DARE use of DC

DARE
Digital Academic Repositories
for the SURF programme

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Document History

Date	Version	Owner	Changelog	PDF

July 2006	Addendum	DARE	Addendum on v2.0	Download
December 2004	2.0	DARE	Second edition to be used starting from December 1 2004	Download
October 2003	1.0	DARE	First edition to be used starting from November 1 2003	Download
September 2003	0.2	DARE	Second internal version presented to project managers	
August 2003	0.1	DARE	First internal version presented to project managers	

Abstract

The abstract describes what the application profile is about. It should contain a problem definition, the standards described by the application profile and the goal of the application profile.

Acknowledgements This document is largely based on the recommendations for the use of simple Dublin Core metadata as described in: USING SIMPLE DUBLIN CORE TO DESCRIBE EPRINTS, by Andy Powell, Michael Day and Peter Cliff, UKOLN, University of Bath, Version 1.2 [see also: http://www.intute.ac.uk/publications/eprints-uk/simpledc-guidelines.html]
Definitions: "A DARE institutional repository is a facility, consisting of hardware, software, data and procedures, that contains digital resources representing any type of scientific output..." Specifications for a Networked Repository for Dutch Universities, version 3.0, p 6
"digital resources = any bit stream, independent of content or format, which has been marked as scientific output by an approved person..."
Within this document we use the word "resource" to describe the instance of scientific output, and the word "object" to refer to the digital bit stream.

Introductory remarks

Scope These guidelines are written primarily to facilitate the exchange of metadata between Dare partners and exchange with non-Dare partners, in compliance with the OAI-PMH definitions as distributed by DCMI. Basically these guidelines describe the **mapping** from an internal E. g. a Dare partner might use Marc 21 as internal format format to unqualified DC to support harvesting. The guidelines are **not to be used as cataloguing instructions**.
Within Dare we use unqualified DC (oai_dc).
Use of qualified DC (dare_qdc) is encouraged. Only those refinements that have been added by DCMI are to be used as refinements within Dare. These refinements have also been added in the text of the guidelines below. If a Dare partner has implemented any other (not DCMI endorsed) elements or refinements, he is obliged to eliminate these elements from the metadata during the harvesting process.
Dare partners will implement two XML schemas: one for unqualified DC for OAI compatible harvesting within the Dare community as well as outside the DARE community. Also a XML scheme will be presented for qualified DC for use within Dare.
Language of the metadata is at the discretion of the local Dare partner.
The use of **Unicode** is mandatory.
Only one metadata record should be used for different **versions** of a digital object (e.g. a postscript and a pdf version), unless the intellectual content of the versions is different. The rule of thumb is to create a new metadata record when the metadata of a version is different. This happens for instance when a new version of the resource with modifications is created and in that case recommended best practice is to use the relation element to link the newer version to the older.

In some cases (DC element 'subject' and 'type') **additional information** may be useful for the harvesting party and service provider. A DARE compliant data provider releases this type of information via the 'Identify request' - on IR level; not on the metadata level.
See for instance: **3. Guidelines for Optional Containers** at:
http://www.openarchives.org/OAI/2.0/guidelines.htm and: http://arXiv.org/oai2?verb=Identify as well as: http://doc.utwente.nl/oai/ir?verb=Identify for best practices. Additional information can also be given in the form of textual documentation about the use metadata elements subject and type, e.g. to give information on the local classification or keywords, or information on local review policies.
The **values** (i.e. actual content) of the elements given below must not contain any HTML (or XML) markup. They may contain LaTeX commands, but there is no mechanism for explicitly indicating that LaTeX is being used.
Within DARE the **use of elements** is either:

- mandatory = the element must always be present in the metadata record
- mandatory when applicable = when the element can be obtained it should be added to the metadata record (this refers more to the input of metadata, not so much to the harvesting)
- recommended = the use of the element is recommended
- optional = it is not important whether the element is used or not

The "mandatory when applicable" status is stronger then the recommended one and this distinction is made primarily to encourage users to input certain elements when creating a metadata record to enhance services.

