

# **DDF-MXD**

## **Danish Research Database**

### **Metadata Exchange Format for Documents**

**Version 1.0.0**

**8 November 2005**

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## 0. Preface to version 1

Version 1 of the exchange format for documents was developed as an initiative of the DEFF E-publishing Programme Area.

The primary motivation was to contribute to the organisation and dissemination of Danish research by establishing an infrastructure, where DDF, the Danish Research Database, automatically may harvest local research databases and institutional repositories and build a national database and search engine in an efficient and quality assured fashion.

The format may well prove useful in a number of other use-cases related to research publications and documentation.

The work started in August 2004 and has entailed analysis of the current formats of DDF and the emerging institutional repositories of Danish universities as well as the ongoing university initiative to standardise the categorisation of research documents in order to produce better research output statistics.

An XML-schema for validation is at: <http://mx.forskningsdatabasen.dk/schemas/mxd/1.0.0.0>  
The applied namespace for the schema is set to <http://mx.forskningsdatabasen.dk/mxd/1.0>  
Please note the sequence of elements in the schema must be obeyed - A helpful script for sorting can be found at <http://mx.forskningsdatabasen.dk/elementsorster>

The standards for XML and XML-schema used as basis for this document and schema is:  
- XML 1.0 : Third Edition - <http://www.w3.org/TR/2004/REC-xml-20040204/>  
- XML Schema : Second Edition (Part 1 & 2) - <http://www.w3.org/TR/xmlschema-1/> and <http://www.w3.org/TR/xmlschema-2/>

The current document metadata of the Danish Research Database will be converted to the exchange format shortly.

Similar formats for the exchange of metadata for projects, organisations and persons will follow.

The version numbering of this format follows a 3-digit numbering scheme, where digit:

1. represents a major version - an increment would require a thorough study of the new version and subsequent changes of style sheets and other programs.

Changes in major version always imply both a new release of the schema, AND a change in the namespace declaration. The new version of the schema will therefore NOT validate older documents.

2. represents a revision, which modifies some data definitions of the previous version in a way that is not necessarily backward compatible with older versions, and/or adds new elements. An increment of the revision number would most likely require the update of XSLT style sheets for presentation or similar purposes.

Changes in revision always imply both a new release of the schema, AND a change in the namespace declaration. The new version of the schema will therefore NOT validate older documents.

3. represents a minor revision, which only contains changes in wording or clarifications that do not invalidate the current schema.

An increment in minor revision number should not require update of XSLT style sheets or similar. The version number of the schema is changed, as may be the comments contained in it, but the definitions and the namespace stay the same.

Version 1.0.0,  
8 November, 2005

Mogens Sandfær, editor

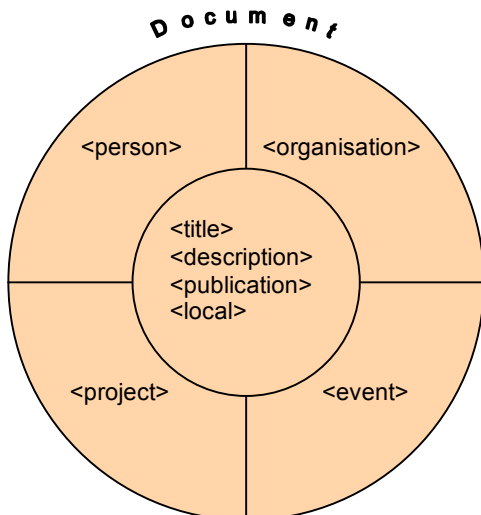
## 1. Introduction

DDF MXD, the Danish Research Database Metadata Exchange Format for Documents, is intended for the exchange of document metadata between institutional research databases (Institutional Repositories etc.) and the national index and search engine for research information, the Danish Research Database (Den Danske Forskningsdatabase - DDF).

DDF MXD has a simple yet flexible design, intended to cater equally well for the simplest minimum-level metadata as for more detailed and sophisticated cataloguing practises.

DDF MXD may be transported using OAI PMH, the Open Archives Initiative Protocol for Metadata Harvesting, and mapped to OAI DC, the simple Dublin Core format used as default in OAI PMH.

DDF MXD is organised in 8 elements, which may be broken down using sub-elements. The diagram below illustrates the data model and the 8 main elements:



The 4 elements in the centre describe the document itself

- **title**
- **description**
- **publication** information
- **local** information

The surrounding 4 elements, which may be repeated, represent entities related to the document:

- **person**
- **organisation**
- **project**
- **event**

### Title

Contains the document title and optional translated title.

### Description

Contains a variety of descriptive data types that deal with the content of the document, such as notes, abstracts, subject classifications and keywords etc.

### Publication

Contains all the information about how the document was published in the widest sense of the word, including electronic availability via personal homepages, institutional repositories and similar web sites.

