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DC property domains and ranges

This document is part of the [Self:Usage Board Wiki](#). It is currently under development. Comments should be sent to the dc-architecture@jiscmail.ac.uk mailing list.

Introduction

This document indicates the *domains* and *ranges* that apply to all DCMI *properties*. The relationships between *domains*, *ranges* and *properties* are as follows:

- Each *property* may be related to one or more *classes* by a domain relationship. Where it is stated that a *property* has such a relationship with a *class* and a *described resource* is related to a *value* by that *property*, it follows that the *described resource* is an instance of that *class*.
- Each *property* may be related to one or more *classes* by a range relationship. Where it is stated that a *property* has such a relationship with a *class* and a *described resource* is related to a *value* by that *property*, it follows that the *value* is an instance of that *class*.

In practice, this means that the *domain* indicates the *class* of *resources* that the *property* should be used to describe, while the *range* indicates the *class* of *resources* that should be used as *values* for that *property*.

Classes

This section lists the *classes* that are needed in order to assign *domains* and *ranges* to the existing DCMI *properties*.

AccrualMethod

A method by which **Resources** are added to a **Collection**.

Agent

A **Resource** that acts or has the power to act (e.g. a person, organization or software agent).

AgentGroup

A group of **Agents** (e.g. students, women, charities, lecturers).

Collection

An aggregation of **Resources**. (Note: this is the same as the DCMIType definition.)

DigitalResource

Something that is stored or transmitted as a sequence of discrete symbols from a finite set, usually binary data, represented using electronic or electromagnetic signals.

Dimensions

An **Extent** or **Duration**.

Duration

The time taken to view, play, execute, or interact with a **DigitalResource** or **PhysicalResource** (e.g. in hours/minutes/seconds).

Extent

The size of a **DigitalResource** or **PhysicalResource** (e.g. length/width/breadth, number of pages, etc.).

FileFormat

A **DigitalResource** format (e.g. as defined by the list of Internet Media Types).

Frequency

A statement about the rate at which something recurs.

InstructionalMethod

A process that is used to engender knowledge, attitudes and skills.

Jurisdiction

An administrative entity; the extent or range of judicial, law enforcement, or other authority.

Language

A human language.

Location

A place or geographical region.

LocationPeriodOrJurisdiction

A **Location**, **Period** or **Jurisdiction**.

MediaType

A **FileFormat** or **PhysicalMedium**.

MediaTypeOrDimensions

A **MediaType** or **Dimensions**.

NaturalLanguageString

A string of characters conforming to a natural language as spoken or written by humans.

Period

A date or date range.

PhysicalMedium

A material or physical carrier of a **PhysicalResource** (e.g. paper, canvas, etc.).

PhysicalResource

A material thing.

Policy

A plan or course of action, as of a government, political party, or business, intended to influence and determine decisions, actions, and other matters.

ProvenanceStatement

A statement of any changes in ownership and custody of a **NonAgentResource** since its creation that are significant for its authenticity, integrity and interpretation.

Reference

A **Resource** identifier that is unambiguous in a given context (e.g. a URI).

Resource

Anything.

ResourceType

A genre, functional category, or aggregation level.

RightsStatement

A statement about the intellectual property rights (IPR) held in or over a **NonAgentResource**, a license detailing the terms of its use, or a statement about access rights.