Some words on the use of **refinements (qualifiers)**. When mapping to unqualified DC the IR manager has to make choices when the internal format is "richer" than unqualified DC. This means that during the mapping process all refinements are simply dropped (the DCMI dumb down principle). The effect of the dumb down principle is that the simple form of the element, i.e. without the refinement, is the default one. E.g. when the internal format distinguishes between main title and parallel title this would show as follows in DC:

Internal format
245 $aMain title$pParallel title

Qualified DC
<dc:title>Main title</dc:title>
<dcterms:alternative>Parallel title</dcterms:alternative>

Simple DC
<dc:title>Main title, Parallel title </dc:title>

However, within DARE the following values are selected as the default values for simple oai_dc
dc:descriptiondefault "abstract"
dc:date ->default "created"
dc:relation->no default
dc:coverage-> no default
dc:rights-> no default
dc:audience->default: "education level"

Within DARE this means that the date element always pertains to the date created etc. It is advised that all DARE repositories supply this information to external harvesters as information about their repository.

Second edition: major changes

As per 1/1/05 all DARE repositories are required to support oai_dc and are free to use dare_qdc. Harvesting within DARE will be based upon oai_dc.

Most important new or changed guidelines in oai_dc

- **dc:identifier**: In case of one object file **dc:identifier** contains a link (uri) to the object file OR to a jump off page. In case of more then one related object files, **dc:identifier** contains a link (uri) to a jump off page. Jump off pages must also be used when linking to a pre- or postprint, HTML version or any other situation where additional info must be given to the user.
- **dc:creator**: use: inverted name, so: surname, forename, prefix
- **dc:format**: URL in dc:format -> deleted
- **dc:source**: Reference to journal in dc:source -> changed in conformity with bibliographic citation guidelines in dc:identifier and dc:relation.
- **dc:title**: subject headings from title when absent -> deleted
- Subject headings mandatory -> changed into mandatory when applicable (MA)
- **dc:type**: "Letter to editor" is separated from the value "Article"
- **dc:language**: use of ISO 639-1 instead of ISO 639-2
- **dc:type**: the optional use of dc:type; specifically: the reviewed status of the resource (Reviewed / NonReviewed) and the status of the resource (Draft / Final) are no longer supported.
- **General remark**: for dumb down purposes (for instance for mapping from dare_qdc to oai_dc) the default values for oai_dc are given. See below in the short element description (oai_dc).

Most important new or changed guidelines in dare_qdc

- Correction of minor errors.
- Addition of DCMI texts from official DCMI documentation on Dublin Core and its refinements. Used document: DCMI metadata terms, version 2004-06-14 (http://www.dublincore.org/documents/dcmi-terms/#H2).

The Elements: short description

Simple DC:oai_dc

Basic element	Status	Encoding schemes

Title	M	None
Creator	M	None
Subject	MA	Choice of keywords and classifications is free
Description	MA	None "Abstract" is the default value for dc:description
Publisher	MA	None
Contributor	O	None
Date	M	Date | ISO 8601 W3C-DTF "Created" is the default value for dc:date
Type	M	METIS-list with additional DCMI types.
Format	R	IANA list of MIME types
Identifier	M	URI
Source	O	None
Language	R	ISO 639-1
Relation	R	none
Coverage	O	Period
Rights	M	None
Audience	O	None

If no defaults are mentioned in the oai_dc elements, please describe the specific use of the oai_dc elements in the Identify section of your IR. See for instance: **3. Guidelines for Optional Containers** at:
http://www.openarchives.org/OAI/2.0/guidelines.htm and: http://arXiv.org/oai2?verb=Identify as well as: http://doc.utwente.nl/oai/ir?verb=Identify for best practices.
Qualified DC:oai_dc

Basic element	Refinement	Status	Encoding schemes
Title	-	M	None
	Alternative	MA	
Creator	-	M	None
Subject	GOO, NBC, LCSH, MESH, DDC, LCC, UDC, LOCAL	MA	Choice of keywords and classifications is free. Use refinements when appropriate.
Description	-	MA	None
	TableOfContents	R	
	Abstract	R	
Publisher	-	MA	None
Contributor	-	O	None
Date	- dateAccepted dateCopyrighted Created Valid Available Issued Modified dateSubmitted	M R R R R R R R R	Date | ISO 8601 W3C-DTF Created is default in mapping