### Local

Contains additional local information, which may be formatted according to local preferences.

### Person

Contains information about any person related to the creation of the document - like authors, editors, composers, publishers, illustrators etc.

**Organisation**

Contains information about any organisation related to the document, whether it be as the affiliation of an author, as a corporative author or in any other capacity of importance for the document.

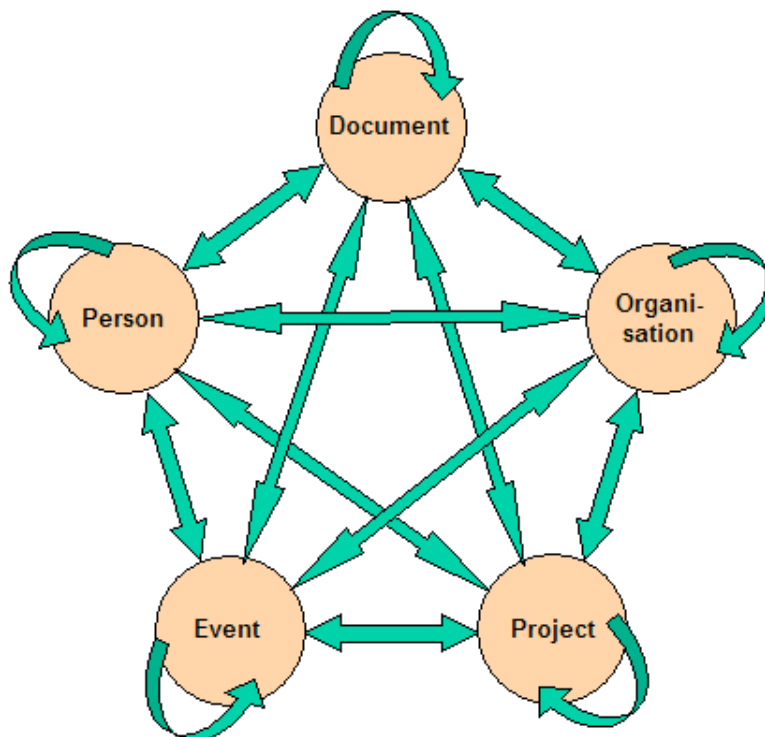
**Project**

Contains information about any project related to the document.

**Event**

Contains information about any event (conference, seminar, workshop, meeting, course, etc.) related to the document.

The Exchange Format for Documents is fully compatible with the general data model for the Danish Research Database, illustrated by the diagram below.



As DDF-MXD only serves to describe documents (one of the five DDF information objects above) it has a simple architecture with a few elements describing the document itself and four elements describing the relations to the four other information objects of the model.

Other DDF exchange formats with similar architectures are planned for projects, persons, organisations, etc.

## 2. Overview of format

The table below is only intended to provide a quick overview.

- For full details please consult to section 3.
- The numbers at the right hand side of the page refer to the notes in section 4.
- Examples illustrating the use of the format may be found in section 5.

### General specifications

- UTF-8 is mandatory character encoding for all data
- Whenever an element contains sub-elements, all data must be placed in these sub-elements, rather than in the element itself.
- An XML schema for validation can be found at <http://mx.forskningsdatabasen.dk/schemas/mxd/1.0.0.0>  
Please note the sequence of elements in the schema must be obeyed - A helpful script for sorting can be found at <http://mx.forskningsdatabasen.dk/elementsorter>
- The namespace for the schema is set to <http://mx.forskningsdatabasen.dk/mxd/1.0>

### Explanation of codes used in the first two columns of the list below

§	<b>Mandatory</b> - in all cases. Records without this element or attribute will be rejected.
(§)	<b>Mandatory</b> - when its parent element is used. In such cases, records without this element or attribute will be rejected
[§]	<b>Mandatory</b> - when its parent element is used and another specified condition is met In such cases, records without this element or attribute will be rejected
!	<b>Required</b> - whenever it applies and data is available. These elements or attributes are required to establish a fully functional DDF record, which may be successfully searched, displayed and used for statistics. They cannot, however, be made mandatory, as they do not apply in all cases (e.g. not all publications have a personal author, but if such exists it must be recorded).
+	<b>Recommended</b> - whenever it applies and data is available. These elements or attributes are recommended, as they substantially enhance the functionality and usability of the record.
?	<b>Optional</b> These elements or attributes are entirely optional. They primarily serve the needs of data suppliers that want to preserve the finer details of their local data – for example to use the DDF data as a backup copy or similar.
®	<b>Repeatable</b> The element may be repeated

