship `A2 dc:publisher C` to OPM, where `A2` is in a published state, we use the pattern in Figure 3, adding the act of publication as a process (`P`) and the resource prior to publication (`A1`).

2.19 Replaces

In Dublin Core, *replaces* is defined as “A related resource that is supplanted, displaced, or superseded by the described resource.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/replaces`

In OPM, *replaces* is a type of `wasDerivedFrom` edge, denoting that one artifact is a replacement for another artifact. Therefore, to map a Dublin Core relationship `A2 dc:replaces A1` to OPM, we annotate an edge the type `dc:replaces`, as shown in Figure 7.

2.20 Source

In Dublin Core, a *source* is defined as “A related resource from which the described resource is derived” with the comment “The described resource may be derived from the related resource in whole or in part. Recommended best practice is to identify the related resource by means of a string conforming to a formal identification system” [1]. It is assigned the URL:

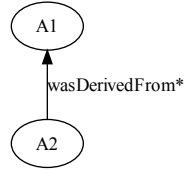


Figure 8: OPM graph mapping of a Source term

`http://purl.org/dc/terms/source`

In OPM, a *source* of an artifact is an artifact from which it is derived (explicitly or inferred), so the OPM pattern in Figure 8 is observed. Therefore to map a Dublin Core relationship `A2 dc:source A1` to OPM, we use the pattern as shown.

2.21 Valid

In Dublin Core, *valid* is defined as the “Date (often a range) of validity of a resource.” [1]. It is assigned the URL:

`http://purl.org/dc/terms/valid`

In OPM, *being valid* is part of the a state which a resource may take, and therefore corresponds to a subset of artifacts corresponding to that resource.

When referring to the future, the valid date is simply an annotation to any artifact, marking when the resource it corresponds to will be valid. When in the past, the valid date may have a richer mapping as follows.

The *valid date* of a resource is the timestamp annotated to the generation of the artifact representing that resource first in a valid state. The OPM pattern shown in Figure 2 is observed, with A2 as the artifact made valid, A1 as the artifact before being made valid, P the process by which it was made valid, and T the time at which this process completed, where part of the state of A2 is that it is available.

3 Non-Provenance Dublin Core Terms

Some Dublin Core terms map to annotations on artifacts in OPM: `abstract`, `accessRights`, `accrualPeriodicity`, `accrualPolicy`, `alternative`, `audience`, `conformsTo`, `coverage`, `description`, `educationLevel`, `extent`, `format`, `hasFormat`, `identifier`, `instructionalMethod`, `isFormatOf`, `isReferencedBy`, `isRequiredBy`, `language`, `license`, `mediator`, `medium`, `references`, `relation`, `rights`, `rightsHolder`, `spatial`, `subject`, `tableOfContents`, `title`, `type`.

For a given artifact, an OPM query may be specified which searches for an annotation to any artifact which represents an earlier state of the same resource. In this way, annotations such as those above may be made to the resource in one context (one artifact) but be determinable given any artifact corresponding to that resource.

3.1 Vocabulary Encoding and Syntax Encoding Schemes

The Dublin Core vocabulary encoding schemes and syntax encoding schemes do not relate to provenance.

3.2 Classes and Type Vocabulary

Dublin Core specifies a set of classes and a type vocabulary, some of which have correspondence in OPM or this profile. The *Agent* class is equivalent to agents as defined in OPM. The *ProvenanceStatement* class corresponds to an OPM graph. Some classes describe sub-classes of resources, some are unions of other classes. However, none appear to have an impact on the mapping of Dublin Core data to OPM.

4 Case Study

We take as an example, a record produced by the Digital Collections and Content project[2]. Specifically, the resource being described by the record is the collection maintained by the MOAC group of museums in California [3].

The Dublin Core terms used to describe the resource can be divided into three categories: attribution metadata, non-provenance metadata, and connections between the collection and its elements.

To begin the mapping to OPM, we have to first consider metadata about the provenance of the resource (those terms covered in Section 2). We separate out metadata relating to containment, below, simply for clarity. Containment is a prominent part of the metadata in this example as the resource happens to be a collection.

4.1 Attribution Terms

The metadata records the creator of, contributors to, and publisher of, the resource. The relevant statements, in the XML format adopted by the project, is shown in Figure 9.

As the Dublin Core metadata does not distinguish between versions of the resource, it is impossible to tell whether contributions were made sequentially, by one contributor then another, or in parallel. It is also not clear whether contributions were made prior to or after publication, or both.