Type	-	M	METIS-list with additional DCMI types.
Format	- Extent Medium	R R R	IANA list of MIME types
Identifier	- Bibl. citation	M R	URI
Source	-	O	None
Language	-	R	ISO 639-1
Relation	- Isversionof Hasversion Replacedby Replaces Requiredby Requires Ispartof Haspart Isreferredby References Isformatof hasFormat Conformsto	R R R R R R R R R R R R R R	None
Coverage	- Spatial Temporal	O R R	Point ISO 3166 Box TGN Period
Rights	- Access rights License Rights holder	M MA O O	None
Audienc	- Mediator Education level	O O O	None

The Elements: full description

This section lists each of the Dublin Core elements. For each element the authoritative definitions and comments (except usage mandatory /optional etc, which is DARE specific) from the Dublin Core Metadata Initiative are given, followed by a DARE-specific user instruction derived form the UKOLN usage guidelines.

Title

Element name	Title
DCMI definition	A name given to the resource. Typically, a Title will be a name by which the resource is formally known.
Usage	Mandatory
User instruction	Preserve the original wording, order and spelling of the resource title. Only capitalize proper nouns. Punctuation need not reflect the usage of the original. Subtitles should be separated from the title by a colon. If necessary, repeat this element for multiple titles.

Do not confuse with	-
Refinements	Alternative (Mandatory if present). [DCMI:]Any form of the title used as a substitute or alternative to the formal title of the resource. This qualifier can include Title abbreviations as well as translations.
Examples	**Qualified DC** <dc:title>Main title</dc:title> <dcterms:alternative>Parallel title</dcterms:alternative> <dc:title> Tractatus logico-philosophicus</dc:title> <dcterms:alternative>Logisch-philosophische Abhandlung</dcterms:alternative> **Simple DC** <dc:title>Main title, Parallel title </dc:title> <dc:title>Preliminary studies for the "Philosophical Investigations", generally known as the blue and brown books </dc:title>
Scheme	Not applicable

Creator

Element name	Creator
DCMI definition	An entity primarily responsible for making the content of the resource. Typically, the name of a Creator should be used to indicate the entity.
Usage	Mandatory
User instruction	Examples of a Creator include a person, an organization, or a service. If necessary, repeat this element for multiple authors. Personal names should be listed surname or family name first, followed by forename or given name or initial followed by a full stop. Separate the surname (or family name) from the forenames, given names or initials with a comma. Generational suffixes (Jr., Sr., etc.) should follow the family name. When in doubt, give the name as it appears, and do not invert. Omit titles (like "dr", "ir" etc.) Use *inverted name*, so: surname, forename, prefix <dc:creator> Janssen, J. </dc:creator> When initial and full name are both available use this formatting: <dc:creator> Janssen, J. (John)</dc:creator> In the case of organizations where there is clearly a hierarchy present, list the parts of the hierarchy from largest to smallest, separated by full stops. If it is not clear whether there is a hierarchy present, or unclear which is the larger or smaller portion of the body, give the name as it appears in the resource. Only encode organisations in this element to indicate corporate authorship, not to indicate the affiliation of an individual. The inclusion of personal and corporate name headings from authority lists constructed according to local or national thesaurus files is optional. In cases of lesser responsibility, other than authorship, use dc:contributor. If the nature of the responsibility is ambiguous, recommended best practice is to use dc:publisher for organizations, and dc:creator for individuals.
Do not confuse with	Contributor (see also *User instruction* above). Publisher. The DC element 'creator' describes the name(s) of the creator(s) of the resource, as mentioned in the resource, whereas the DC element 'contributor' describes the scientist(s) that has/have made contributions to the given scientific output, not as a primary creator or (commercial) publisher.
Refinements	-

Examples	<dc:creator>Sulston, John E.</dc:creator> <dc:creator>Evans, R.J.</dc:creator> <dc:creator>Walker Jnr., John</dc:creator> <dc:creator>International Human Genome Sequencing Consortium</dc:creator> <dc:creator>Loughborough University. Department of Computer Science</dc:creator>
Scheme	Not applicable