## Table of elements and attributes

## Root element:

<ddf_doc>	§		
@format_version	§	Exchange format version used - "1.0.0" for current version	
@doc_type	§	Type of document	1)
@doc_lang	§	Language of document	2)
@doc_year	§	Annual report year of the document (may differ from publication year)	3)
@doc_review	§	Document review process type like "peer-review", "no review"	4)
@doc_level	§	Indicating purpose/audience like "scientific", "educational", "popular"	5)
@rec_source	§	Code of exporting database/institution	6)
@rec_id	§	Data supplier's local record ID - must be unique for supplier	
@rec_upd	§	Last update date in format yyyy-mm-dd	
@rec_status	§	Whether the record is to be considered as "new", "updated" or "deleted"	7)

## Sub-elements:

<title>	§	Title of the work in focus	
<original>	§	The title in the original language	
@xml:lang	?	Language of title	2)
<main>	§	Main title	
<sub>	! ®	Sub title	
<part>	+	Part designation of a multipart work ("Vol. 1", "Bind 1" etc)	
<other>	?	Any other title information	
<translated>	? ®	The title translated to another language	
@xml:lang	(§)	Language of title	2)
<main>	(§)	Main title	
<sub>	? ®	Sub title	
<part>	?	Part designation of a multipart work ("Vol. 1", "Bind 1" etc)	
<other>	?	Any other title information	

<description>	!		
<abstract>	! ®	Summary of content	
@xml:lang	?	Language of abstract	2)
<note>	? ®	Any descriptive note	
@xml:lang	?	Language of note	2)
<thesis>	!	Special thesis note	
<institution>	!	Name of the academic institution awarding the degree	
<advisor>	+	Name of the academic advisor/supervisor	
<aw_date>	+	Date of awarded degree in format yyyy-mm-dd	
<other>	?	Any other information	
<subject>	!	Subject description	
<keyword>	! ®		
@key_type	(§)	Vocabulary/theaurus used, like "EUDISED", "INSPEC" or "free"	8)
@xml:lang	?	Language of keyword	2)
<class>	! ®		
@class_type	(§)	Classification system used, like "DDC", "UDC", "DEF", "DK5"	9)
@xml:lang	?	Language of classification	2)

<person>	! ®	Person related to the document (in the same sequence as in document)	
@pers_role	(§)	Role of the person in relation to the document (see note)	10)
@aff_no	(§)	Reference no. of the affiliation within the record (links person to organisation)	11)
<name>	(§)		
<first>	(§)	First name (personal name) or initials	
<last>	(§)	Last name (family name)	
<id>	? ®	Identification number or code	
@id_type	(§)	Type of ID, registered with DDF - like Danish CPR no.	12)
<title>	?	Title	
<birthdate>	?	In format yyyy-mm-dd	
<country>	?	Country of citizenship using ISO country codes	13)
<address>	?	Postal address	
<email>	?	Email address	
<uri>	?	URI (URL) link to web page	

<b>&lt;organisation&gt;</b>	§ ®	Organisation related to the document, information formatted as below	14)
<b>@org_role</b>	§	Role of the organisation in relation to the document (see note)	
<b>@aff_no</b>	§	Reference no. of the affiliation within the record (links person to organisation)	11)
<b>&lt;name&gt;</b>	§ ®	Name - only repeatable in case of language variants	
<b>@xml:lang</b>	[§]	Language of organisation name (mandatory if name is repeated)	2)
<b>&lt;level1&gt;</b>	§	Name of highest organisational level (example: university)	
<b>&lt;level2&gt;</b>	!	Name of second organisational level (example: faculty)	
<b>&lt;level3&gt;</b>	!	Name of third organisational level (example: institute, department)	
<b>&lt;level4&gt;</b>	!	Name of fourth organisational level (example: section, center, division)	
<b>&lt;acronym&gt;</b>	!	Acronym	
<b>&lt;id&gt;</b>	? ®	Identification number or code	
<b>@id_type</b>	(§)	Type of ID, registered with DDF - like Danish CVR no.	12)
<b>&lt;country&gt;</b>	+	Country of legal residence using ISO country codes	13)
<b>&lt;uri&gt;</b>	?	URI (URL) link to web page	

<b>&lt;project&gt;</b>	! ®	Project related to the document, information formatted as below	15)
<b>@proj_role</b>	(§)	Role of the project in relation to the document (see note)	
<b>&lt;title&gt;</b>	(§) ®	Title - only repeatable in case of language variants	
<b>@xml:lang</b>	[§]	Language of project title (mandatory if title is repeated)	2)
<b>&lt;main&gt;</b>	(§)	Main title	
<b>&lt;sub&gt;</b>	!	Sub title	
<b>&lt;acronym&gt;</b>	!	Acronym	
<b>&lt;id&gt;</b>	? ®	Identification number or code	
<b>@id_type</b>	(§)	Type of ID, registered with DDF - like local project number	12)
<b>&lt;uri&gt;</b>	?	URI (URL) link to web page	