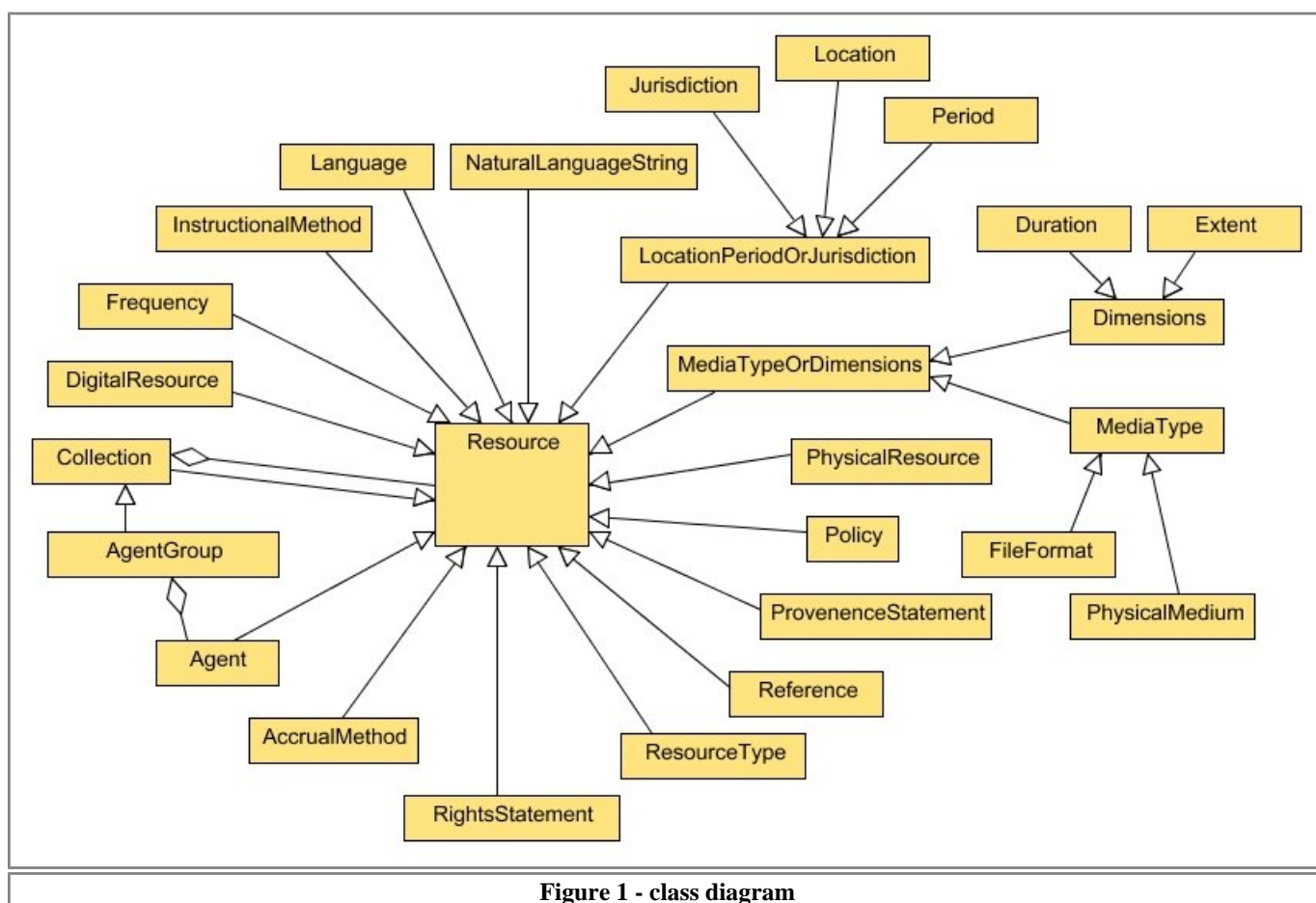


Figure 1 - class diagram

The relationships between the classes associated with the DC Format property are particularly complex and are shown in more detail below.