Subject

Element name	Subject
DCMI definition	The topic of the resource. Typically, a *Subject* will be expressed as keyword, key phrases or classification codes that describe the intellectual content of the resource.
Usage	Mandatory when applicable
User instruction	In the DC subject element two kinds of values are possible. The first - the use of keywords - is mandatory. The second - the use of a classification - is optional. Use the first occurrence of the DC element 'subject' for a keyword. In general, choose the most significant and unique words for keywords, avoiding those too general to describe a particular resource. If the subject of the resource is a person or an organization, use the same form of the name as you would if the person or organization were an author, but do not repeat the name in the dc:creator element. For free-text keywords either encode multiple terms with a semi-colon separating each keyword; or repeat the element for each term. There are no requirements regarding the capitalization of keywords though internal (within archive) consistency is recommended. Where terms are taken from a standard classification scheme: encode each term in a separate element. Encode the complete subject descriptor according to the relevant scheme. Use the capitalisation and punctuation used in the original scheme. Use a separate occurrence of the DC element 'subject' for the classification code. When appropriate use the standard DC refinements LCSH, MESH, DDC, LCC or UDC. When GOO or NBC is used use "GOO" or "NBC" as refinement. In all other cases use "LOCAL" as refinement.
Do not confuse with	Type. DC element 'subject' describes the topic(s) of an resource; DC element 'type' describes the kind of academic output the resource is a representation of.
Refinements	LCSH, MESH, DDC, LCC, UDC, GOO, NBC and LOCAL
Examples	<dc:subject>polar oceanography; boundary current; mass transport; water masses; halocline; mesoscale eddies</dc:subject> <dc:subject>World War, 1939-1945--Germany</dc:subject> <dc:subject>Germany-- History--1933-1945</dc:subject> <dc:subject>Hitler, Adolf, 1889-45</dc:subject>
Scheme	LCSH, MESH, DDC, LCC, UDC, NBC and GOO

Description

Element name	Description
DCMI definition	An account of the content of the resource. 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.

Usage	Mandatory if applicable
User instruction	This element is used for a textual description of the content. When a resource consists of several separate physical object files, do not use dc:description to list the URL's of these files.
Do not confuse with	-
Refinements	Tableofcontent (recommended) [DCMI:] A list of subunits of the content of the resource. Abstract (recommended) [DCMI:] A summary of the content of the resource.
Examples	<dc:description>Inleiding; 5 hoofdstukken over geschiedenis; 2 hoofdstukken met praktische tips; index</dc:description> <dcterms:tableofcontent>Foreword [by] Hazel Anderson; Introduction; The scientific heresy: transformation of a society; Consciousness as causal reality [etc]</dcterms:tableofcontent> <dcterms:abstract>A number of problems in quantum state and system identification are addressed. </dcterms:abstract>
Scheme	Not applicable

Publisher

Element name	Publisher
DCMI definition	An entity responsible for making the resource available. 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.
Usage	Mandatory if applicable
User instruction	The (commercial or non-commercial) publisher of the resource; not the (sub)institution the author is affiliated with. Publisher is used only in the bibliographic / functional sense, not an organisational one. Use only the full name of the given (commercial) publisher, not the name of an organization or institute that is otherwise [in a broader sense] associated with the creator. With university publications place the name of the faculty and/or research group or research school after the name of the university. In the case of organizations where there is clearly a hierarchy present, list the parts of the hierarchy from largest to smallest, separated by full stops. If it is not clear whether there is a hierarchy present, or unclear which is the larger or smaller portion of the body, give the name as it appears in the eprint. The use of publisher names from authority lists constructed according to local or national thesaurus files is optional.
Do not confuse with	• Contributor • Creator In most cases the publisher and the creator are not the same.
Refinements	-
Examples	<dc:publisher>Loughborough University. Department of Computer Science</dc:publisher> <dc:publisher>University of Cambridge. Department of Earth Sciences</dc:publisher> <dc:publisher>University of Oxford. Museum of the History of Science</dc:publisher> <dc:publisher>University of Reading. Rural History Centre</dc:publisher> <dc:publisher>University of Exeter. Institute of Cornish Studies</dc:publisher> <dc:publisher>European Bioinformatics Institute</dc:publisher> <dc:publisher>John Wiley & Sons, Inc. (US)</dc:publisher>
Scheme	Not applicable