<b>&lt;event&gt;</b>	! ®	Event (like conference) related to the document	16)
<b>@event_role</b>	(§)	Role of the event in relation to the document (see note)	
<b>&lt;title&gt;</b>	(§) ®	Title - only repeatable in case of language variants	
<b>@xml:lang</b>	[§]	Language of the event title (mandatory if title is repeated)	2)
<b>&lt;full&gt;</b>	(§)	Full title, like "European Conference on Digital Libraries"	
<b>&lt;acronym&gt;</b>	!	Acronym title, like "ECDL"	
<b>&lt;number&gt;</b>	!	Number in series of recurrent events, like "8"	
<b>&lt;dates&gt;</b>	!		
<b>&lt;start&gt;</b>	(§)	First day of the event in format yyyy-mm-dd, or yyyy-mm, or yyyy	19)
<b>&lt;end&gt;</b>	(§)	Last day of the event in format yyyy-mm-dd, or yyyy-mm, or yyyy	19)
<b>&lt;place&gt;</b>	!	Place (city, country) of the event/conference	
<b>&lt;uri&gt;</b>	?	URI (URL) link to web page	

<b>&lt;local_field&gt;</b>	? ®	Locally defined field with optional subfield	17)
<b>@tag_type</b>	(§)	Defining if/how field should be indexed and displayed	
<b>@xml:lang</b>	?	Language of field	2)
<b>&lt;code&gt;</b>	(§)	Field code (tag) using a-z and 0-9 only	
<b>&lt;data&gt;</b>	(§)	Field data	
<b>&lt;subfield&gt;</b>	? ®	Sub tag	
<b>&lt;code&gt;</b>	(§)	Subfield code (tag) using a-z and 0-9 only	
<b>&lt;data&gt;</b>	(§)	Subfield data	



<b>&lt;publication&gt;</b>	\$	Use one (minimum) or more of the cases below	
<b>&lt;in_journal&gt;</b>	!	Use for articles, papers published in a journal (incl. proceedings issues)	
<b>@pub_status</b>	(\$)	Status of publication, like "submitted", "accepted", "published"	18)
<b>&lt;title&gt;</b>	(\$)	Journal title	
<b>&lt;issn&gt;</b>	! ®	ISSN no. without dashes	
<b>&lt;year&gt;</b>	!	Year of publication in format yyyy	
<b>&lt;vol&gt;</b>	!	Volume no.	
<b>&lt;issue&gt;</b>	!	Issue no.	
<b>&lt;pages&gt;</b>	!	In the format Firstpage-Lastpage (when Paper ID, the number of pages)	
<b>&lt;paperid&gt;</b>	!	Paper ID	
<b>&lt;doi&gt;</b>	!	DOI no.	
<b>&lt;uri&gt;</b>	+	URI (URL) link to article on journal web site	
<b>&lt;in_book&gt;</b>	!	Use for chapters, papers published as a part of a book (incl. proceedings)	
<b>@pub_status</b>	(\$)	Status of publication, like "submitted", "accepted", "published"	18)
<b>&lt;title&gt;</b>	(\$)	Book title	
<b>&lt;part&gt;</b>	!	Part designation of a multipart work ("Vol. 1", "Bind 4: Middelalderen" etc)	
<b>&lt;edition&gt;</b>	!	Book edition, like "2. rev. udg."	
<b>&lt;editor&gt;</b>	!	Name of the editor of the book	
<b>&lt;isbn&gt;</b>	! ®	ISBN no. without dashes	
<b>&lt;place&gt;</b>	!	Place of publication	
<b>&lt;publisher&gt;</b>	!	Name of publisher	
<b>&lt;year&gt;</b>	!	Year of publication in format yyyy	
<b>&lt;pages&gt;</b>	!	In the format Firstpage-Lastpage	
<b>&lt;series&gt;</b>	! ®	Book series	
<b>&lt;uri&gt;</b>	+	URI (URL) link to web site of book	
<b>&lt;in_report&gt;</b>	!	Use for chapters, papers etc published as a part of a report	
<b>@pub_status</b>	+	Status of publication, like "submitted", "accepted", "published"	18)
<b>&lt;title&gt;</b>	(\$)	Report title	
<b>&lt;editor&gt;</b>	!	Name of the editor of the report	
<b>&lt;isbn&gt;</b>	! ®	ISBN no. without dashes	
<b>&lt;rep_no&gt;</b>	!	Report series and number	
<b>&lt;place&gt;</b>	!	Place of publication	
<b>&lt;publisher&gt;</b>	!	Name of publisher	
<b>&lt;year&gt;</b>	!	Year of publication in format yyyy	
<b>&lt;pages&gt;</b>	!	In the format Firstpage-Lastpage	
<b>&lt;uri&gt;</b>	+	URI (URL) link to web site of report	
<b>&lt;book&gt;</b>	!	Use when the document is an entire book	
<b>@pub_status</b>	(\$)	Status of publication, like "submitted", "accepted", "published"	18)
<b>&lt;edition&gt;</b>	!	Book edition, like "2. rev. udg."	
<b>&lt;isbn&gt;</b>	! ®	ISBN no. without dashes	
<b>&lt;place&gt;</b>	!	Place of publication	
<b>&lt;publisher&gt;</b>	!	Name of publisher	
<b>&lt;year&gt;</b>	!	Year of publication in format yyyy	
<b>&lt;pages&gt;</b>	!	Total no. of pages	
<b>&lt;series&gt;</b>	! ®	Book series	
<b>&lt;uri&gt;</b>	+	URI (URL) link to web site of book	
<b>&lt;report&gt;</b>	!	Use when the document is an entire report	
<b>@pub_status</b>	+	Status of publication, like "submitted", "accepted", "published"	18)
<b>&lt;isbn&gt;</b>	! ®	ISBN no. without dashes	
<b>&lt;rep_no&gt;</b>	!	Report series and number	
<b>&lt;place&gt;</b>	!	Place of publication	
<b>&lt;publisher&gt;</b>	!	Name of publisher	
<b>&lt;year&gt;</b>	!	Year of publication in format yyyy	
<b>&lt;pages&gt;</b>	!	Total no. of pages	
<b>&lt;uri&gt;</b>	+	URI (URL) link to web site of report	
<b>&lt;patent&gt;</b>	!	Use when the document is a patent (application)	
<b>@pub_status</b>	(\$)	Status of publication, like "submitted", "accepted", "published"	18)
<b>&lt;country&gt;</b>	!	Country of patent issue using ISO country codes	13)
<b>&lt;ipc&gt;</b>	!	International Patent Classification	20)
<b>&lt;number&gt;</b>	!	Patent no.	
<b>&lt;date&gt;</b>	!	Date of status above in format yyyy-mm-dd	
<b>&lt;uri&gt;</b>	+	URI (URL) link to web site of patent	
<b>&lt;inetpub&gt;</b>	! ®	Use when epublished on the net (institutional repository, preprint server)	
<b>&lt;text&gt;</b>	(\$)	Text describing the file and service: "PDF on personal home page"	
<b>&lt;uri&gt;</b>	(\$)	The URI (URL)	
<b>&lt;other&gt;</b>	+	Use for any other form of publication if none of the above apply	