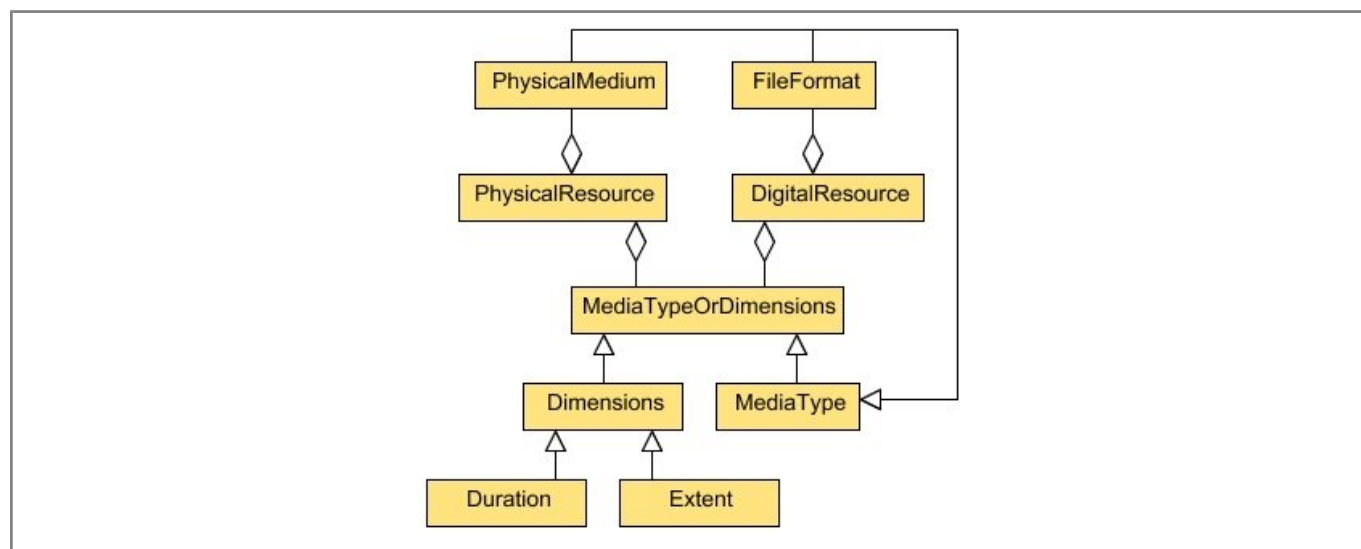


Figure 2 - classes related to DC Format

Domains and ranges of DC properties

The Dublin Core Metadata Element Set

contributor

URI: <http://purl.org/dc/elements/1.1/contributor>

Definition: An entity responsible for making contributions to the content of the resource.

Comment: Examples of a Contributor include a person, an organisation, or a service. Typically, the name of a Contributor should be used to indicate the entity.

Domain: **Resource**

Range: **Agent**

coverage

URI: <http://purl.org/dc/elements/1.1/coverage>

Definition: The extent or scope of the content of the resource.

Comment: Coverage will typically include spatial location (a place name or geographic coordinates), temporal period (a period label, date, or date range) or jurisdiction (such as a named administrative entity). Recommended best practice is to select a value from a controlled vocabulary (for example, the Thesaurus of Geographic Names [TGN]) and that, where appropriate, named places or time periods be used in preference to numeric identifiers such as sets of coordinates or date ranges.

References: [TGN] <http://www.getty.edu/research/tools/vocabulary/tgn/index.html>

Domain: **Resource**

Range: **LocationPeriodOrJurisdiction**

creator

URI: <http://purl.org/dc/elements/1.1/creator>

Definition: An entity primarily responsible for making the content of the resource.

Comment: Examples of a Creator include a person, an organisation, or a service. Typically, the name of a Creator should be used to indicate the entity.

Domain: **Resource**

Range: **Agent**

date

URI: <http://purl.org/dc/elements/1.1/date>

Definition: A date associated with an event in the life cycle of the resource.

Comment: Typically, Date will be associated with the creation or availability of the resource. Recommended best practice for encoding the date value is defined in a profile of ISO 8601 [W3CDTF] and follows the YYYY-MM-DD format.

References: [W3CDTF] <http://www.w3.org/TR/NOTE-datetime>

Domain: **Resource**

Range: **Period**

description

URI: <http://purl.org/dc/elements/1.1/description>

Definition: An account of the content of the resource.

Comment: Description may include but is not limited to: an abstract, table of contents, reference to a graphical representation of content or a free-text account of the content.

Domain: **Resource**

Range: **NonAgentResource**

format

URI: <http://purl.org/dc/elements/1.1/format>

Definition: The physical or digital manifestation of the resource.

Comment: Typically, Format may include the media-type or dimensions of the resource. Format may be used to determine the software, hardware or other equipment needed to display or operate the resource. Examples of dimensions include size and duration. Recommended best practice is to select a value from a controlled vocabulary (for example, the list of Internet Media Types [MIME] defining computer media formats).

References: [MIME] <http://www.iana.org/assignments/media-types/>

Domain: **Resource**

Range: **MediaTypeOrDimensions**

identifier

URI: <http://purl.org/dc/elements/1.1/identifier>

Definition: An unambiguous reference to the resource within a given context.

Comment: Recommended best practice is to identify the resource by means of a string or number conforming to a formal identification system. Example formal identification systems include the Uniform Resource Identifier (URI) (including the Uniform Resource Locator (URL)), the Digital Object Identifier (DOI) and the International Standard Book Number (ISBN).

Domain: **Resource**

Range: **Reference**

language

URI: <http://purl.org/dc/elements/1.1/language>

Definition: A language of the intellectual content of the resource.