Contributor

Element name	Contributor
DCMI definition	An entity responsible for making contributions to the content of the resource. 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.
Usage	Optional
User instruction	Examples of contributors are: a supervisor, editor, technician or data collector. Personal names should be listed as: see instructions under Creator. A "promotor", i.e. a professor supervising a student's work for a doctor's degree - is considered a contributor of a dissertation in his or her role as promotor / examiner. In the case of organizations : see instructions under Creator The inclusion of personal and corporate name headings from authority lists constructed according to local or national thesaurus files is optional.
Do not confuse with	-Creator -Publisher The DC element contributor describes the scientist(s) that has/have made contributions to the given scientific output, not as a primary creator or (commercial) publisher.
Refinements	-
Examples	<dc:contributor>Sulston, John E.</dc:contributor> <dc:contributor>Evans, R. J</dc:contributor> <dc:contributor>International Human Genome Sequencing Consortium</dc:contributor> <dc:contributor>Loughborough University. Department of Computer Science</dc:contributor>
Scheme	Not applicable

Date

Element name	Date
DCMI definition	A date associated with an event in the life cycle of the resource. 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.
Usage	Mandatory
User instruction	The date should be formatted according to the W3C encoding rules for dates and times : Complete date: YYYY-MM-DD (eg 1997-07-16) where: YYYY [four-digit year] is mandatory MM [two-digit month (01=January, etc.)] is optional DD [two-digit day of month (01 through 31)] is optional In the DC element 'date' the most notable differences occur between acting as a data provider based on basic DC unqualified and DC qualified. Where values in other DC elements could - within reason - be interpreted by the user, the values in the date element are exactly similar and context (provided by the DC refinements) is necessary to interpret the values. Based on these observations the following is stated. **Basic DC unqualified**: use the DC element 'date' for the value [of the refinement]: 'date created'. **DC qualified**: Use of all refinements is permitted / optional, depending of and according to the level of distinction the data provider can make and is willing to offer in harvesting.

Do not confuse with	-
Refinements	DateAccepted (Optional) [DCMI:] Date of acceptance of the resource (e.g. of thesis by university department, of article by journal, etc.). DateCopyrighted (Optional) [DCMI:] Date of a statement of copyright. Created (Optional) [DCMI:] Date of creation of the resource. Valid (Optional) {DCMI:] Date (often a range) of validity of a resource. Available (Optional) [DCMI:] Date (often a range) that the resource will become or did become available. Issued (Optional) [DCMI:] Date of formal issuance (e.g., publication) of the resource. Modified (Optional) [DCMI:] Date on which the resource was changed. DateSubmitted (Optional) [DCMI:] Date of submission of the resource (e.g. thesis, articles, etc.).
Examples	<dc:date>2000-12-25</dc:date> <dc:date>1999</dc:date> <dc:date>2003-01</dc:date>
Schema	Date | ISO 8601 W3C-DTF see: http://www.w3.org/TR/NOTE-datetime

Type

Element name	Type
DCMI definition	The type of scientific output the resource is a manifestation of. In the DC element type the kind of dissemination, or the intellectual and/or content type of the resource is described. It is used to explain to the user what kind of resource he is looking at. Is it a book or an article. Was it written for internal or external use. Etc.
Usage	Mandatory. In every metadata record one DC element 'type' should be used.

User instruction	Use the first occurrence of the DC element 'type' for the *type* indication of the scientific output. The list shown below is identical with the list used within the Metis application. Repeat if applicable. Use the text, not the numbers. 1. Annotation 2. Article / Letter to editor 3. Article in monograph or in proceedings 4. Book (monograph) 5. Book review 6. Book editorial 7. Collection 8. Commission report or memorandum 9. Conference lecture 10. Conference report 11. Contribution for newspaper or weekly magazine 12. Dataset 13. Dissertation 14. Documentation for grant request 15. Educational material 16. Event 17. External research report 18. Inaugural lecture 19. Interactive resource 20. Internal report 21. Newsletter 22. Newspaper article 23. Part of book or chapter of book 24. Patent 25. Physical resource 26. Preprint 27. Report for financing agency (grants) 28. Research paper 29. Service 30. Set of images 31. Software 32. Sound 33. Statistical report 34. Still image (photo, video, movie) 35. Student thesis 36. Technical documentation 37. Working material
Do not confuse with	Format DC element 'type' describes the kind of academic output the resource is a representation of. DC element 'format' describes the media type of this resource.
Refinements	-
Examples	<dc:type>preprint</dc:type>
Scheme	• Metis - Publication types See about Metis: http://metis.hosting.kun.nl/metis/default.cfm?i=aboutmetis See Metis Guide: Metis Guide (PDF): http://aptest.uci.kun.nl/metis/service/attach_document.cfm?docu=metisguide.pdf&dir=handleidingen DCMI Type description: http://dublincore.org/documents/dcmi-type-vocabulary/

Format

Element name	Format

DC MI defi niti on	The physical or digital manifestation of the resource. 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).
Usa ge	Recommended

Use r inst ruct ion	The DC element 'format' is used in order to give DARE partners the necessary context to base services on. A DARE partner can selectively harvest those records that link to resources that use or operate on software, hardware or other equipment that is supported by the DARE partner's institute.
	