Any mapping would be constructed from the patterns described in our mapping section (Section 2) for each term. Without any additional knowledge of

```

<dc:creator xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Project/?2690</dc:creator>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?567</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?816</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?817</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?818</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?819</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?820</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?822</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?823</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?825</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?826</dc:contributor>
<dc:contributor xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?827</dc:contributor>
<dc:publisher xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Institution/?922</dc:publisher>

```

Figure 9: Attribution-related Dublin Core terms in case study

the order in which actions occurred, the mapping to OPM should not falsely assert a particular order as this may have implications for interpreting the data. Instead, all we can say is that there is a current version of the resource, it is somehow derived from all the modified versions produced by contribution and publication, and that all of these are modifications of versions of the resource as originally created. The OPM graph would therefore look like that shown in Figure 10, where the ‘current version’ of the resource is the shaded artifact, and each agent is annotated with its identifier from the Dublin Core metadata (shown just for the creator agent, for brevity).

With more information than in the Dublin Core metadata we may, for example, understand that all contributions were made prior to publication and in some particular order. In this case, the OPM graph would be a chain of patterns leading from creation through each contribution to final publication.

4.2 Containment Terms

Next, we consider those terms which are not in themselves describing provenance but describe how the provenance of two artifacts relate. Specifically, OPM provides ways to express the relationship between a collection and each of its parts. This is significant for provenance, in part, because any process which affects a part also affects the collection as a whole. The Dublin Core metadata related to this aspect for the case study is shown in Figure 11.

As described in Section 2.10, to map this to OPM, we simply replace `dc:hasPart` with the OPM-defined relationship annotation `oc:contains`. Therefore, the ‘current version’ of the resource as shown in Figure 10 is now related to its parts as shown in Figure 12. We do not, from the Dublin Core metadata, know whether earlier versions of the collection had any or all of these parts, so do not add the relationships for the rest of the artifacts in Figure 10. Each part has its own identifier, added as an annotation (shown for one part in the figure, for clarity).

4.3 Non-Provenance Terms

Finally, the rest of the Dublin Core metadata remains unchanged as typed annotations to the resource. Specifically, each of the metadata terms shown in