Comment: Recommended best practice is to use RFC 3066 [RFC3066], which, in conjunction with ISO 639 [ISO639], defines two- and three-letter primary language tags with optional subtags. Examples include "en" or "eng" for English, "akk" for Akkadian, and "en-GB" for English used in the United Kingdom.

References: [RFC3066] <http://www.ietf.org/rfc/rfc3066.txt>

References: [ISO639] <http://www.loc.gov/standards/iso639-2/>

Domain: **Resource**

Range: **Language**

publisher

URI: <http://purl.org/dc/elements/1.1/publisher>

Definition: An entity responsible for making the resource available

Comment: Examples of a Publisher include a person, an organisation, or a service. Typically, the name of a Publisher should be used to indicate the entity.

Domain: **Resource**

Range: **Agent**

relation

URI: <http://purl.org/dc/elements/1.1/relation>

Definition: A reference to a related resource.

Comment: Recommended best practice is to reference the resource by means of a string or number conforming to a formal identification system.

Domain: **Resource**

Range: **Resource**

rights

URI: <http://purl.org/dc/elements/1.1/rights>

Definition: Information about rights held in and over the resource.

Comment: Typically, a Rights element will contain a rights management statement for the resource, or reference a service providing such information. Rights information often encompasses Intellectual Property Rights (IPR), Copyright, and various Property Rights. If the Rights element is absent, no assumptions can be made about the status of these and other rights with respect to the resource.

Domain: **Resource**

Range: **RightsStatement**

source

URI: <http://purl.org/dc/elements/1.1/source>

Definition: A reference to a resource from which the present resource is derived.

Comment: The present resource may be derived from the Source resource in whole or in part. Recommended best practice is to reference the resource by means of a string or number conforming to a formal identification system.

Domain: **Resource**

Range: **Resource**

subject

URI: <http://purl.org/dc/elements/1.1/subject>

Definition: The topic of the content of the resource.

Comment: Typically, a Subject will be expressed as keywords, key phrases or classification codes that describe a topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme.

Domain: **Resource**

Range: **Resource**

title

URI: <http://purl.org/dc/elements/1.1/title>

Definition: A name given to the resource.

Comment: Typically, a Title will be a name by which the resource is formally known.

Domain: **Resource**

Range: **NaturalLanguageString**

type

URI: <http://purl.org/dc/elements/1.1/type>

Definition: The nature or genre of the content of the resource.

Comment: Type includes terms describing general categories, functions, genres, or aggregation levels for content. Recommended best practice is to select a value from a controlled vocabulary (for example, the DCMI Type Vocabulary [DCMITYPE]). To describe the physical or digital manifestation of the resource, use the Format element.

References: [DCMITYPE] <http://dublincore.org/documents/dcmi-type-vocabulary/>

Domain: **Resource**

Range: **ResourceType**

Other Elements and Element Refinements

abstract

URI: <http://purl.org/dc/terms/abstract>

Definition: A summary of the content of the resource.

Refines: <http://purl.org/dc/elements/1.1/description>

Domain: **Resource**

Range: **NaturalLanguageString**

accessRights

URI: <http://purl.org/dc/terms/accessRights>

Definition: Information about who can access the resource or an indication of its security status.

Comment: Access Rights may include information regarding access or restrictions based on privacy, security or other regulations.

Refines: <http://purl.org/dc/elements/1.1/rights>

Domain: **Resource**

Range: **RightsStatement**

accrualMethod

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

Definition: The method by which items are added to a collection.

Comment: Recommended best practice is to use a value from a controlled vocabulary.

Domain: **Collection**

Range: **AccrualMethod**

accrualPeriodicity

URI: <http://purl.org/dc/terms/accrualPeriodicity>

Definition: The frequency with which items are added to a collection.

Comment: Recommended best practice is to use a value from a controlled vocabulary.

Domain: **Collection**

Range: **Frequency**

accrualPolicy

URI: <http://purl.org/dc/terms/accrualPolicy>

Definition: The policy governing the addition of items to a collection.

Comment: Recommended best practice is to use a value from a controlled vocabulary.

Domain: **Collection**

Range: **Policy**

alternative

URI: <http://purl.org/dc/terms/alternative>

Definition: Any form of the title used as a substitute or alternative to the formal title of the resource.