	More than one object linked to one specific resource.
	If one specific resource (an instance of scientific output) has more then one physical formats (e.g. postscript and pdf) stored as different object files, all formats are mentioned in the DC element 'format', for example:
	
	<dc:format>application/pdf</dc:format>
	<dc:format>application/postscript</dc:format>
	
	Based on best practice, the IANA registered list of Internet Media Types (MIME types) is used to select a term from. A subset of this MIME type list will suffice for DARE purposes.
	Type Subtype
	-- --
	text plain
	                       richtext
	                       enriched
	                       tab-separated-values
	                       html
	                       sgml
	                       xml
	
	application octet-stream
	                       postscript
	                       rtf
	                       applefile
	                       mac-binhex40
	                       wordperfect5.1
	                       pdf
	                       zip
	                       macwriteii
	                       msword
	                       sgml
	                       ms-excel
	                       ms-powerpoint
	                       ms-project
	                       ms-works
	
	image jpeg
	                       gif
	                       tiff
	                       png
	                       jpeg2000
	                       sid
	
	audio wav
	                       mp3
	
	video quicktime
	                       mpeg1
	                       mpeg2
	                       mpeg3
	                       avi

Do not con fus e with	Type DC element 'format' describes the media type of this resource. DC element 'type' describes the kind of academic output the resource is a representation of.

Refinements	Extent (Optional) [DCMI:] The size or duration of the resource. E.g. number of pages of an article. Medium (Optional) [DCMI:] The material or physical carrier of the resource.
Examples	\<dc:format>application/pdf\</dc:format> \<dc:format>video/quicktime\</dc:format>
Scheme	the IANA registered list of Internet Media Types (MIME types) http://www.iana.org/assignments/media-types/

Identifier

Element name	Identifier
DCMI definition	An unambiguous reference to the resource within a given context.
Usage	Mandatory
User instruction	Use an URI to point to the resource (metadata). If the metadata record has one related object file, then **dc:identifier** contains a link (uri) to the object file OR to a jump off page. If the metadata record has more than one related object files, then **dc:identifier** contains a link (uri) to a jump off page. Jump off pages must also be used when linking to a pre- or postprint, HTML version or any other situation where additional info must be given to the user.
Do not confuse with	dc:source and dc:relation
Refinements	

Example	Open URL syntax example: http://sfx.leidenuniv.nl:9003/sfx_local?sid=SilverPlatter:MEDS&isbn=&atitle=Future%20training%20needs%20in%20the%20pharmaceutical%20sciences%3a%20academia%20--%20industry%2e&title=European-journal-of-pharmaceutical-sciences-official-journal-of-the-European-Federation-for-Pharmaceutical-Sciences&issn=0928-0987&date=2001&volume=12&issue=4&spage=347&pid=%3CAN%3E11231100%3C/AN%3E%3CAU%3EBreimer%2c-D-D%3C/AU%3E where 'openurl' represents the 'base url'-part and 'sid' the 'source id'-part. The Open url points to the services window of the open url resolver, in the example: the SFX services window. In the open url approach one cannot point to the object itself. The handle system used in DSpace for example also points to a jump off page. See for instance: http://hdl.handle.net/1765/1473 On this page the url to the object can also be found: https://ep.eur.nl/retrieve/3344/ERS+2004+058+LIS.pdf but there is not a necessarily nor intrinsic relation between the two URIs. Also a doi can be used as an uri-- see for instance: doi:10.1016/j.jcss.2003.10.001
Scheme	Dcterms
Further information	Open URL: See also: http://library.caltech.edu/openurl/ handle: http://www.handle.net DOI: http://www.doi.org/