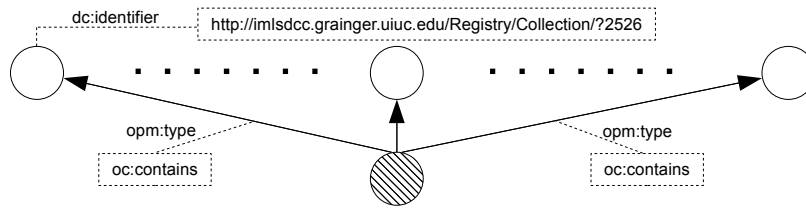


Figure 12: OPM graph mapping of hasPart metadata in use case

Figure 13 is mapped to one annotations to the artifact representing the ‘current version’ of the resource in the OPM graph. The types and values of the annotations remain the same as in the Dublin Core data.

```

<dc:identifier xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Collection/?2409</dc:identifier>
<dcterms:accrualPeriodicity xsi:type='cld:DCCDaccrualPeriodicity'>Irregularly</dcterms:accrualPeriodicity>
<dcterms:audience xsi:type='imlsdcc:Audience'>General public</dcterms:audience> <dcterms:audience
xsi:type='imlsdcc:Audience'>K-12 students</dcterms:audience> <dcterms:audience xsi:type='imlsdcc:Audience'>Staff
at peer/partner organizations</dcterms:audience> <dcterms:audience xsi:type='imlsdcc:Audience'>K-12 teachers and
administrators</dcterms:audience> <dcterms:audience xsi:type='imlsdcc:Audience'>Scholars/Researchers/Graduate
Students</dcterms:audience> <dcterms:spatial xsi:type='imlsdcc:GeographicName'>Africa (continent)</dcterms:spatial>
<dcterms:spatial xsi:type='imlsdcc:GeographicName'>Asia (continent)</dcterms:spatial> <dcterms:spatial
xsi:type='imlsdcc:GeographicName'>Pacific Coast U.S. (general region)</dcterms:spatial> <dcterms:spatial
xsi:type='imlsdcc:GeographicName'>Europe (continent)</dcterms:spatial> <dcterms:spatial xsi:type='imlsdcc:GeographicName'>Mexico
(nation)</dcterms:spatial> <dcterms:spatial xsi:type='imlsdcc:GeographicName'>Southwest U.S. (general region)</dcterms:spatial>
<dcterms:spatial xsi:type='imlsdcc:GeographicName'>United States (nation)</dcterms:spatial> <dcterms:spatial>California
(state)</dcterms:spatial> <dcterms:temporal xsi:type='imlsdcc:TimePeriod'>1400s-1699</dcterms:temporal>
<dcterms:temporal xsi:type='imlsdcc:TimePeriod'>1700-1799</dcterms:temporal> <dcterms:temporal
xsi:type='imlsdcc:TimePeriod'>1800-1849</dcterms:temporal> <dcterms:temporal xsi:type='imlsdcc:TimePeriod'>1850-1899</dcterms:temporal>
<dcterms:temporal xsi:type='imlsdcc:TimePeriod'>1900-1929</dcterms:temporal> <dcterms:temporal
xsi:type='imlsdcc:TimePeriod'>1930-1949</dcterms:temporal> <dcterms:temporal xsi:type='imlsdcc:TimePeriod'>1950-1969</dcterms:temporal>
<dcterms:temporal xsi:type='imlsdcc:TimePeriod'>1970-1999</dcterms:temporal> <dcterms:temporal
xsi:type='imlsdcc:TimePeriod'>2000 to present</dcterms:temporal> <dcterms:abstract>MOAC is a group
of California museums working with libraries and archives to increase and enhance access to cultural
collections. MOAC includes a broad range of museum and library collections.</dcterms:abstract> <cld:itemFormat
xsi:type='dcterms:IMT'>image/jpeg</cld:itemFormat> <cld:itemFormat xsi:type='dcterms:IMT'>text/html</cld:itemFormat>
<imlsdcc:interactivity xsi:type='imlsdcc:Interactivity'>Search</imlsdcc:interactivity> <imlsdcc:interactivity
xsi:type='imlsdcc:Interactivity'>Exhibit</imlsdcc:interactivity> <imlsdcc:interactivity
xsi:type='imlsdcc:Interactivity'>Browse</imlsdcc:interactivity> <cld:isAccessedVia>OAI Data Provider:
http://oai.cdlib.org/?verb=Identify ; set=images (MOAC is a subset of the larger Open Archives of California finding
aids)</cld:isAccessedVia> <cld:isLocatedAt xsi:type='dcterms:URI'>http://www.bampfa.berkeley.edu/moac</cld:isLocatedAt>
<dc:language xsi:type='dcterms:ISO639-2'>eng</dc:language> <imlsdcc:metadataSchema xsi:type='imlsdcc:MetadataSchema'>Encoded
Archival Description (EAD)</imlsdcc:metadataSchema> <imlsdcc:supplement xsi:type='imlsdcc:Supplement'>Contextual
information</imlsdcc:supplement> <dc:rights>See each subcollection for copyright information.</dc:rights>
<dcterms:extent>75,000</dcterms:extent> <dc:subject xsi:type='imlsdcc:GEM'>Arts--Photography</dc:subject>
<dc:subject xsi:type='imlsdcc:GEM'>Arts--Visual arts</dc:subject> <dc:subject xsi:type='imlsdcc:GEM'>Social
Studies--Anthropology</dc:subject> <dc:subject xsi:type='imlsdcc:GEM'>Social Studies--United States
history</dc:subject> <dc:subject xsi:type='imlsdcc:GEM'>Social Studies--World history</dc:subject> <dc:subject
xsi:type='imlsdcc:GEM'>Arts</dc:subject> <dc:subject xsi:type='imlsdcc:GEM'>Social Studies</dc:subject>
<dc:title>MOAC: California museums working with libraries and archives to increase and enhance access to cultural
collections</dc:title> <cld:itemType xsi:type='imlsdcc:Type'>Photographs / slides / negatives</cld:itemType>
<cld:itemType xsi:type='imlsdcc:Type'>Prints and drawings</cld:itemType> <cld:itemType xsi:type='imlsdcc:Type'>Physical
artifacts</cld:itemType> <cld:itemType>Paintings</cld:itemType> <cld:itemType>Archival finding aids</cld:itemType>
<imlsdcc:managedBy xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Person/?761</imlsdcc:managedBy>
<dc:relation xsi:type='dcterms:URI'>http://imlsdcc.grainger.uiuc.edu/Registry/Collection/?2468</dc:relation>

```

Figure 13: Non-provenance Dublin Core and other terms in case study

4.4 Discussion

There are a few, related benefits from the OPM mapping shown for the use case. First, by giving explicit representations for acts of creation, contribution and publication, and the intermediate versions leading up to the final collection, we have a hook on which to provide additional information about those actions and versions. Second, we are now able to connect this metadata with other

descriptions in OPM, such as documentation of the archival process for the collection, or more detailed steps of the process by which the collection was created. Finally, we have an additional representation for communicating the metadata: it can be interpreted not only those services which understand Dublin Core, but also those which can parse OPM.

References

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