Comment: This qualifier can include Title abbreviations as well as translations.

Refines: <http://purl.org/dc/elements/1.1/title>

Domain: **Resource**

Range: **NaturalLanguageString**

audience

URI: <http://purl.org/dc/terms/audience>

Definition: A class of entity for whom the resource is intended or useful.

Comment: A class of entity may be determined by the creator or the publisher or by a third party.

Domain: **Resource**

Range: **AgentGroup**

available

URI: <http://purl.org/dc/terms/available>

Definition: Date (often a range) that the resource will become or did become available.

Refines: <http://purl.org/dc/elements/1.1/date>

Domain: **Resource**

Range: **Period**

bibliographicCitation

URI: <http://purl.org/dc/terms/bibliographicCitation>

Definition: A bibliographic reference for the resource.

Comment: Recommended practice is to include sufficient bibliographic detail to identify the resource as unambiguously as possible, whether or not the citation is in a standard form.

Refines: <http://purl.org/dc/elements/1.1/identifier>

Domain: **Resource**

Range: **Reference**

conformsTo

URI: <http://purl.org/dc/terms/conformsTo>

Definition: A reference to an established standard to which the resource conforms.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

created

URI: <http://purl.org/dc/terms/created>

Definition: Date of creation of the resource.

Refines: <http://purl.org/dc/elements/1.1/date>

Domain: **Resource**

Range: **Period**

dateAccepted

URI: <http://purl.org/dc/terms/dateAccepted>

Definition: Date of acceptance of the resource (e.g. of thesis by university department, of article by journal, etc.).

Refines: <http://purl.org/dc/elements/1.1/date>

Domain: **Resource**

Range: **Period**

dateCopyrighted

URI: <http://purl.org/dc/terms/dateCopyrighted>

Definition: Date of a statement of copyright.

Refines: <http://purl.org/dc/elements/1.1/date>

Domain: **Resource**

Range: **Period**

dateSubmitted

URI: <http://purl.org/dc/terms/dateSubmitted>

Definition: Date of submission of the resource (e.g. thesis, articles, etc.).

Refines: <http://purl.org/dc/elements/1.1/date>

Domain: **Resource**

Range: **Period**

educationLevel

URI: <http://purl.org/dc/terms/educationLevel>

Definition: A general statement describing the education or training context. Alternatively, a more specific statement of the location of the audience in terms of its progression through an education or training context.

Refines: <http://purl.org/dc/terms/audience>

Domain: **Resource**

Range: **AgentGroup**

Note: proposed range is in line with desire for educationLevel to be a sub-property of audience BUT it doesn't fit with the current wording of the definition.

extent

URI: <http://purl.org/dc/terms/extent>

Definition: The size or duration of the resource.

Refines: <http://purl.org/dc/elements/1.1/format>

Domain: **Resource**

Range: **Extent**

hasFormat

URI: <http://purl.org/dc/terms/hasFormat>

Definition: The described resource pre-existed the referenced resource, which is essentially the same intellectual content presented in another format.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

hasPart

URI: <http://purl.org/dc/terms/hasPart>

Definition: The described resource includes the referenced resource either physically or logically.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

hasVersion

URI: <http://purl.org/dc/terms/hasVersion>

Definition: The described resource has a version, edition, or adaptation, namely, the referenced resource.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

instructionalMethod

URI: <http://purl.org/dc/terms/instructionalMethod>

Definition: A process, used to engender knowledge, attitudes and skills, that the resource is designed to support.

Comment: Instructional Method will typically include ways of presenting instructional materials or conducting instructional activities, patterns of learner-to-learner and learner-to-instructor interactions, and mechanisms by which group and individual levels of learning are measured. Instructional methods include all aspects of the instruction and learning processes from planning and implementation through evaluation and feedback.

Domain: **Resource**

Range: **InstructionalMethod**

isFormatOf

URI: <http://purl.org/dc/terms/isFormatOf>

Definition: The described resource is the same intellectual content of the referenced resource, but presented in another format.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

isPartOf

URI: <http://purl.org/dc/terms/isPartOf>

Definition: The described resource is a physical or logical part of the referenced resource.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

isReferencedBy

URI: <http://purl.org/dc/terms/isReferencedBy>

Definition: The described resource is referenced, cited, or otherwise pointed to by the referenced resource.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

isReplacedBy

URI: <http://purl.org/dc/terms/isReplacedBy>

Definition: The described resource is supplanted, displaced, or superseded by the referenced resource.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

isRequiredBy

URI: <http://purl.org/dc/terms/isRequiredBy>

Definition: The described resource is required by the referenced resource, either physically or logically.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

issued

URI: <http://purl.org/dc/terms/issued>

Definition: Date of formal issuance (e.g., publication) of the resource.