Example of a Dublin Core Description of a Journal Article: dare_qdc

Property	Encoding Scheme	Value
dc:title		Studying E-Journal User Behavior Using Log Files
dc:creator		Yu, L.
dc:creator		Apps, A.
dc:subject	dcterms:DDC	020
dc:subject	dcterms:LCC	Z671
dc:publisher		Elsevier
dc:type	dcterms:DCMIType	Text
dcterms:issued	dcterms:W3CDTF	2000
dcterms:isPartOf	dcterms:URI	urn: ISSN:0740-8188
dcterms:bibliographicCitation		Library and Information Science Research 22(3), 311-338. (2000)

For oai_dc repeat dc:subject and dc:type and describe in the order in which oai_dc elements are used in the Identify section of your IR. See for instance: http://arXiv.org/oai2?verb=Identify for best practice.

Source

Element name	Source

DCMI definition	A reference to a resource from which the present resource is derived.
Usage	Optional
User instruction	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. Best practice: Use only when the described resource is the result of digitization of non-digital originals. Otherwise, use Relation. Use: Guidelines for Encoding Bibliographic Citation Information in Dublin Core Metadata (http://epub.mimas.ac.uk/DC/dc-citation-guidelines/) For bibliographic citations for journal articles and for bibliographic citations for a resource within its own metadata
Do not confuse with	dc:relation and dc:identifier
Refinements	Bibl. Citation (Optional) [DCMI:] A bibliographic reference for the resource.
Example	<dc:source>Ecology Letters (1461023X) vol.4 (2001)</dc:source> <dc:source>ISSN: 0928-0987</dc:source>
Scheme	ISSN, ISBN

Language

Element name	Language
DCMI definition	A language of the intellectual content of the resource.
Usage	Recommended
User instruction	A specific resource (an instance of scientific output) is either written in one human readable language or more. In these cases all used languages are used in the DC element 'language'. If a specific resource (an instance of scientific output) is written in one human readable language and is translated into other human readable languages, these translations are distinguished from the original version and therefore described separately. Best Practice: we use Arent Bosman (Delft University of Technology) pointed out the W3.org rule for the correct "Choice of language tag". ISO 639-1 and by doing so we follow: http://www.w3.org/International/questions/qa-lang-2or3.html where is stated: Rule 2 in Section 2.3, Choice of language tag, in RFC 3066, says: "When a language has both an ISO 639-1 2-character code and an ISO 639-2 3-character code, you MUST use the tag derived from the ISO 639-1 2-character code." ISO 639-1 is the alpha-2 code. Multiple codes for the same language are to be considered synonyms. <dc:language>en</dc:language> If necessary, repeat this element to indicate multiple languages. Mandatory value for the Dutch language [ISO 639-1]: "nl".
Do not confuse with	-

Refinements	-
Examples	<dc:language>en</dc:language> <dc:language>nl</dc:language>
Scheme	ISO 639-1 and ISO 639-2, see: http://www.loc.gov/standards/iso639-2/englangn.html RFC 1766 RFC 3066

Relation

Element name	Relation
DCMI definition	The reference to a related resource.
Usage	Recommended
User instruction	Recommended best practice is to reference the resource by means of a string or number conforming to a formal identification system. The DC element 'relation' can be used to indicate different kinds of relations between several metadata records If relations between metadata records are made visible by using metadata the following holds for the distinction between versions. • A metadata record is self-contained • Different manifestations of one and the same resource (an instance of scientific output) [that can be described with exactly the same bibliographic metadata, except for the DC element 'format'] are linked to one single metadata record • Changes in the metadata other than the DC element 'format' leads to creating a new metadata record of this new instance of scientific output, which is meets all requirements formulated in this document and has a value in the DC element 'relation', with one of the refinements below, e.g.: <dcterms:hasversion>uri previousversion</dcterms:hasversion> where uri previous version is the value of the DC element 'identifier' of the referenced (previous) metadata record.
Do not confuse with	dc:identifier and dc:source.
Refinements	Isversionof (recommended) [DCMI:] 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. Hasversion (recommended) [DCMI:] The described resource has a version, edition, or adaptation, namely, the referenced resource. Replacedby (recommended) [DCMI:] The described resource is supplanted, displaced, or superseded by the referenced resource. Replaces (recommended) [DCMI:] The described resource supplants, displaces, or supersedes the referenced resource. Requiredby (recommended) [DCMI:] The described resource is required by the referenced resource, either physically or logically. Requires (recommended) [DCMI:} The described resource requires the referenced resource to support its function, delivery, or coherence of content. Ispartof (recommended) [DCMI:] The described resource is a physical or logical part of the referenced resource. Haspart (recommended) [DCMI:] The described resource includes the referenced resource either physically or logically. Isreferredby (recommended) [DCMI:] The described resource is referenced, cited, or otherwise pointed to by the referenced resource. References (recommended) {DCMI:} The described resource references, cites, or otherwise points to the referenced resource. Isformatof (recommended) [DCMI:] The described resource is the same intellectual content of the referenced resource, but presented in another format. HasFormat (recommended) [DCMI:] The described resource pre-existed the referenced resource, which is essentially the same intellectual content presented in another format. Conformsto (recommended) [DCMI:] A reference to an established standard to which the resource conforms.
Example	<dc:relation:haspreviousversion>uri</dc:relation:haspreviousversion> <dc:relation:haspreviousversion>http://hdl.handle.net/1765/1473 </dc:relation:haspreviousversion> where uri is the value of the DC element 'identifier' of the referenced metadata record.