### 3. Annotated list of elements and attributes

This section contains a complete listing of the elements and attributes of the format.

- The numbers at the right hand side of the page refer to the notes in section 4.
- Examples illustrating the use of the format may be found in section 5.
- A more condensed overview table is provided in section 2.

#### General specifications

- UTF-8 is mandatory character encoding for all data
- Whenever an element contains sub-elements, all data must be placed in these sub-elements, rather than in the element itself.
- An XML schema for validation can be found at <http://mx.forskningsdatabasen.dk/schemas/mxd/1.0.0.0>  
Please note the sequence of elements in the schema must be obeyed - A helpful script for sorting can be found at <http://mx.forskningsdatabasen.dk/elementsorster>
- The namespace for the schema is set to <http://mx.forskningsdatabasen.dk/mxd/1.0>

#### Explanation of codes used in the first two columns of the list below

§	<b>Mandatory</b> - in all cases. Records without this element or attribute will be rejected.
(§)	<b>Mandatory</b> - when its parent element is used. In such cases, records without this element or attribute will be rejected
[§]	<b>Mandatory</b> - when its parent element is used and another specified condition is met In such cases, records without this element or attribute will be rejected
!	<b>Required</b> - whenever it applies and data is available. These elements or attributes are required to establish a fully functional DDF record, which may be successfully searched, displayed and used for statistics. They cannot, however, be made mandatory, as they do not apply in all cases (e.g. not all publications have a personal author, but if such exists it must be recorded).
+	<b>Recommended</b> - whenever it applies and data is available. These elements or attributes are recommended, as they substantially enhance the functionality and usability of the record.
?	<b>Optional</b> These elements or attributes are entirely optional. They primarily serve the needs of data suppliers that want to preserve the finer details of their local data – for example to use the DDF data as a backup copy or similar.
®	<b>Repeatable</b> The element may be repeated

## Root element

[Notes](#)