Refines: <http://purl.org/dc/elements/1.1/date>

Domain: **Resource**

Range: **Period**

isVersionOf

URI: <http://purl.org/dc/terms/isVersionOf>

Definition: The described resource is a version, edition, or adaptation of the referenced resource. Changes in version imply substantive changes in content rather than differences in format.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

license

URI: <http://purl.org/dc/terms/license>

Definition: A legal document giving official permission to do something with the resource.

Comment: Recommended best practice is to identify the license using a URI. Examples of such licenses can be found at <http://creativecommons.org/licenses/>.

Refines: <http://purl.org/dc/elements/1.1/rights>

Domain: **Resource**

Range: **RightsStatement**

mediator

URI: <http://purl.org/dc/terms/mediator>

Definition: A class of entity that mediates access to the resource and for whom the resource is intended or useful.

Comment: The audiences for a resource are of two basic classes: (1) an ultimate beneficiary of the resource, and (2) frequently, an entity that mediates access to the resource. The mediator element refinement represents the second of these two classes.

Refines: <http://purl.org/dc/terms/audience>

Domain: **Resource**

Range: **AgentGroup**

medium

URI: <http://purl.org/dc/terms/medium>

Definition: The material or physical carrier of the resource.

Refines: <http://purl.org/dc/elements/1.1/format>

Domain: **PhysicalResource**

Range: **PhysicalMedium**

modified

URI: <http://purl.org/dc/terms/modified>

Definition: Date on which the resource was changed.

Refines: <http://purl.org/dc/elements/1.1/date>

Domain: **Resource**

Range: **Period**

provenance

URI: <http://purl.org/dc/terms/provenance>

Definition: A statement of any changes in ownership and custody of the resource since its creation that are significant for its authenticity, integrity and interpretation.

Comment: The statement may include a description of any changes successive custodians made to the resource.

Domain: **Resource**

Range: **ProvenanceStatement**

references

URI: <http://purl.org/dc/terms/references>

Definition: The described resource references, cites, or otherwise points to the referenced resource.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

replaces

URI: <http://purl.org/dc/terms/replaces>

Definition: The described resource supplants, displaces, or supersedes the referenced resource.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

requires

URI: <http://purl.org/dc/terms/requires>

Definition: The described resource requires the referenced resource to support its function, delivery, or coherence of content.

Refines: <http://purl.org/dc/elements/1.1/relation>

Domain: **Resource**

Range: **Resource**

rightsHolder

URI: <http://purl.org/dc/terms/rightsHolder>

Definition: A person or organization owning or managing rights over the resource.

Comment: Recommended best practice is to use the URI or name of the Rights Holder to indicate the entity.

Domain: **Resource**

Range: **Agent**

spatial

URI: <http://purl.org/dc/terms/spatial>

Definition: Spatial characteristics of the intellectual content of the resource.

Refines: <http://purl.org/dc/elements/1.1/coverage>

Domain: **Resource**

Range: **Location**

tableOfContents

URI: <http://purl.org/dc/terms/tableOfContents>

Definition: A list of subunits of the content of the resource.

Refines: <http://purl.org/dc/elements/1.1/description>

Domain: **Resource**

Range: **NaturalLanguageString**

temporal

URI: <http://purl.org/dc/terms/temporal>

Definition: Temporal characteristics of the intellectual content of the resource.

Refines: <http://purl.org/dc/elements/1.1/coverage>

Domain: **Resource**

Range: **Period**

valid

URI: <http://purl.org/dc/terms/valid>

Definition: Date (often a range) of validity of a resource.

Refines: <http://purl.org/dc/elements/1.1/date>

Domain: **Resource**

Range: **Period**

The links below provide access to the UML class diagrams shown above in a form suitable for loading into [UMLet](#) (the tool that was used to create them).

- [dcam-class-hierarchy.uxf](#)
- [dcam-class-hierarchy-format.uxf](#)