Scheme	-

Coverage

Element name	Coverage
DCMI definition	The extent or scope of the content of the resource. 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).
Usage	Optional
User instruction	Recommended best practice is to select the value from a controlled vocabulary (for example, the Getty Thesaurus of Geographic Names or TGN) and that, where appropriate, named places or time periods be used in preference to numeric identifiers as, for example, sets of co-ordinates or date ranges. If necessary, repeat this element to encode multiple locations or periods.
Do not confuse with	-
Refinements	Spatial (Optional) [DCMI:] Spatial characteristics of the intellectual content of the resource. Temporal (Optional) [DCMI:] Temporal characteristics of the intellectual content of the resource.
Examples	Example Spatial - ISO 3166 <dc: coverage >NL</dc:coverage> Example Spatial - BOX <dc: coverage > name=Western Australia; northlimit=-13.5; southlimit=-35.5; westlimit=112.5; eastlimit=129</dc:coverage> Note ad BOX: The syntax used here is provisional, and is currently under review as part of the DCMI work on recommending coordinated syntax recommendations for HTML, XML, and RDF. These recommendations and minor editorial changes in this document can be expected to take place in the near future.
Scheme	Point http://dublincore.org/documents/dcmi-point/ ISO 3166 http://www.iso.ch/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/index.html Box http://dublincore.org/documents/dcmi-box/ TGN http://www.getty.edu/research/tools/vocabulary/tgn/ Period

Rights

Element name	Rights
DCMI definition	Information about rights held in and over the resource.
Usage	Mandatory
User instruction	Typically, a Rights element will contain a rights management statement for the access or use of the object, or reference a service providing such information. Rights information often encompasses Intellectual Property Rights (IPR), Copyright, and various Property Rights.
Do not confuse with	-

Refinements	Access rights (Mandatory if formulated) [DCMI:] Information about who can access the resource or an indication of its security status. License (optional) [DCMI:] A legal document giving official permission to do something with the resource. Recommended best practice is to identify the license using a URI. Examples of such licenses can be found at http://creativecommons.org/licenses/. Rights holder (optional) [DCMI:] A person or organization owning or managing rights over the resource. Recommended best practice is to use the URI or name of the Rights Holder to indicate the entity.
Examples	<dc:rights>(c) University of Bath, 2003</dc:rights> <dc:rights>(c) Andrew Smith, 2003</dc:rights>
Scheme	-

Additional fields (in accordance with DCMI)

Audience

Element name	Audience
DCMI definition	A class of entity for whom the resource is intended or useful.
Usage	Optional
User instruction	A class of entity may be determined by the creator or the publisher or by a third party. On the U.S. Department of Education, Metadata Reference site, an example is given of audiences: http://www.ed.gov/admin/reference/index.jsp : Administrators Community Groups Counsellors Federal Funds Recipients and Applicants Librarians News Media Other Parents and Families Policymakers Researchers School Support Staff Student Financial Aid Providers Students Teachers
Do not confuse with	-
Refinements	Mediator (Optional) [DCMI:] A class of entity that mediates access to the resource and for whom the resource is intended or useful. Education level (Optional) [DCMI:] 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.
Examples	<dc: audience>Researchers</dc: audience> <dc: audience> Students </dc: audience>
Scheme	-