§	<p><b>ddf_doc</b></p> <p>Root element of one document record. Other DDF record types similarly have type-specific root elements, <code>ddf_pro</code> for projects, <code>ddf_org</code> for organisations, <code>ddf_per</code> for persons, etc. The element is organised in 8 sub-elements, described on the following pages:</p> <ul style="list-style-type: none"> <li><code>ddf_doc/title</code></li> <li><code>ddf_doc/description</code></li> <li><code>ddf_doc/person</code></li> <li><code>ddf_doc/organisation</code></li> <li><code>ddf_doc/project</code></li> <li><code>ddf_doc/event</code></li> <li><code>ddf_doc/local</code></li> <li><code>ddf_doc/publication</code></li> </ul> <p>and the mandatory attributes described below:</p> <hr/>	
§	<p><b>ddf_doc/@format_version</b></p> <p>The particular version of the exchange format used, for the current version "1.0.0". Once subsequent versions have been issued, this will aid the schema validation and other applications parsing the XML.</p>	
§	<p><b>ddf_doc/@doc_type</b></p> <p>Code for type of document (like "dja" for "journal article") according to the DDF list of types and their codes (see note). Code is used for various retrieval and sorting purposes, see Annex 1.</p>	1)
§	<p><b>ddf_doc/@doc_lang</b></p> <p>Code for language of the document itself. Codes must follow the W3C rules for <code>xml:lang</code>, which means complying with IETF RFC 1766 and ISO 639.</p>	
§	<p><b>ddf_doc/@doc_year</b></p> <p>Annual report year of the document (may differ from publication year) in the format <code>yyyy</code>. This is used for various sorting and searching purposes as well as for data management.</p>	3)
§	<p><b>ddf_doc/@doc_review</b></p> <p>Code indicating the type of review the document has been subject to like "peer-review" or "no review". See note for DDF list of review types and their codes. Code is used for various retrieval and sorting purposes, see Annex 1.</p>	4)
§	<p><b>ddf_doc/@doc_level</b></p> <p>Code indicating literary scope or level of the document, like "scientific", "educational", "popular". See note for DDF list of levels and their codes. Code is used for various retrieval and sorting purposes, see Annex 1.</p>	5)
§	<p><b>ddf_doc/@rec_source</b></p> <p>Code of exporting database/institution. Each organisation/database acting as a source and exporting records to DDF is registered with a unique code. See note for DDF list of source database codes.</p>	6)
§	<p><b>ddf_doc/@rec_id</b></p> <p>The data supplier's local/original ID of the record – must be unique per data supplier. In case supplier is exporting from more than one local database, which may use the same IDs, these must be prefixed (with database name or similar) to become unique within the supplier's data.</p>	
§	<p><b>ddf_doc/@rec_upd</b></p> <p>Last update date of the exporting database in the format <code>yyyy-mm-dd</code></p>	
§	<p><b>ddf_doc/@rec_status</b></p> <p>Code indicating whether the record is to be considered as "new", "updated" or "deleted". Since data is gathered via OAI harvesting "new" records must be set as "updated". See note for DDF list of record status codes.</p>	7)

**Title element**

§	<b>ddf_doc/title</b>	Title of the work in focus. Other titles such as conference titles and titles of host publications (journals, books) are recorded in other elements, ddf_doc/event and ddf_doc/publication respectively. The element is organised in the following 2 sub-elements: title/original (mandatory) title/translated (optional and repeatable)	
<hr/>			
§	<b>ddf_doc/title/original</b>	The title in the original language – use sub-elements below	
?	<b>ddf_doc/title/original/@xml:lang</b>	Language of title	2)
§	<b>ddf_doc/title/original/main</b>	Main title	
!	Ⓢ <b>ddf_doc/title/original/sub</b>	Sub title	
+	<b>ddf_doc/title/original/part</b>	Part designation of a multipart work ("Vol. 1", "Bind 1" etc)	
?	<b>ddf_doc/title/original/other</b>	Any other title information	
<hr/>			
?	Ⓢ <b>ddf_doc/title/translated</b>	The title translated to another language – use sub-elements below	
(§)	<b>ddf_doc/title/translated/@xml:lang</b>	Language of title	2)
(§)	<b>ddf_doc/title/translated/main</b>	Main title	
?	Ⓢ <b>ddf_doc/title/translated/sub</b>	Sub title	
?	<b>ddf_doc/title/translated/part</b>	Part designation of a multipart work ("Vol. 1", "Bind 1" etc)	
?	<b>ddf_doc/title/translated/other</b>	Any other title information	

## Description element

!		<b>ddf_doc/description</b>	
		The description element is the common container for a variety of descriptive data types that deal with the content of the document, such as notes, abstracts, subject classifications and keywords etc. The description element is not mandatory but should be used whenever such data is available.	
		The element is organised in the following sub-elements:	
		description/abstract (summary of the content),	
		description/thesis (special structured note for academic thesis),	
		description/note (other descriptive notes),	
		description/subject/keyword (free or controlled keywords),	
		description/subject/class (classification system codes).	
<hr/>			
!	®	<b>ddf_doc/description/abstract</b>	
		Summary of content	
?		<b>ddf_doc/description/abstract/@xml:lang</b>	
		Language of abstract	2)
<hr/>			
?	®	<b>ddf_doc/description/note</b>	
		Any descriptive note	
?		<b>ddf_doc/description/note/@xml:lang</b>	
		Language of note	2)
<hr/>			
!		<b>ddf_doc/description/thesis</b>	
		Special thesis note – use sub-elements below. The attribute <code>ddf_doc/@doc_type</code> is used to differentiate between different types/levels of thesis	1)
!		<b>ddf_doc/description/thesis/institution</b>	
		Name of the academic institution awarding the degree	
+		<b>ddf_doc/description/thesis/advisor</b>	
		Name of the academic advisor/supervisor	
+		<b>ddf_doc/description/thesis/aw_date</b>	
		Date of awarded degree in format yyyy-mm-dd	
?		<b>ddf_doc/description/thesis/other</b>	
		Any other information	
<hr/>			
!		<b>ddf_doc/description/subject</b>	
		Subject description – use sub-elements below.	
!	®	<b>ddf_doc/description/subject/keyword</b>	
		Keywords – whether free or controlled.	
(\$)		<b>ddf_doc/description/subject/keyword/@key_type</b>	
		Vocabulary/theasaurus used, like "EUDISED", "INSPEC" or "free"	8)
?		<b>ddf_doc/description/subject/keyword/@xml:lang</b>	
		Language of keyword	2)
!	®	<b>ddf_doc/description/subject/class</b>	
		Classification codes according to the system declared in the attribute below.	
(\$)		<b>ddf_doc/description/subject/class/@class_type</b>	
		Classification system used, like "DDC", "UDC", "DEF", "DK5"	9)
?		<b>ddf_doc/description/subject/class/@xml:lang</b>	
		Language of classification	2)

## Person element

!	®	<b>ddf_doc/person</b>	<p>This repeatable element is used to record information about any person related to the creation of the document (like authors, editors, composers, publishers, illustrators etc.). Each person and the corresponding role are recorded in a separate instance of the element and the sequence should follow that of the document title page. The correct attribution of persons to documents is essential for any statistical purposes.</p> <p>The element is organised in the following sub-elements of which most are optional:</p> <ul style="list-style-type: none"> <li>person/name (split in first and last name),</li> <li>person/id (various forms of identification numbers - optional),</li> <li>person/title (personal title - optional),</li> <li>person/birthdate (optional),</li> <li>person/country (of citizenship - recommended),</li> <li>person/address (postal - optional),</li> <li>person/email (optional),</li> <li>person/uri (link to web page - optional)</li> </ul>	
<hr/>				
(\$)		<b>ddf_doc/person/@pers_role</b>	Role of the person in relation to the document (see note for authorised values)	10)
(\$)		<b>ddf_doc/person/@aff_no</b>	Internal reference no. of the organisation (ddf_doc/organisation/@aff_no) to which the person was affiliated while creating/contributing to this document.	11)
<hr/>				
(\$)		<b>ddf_doc/person/name</b>	Personal name – use sub-elements below	
(\$)		<b>ddf_doc/person/name/first</b>	First name (personal name) or initials	
(\$)		<b>ddf_doc/person/name/last</b>	Last name (family name)	
<hr/>				
?	®	<b>ddf_doc/person/id</b>	Identification number or code	
(\$)		<b>ddf_doc/person/@id_type</b>	Type of ID, registered with DDF - like Danish CPR no.	12)
<hr/>				
?		<b>ddf_doc/person/title</b>	Personal title related to academic degree and/or job function.	
?		<b>ddf_doc/person/birthdate</b>	In format yyyy-mm-dd	
?		<b>ddf_doc/person/country</b>	Country of citizenship using ISO country codes	13)
?		<b>ddf_doc/person/address</b>	Postal address	
?		<b>ddf_doc/person/email</b>	Email address	
?		<b>ddf_doc/person/uri</b>	URI (URL) link to web page	

## Organisation element

\$	®	<b>ddf_doc/organisation</b>	<p>This repeatable element is used to record information about any organisation related to the document, whether it be as the affiliation of an author, as a corporative author or in any other capacity of importance for the document. Each organisation and the corresponding role is recorded in a separate instance of the element. The correct attribution of organisations to documents is essential for any statistical purposes.</p> <p>The element is organised in the following sub-elements:</p> <ul style="list-style-type: none"> <li>organisation/name (split in up to 4 hierarchical levels and acronym),</li> <li>organisation/id (optional),</li> <li>organisation/country (recommended),</li> <li>organisation/uri (link to web page - optional)</li> </ul>	
<hr/>				
\$		<b>ddf_doc/organisation/@org_role</b>	Role of the organisation in relation to the document (see note for authorised values)	14)
\$		<b>ddf_doc/organisation/@aff_no</b>	Internal reference no. of the organisation. Is used to link persons with the right affiliation.	11)
<hr/>				
\$	®	<b>ddf_doc/organisation/name</b>	Name - only repeatable in case of language variants - use sub-elements below	
[\$]		<b>ddf_doc/organisation/name/@xml:lang</b>	Language of organisation name (mandatory if name is repeated)	2)
\$		<b>ddf_doc/organisation/name/level1</b>	Name of highest organisational level (example: university) In cases where the name cannot be split in several hierarchical levels, this sub-element contains the entire name.	
!		<b>ddf_doc/organisation/name/level2</b>	Name of second organisational level (example: faculty)	
!		<b>ddf_doc/organisation/name/level3</b>	Name of third organisational level (example: institute, department)	
!		<b>ddf_doc/organisation/name/level4</b>	Name of fourth organisational level (example: section, division, group)	
!		<b>ddf_doc/organisation/name/acronym</b>	Acronym. Whenever possible, the acronym should reflect the same organisational hierarchy as the levels of the full name, for example UNIV.FACU.INST.GRP	
<hr/>				
?	®	<b>ddf_doc/organisation/id</b>	Identification number or code	
(\$)		<b>ddf_doc/organisation/id/@id_type</b>	Type of ID, registered with DDF - like Danish CVR no.	12)
<hr/>				
+		<b>ddf_doc/organisation/country</b>	Country of legal residence using ISO country codes	13)
<hr/>				
?		<b>ddf_doc/organisation/uri</b>	URI (URL) link to web page	

## Project element

!	®	<b>ddf_doc/project</b>	<p>This repeatable element is used to record information about any project related to the document. Each project and the corresponding role are recorded in a separate instance of the element. The attribution of projects to documents will allow users to jump easily between projects and their documents.</p> <p>The element is organised in the following sub-elements:</p> <ul style="list-style-type: none"> <li>project/title (split in main and sub and acronym),</li> <li>project/id (optional)</li> <li>project/uri (link to web page - optional)</li> </ul>	
<hr/>				
(\$)		<b>ddf_doc/project/@proj_role</b>	Role of the project in relation to the document (see note for authorised values)	15)
<hr/>				
(\$)	®	<b>ddf_doc/project/title</b>	Title - only repeatable in case of language variants – use sub-elements below	
[\$]		<b>ddf_doc/project/title/@xml:lang</b>	Language of project title (mandatory if title is repeated)	2)
(\$)		<b>ddf_doc/project/title/main</b>	Main title	
!		<b>ddf_doc/project/title/sub</b>	Sub title	
!		<b>ddf_doc/project/title/acronym</b>	Acronym	
<hr/>				
?	®	<b>ddf_doc/project/id</b>	Identification number or code	
(\$)		<b>ddf_doc/project/id/@id_type</b>	Type of ID, registered with DDF - like local project number	12)
<hr/>				
?		<b>ddf_doc/project/uri</b>	URI (URL) link to web page	



## Event element

!	®	<b>ddf_doc/event</b>	
		This repeatable element is used to record information about any event (conference, seminar, workshop, meeting, course, etc.) related to the document. Each event and its corresponding role are recorded in a separate instance of the element. The element is organised in the following sub-elements: event/title (split in full, acronym and number), event/dates (split in start and end), event/place (split in start and end), event/uri (link to web page - optional)	
<hr/>			
(\$)		<b>ddf_doc/event/@event_role</b>	
		Role of the event in relation to the document (see note for authorised values)	16)
<hr/>			
(\$)	®	<b>ddf_doc/event/title</b>	
		Title - only repeatable in case of language variants – use sub-elements below	
[\$]		<b>ddf_doc/event/title/@xml:lang</b>	
		Language of the event title (mandatory if title is repeated)	2)
(\$)		<b>ddf_doc/event/title/full</b>	
		Full event title, like "European Conference on Digital Libraries"	
!		<b>ddf_doc/event/title/acronym</b>	
		Acronym event title, like "ECDL"	
!		<b>ddf_doc/event/title/number</b>	
		Number in series of recurrent events, like "8"	
<hr/>			
!		<b>ddf_doc/event/dates</b>	
		Start and end dates of event – use sub-elements below:	
(\$)		<b>ddf_doc/event/dates/start</b>	
		First day of the event in format yyyy-mm-dd, or yyyy-mm, or yyyy	19)
(\$)		<b>ddf_doc/event/dates/end</b>	
		Last day of the event in format yyyy-mm-dd, or yyyy-mm, or yyyy	19)
<hr/>			
!		<b>ddf_doc/event/place</b>	
		Place (city, country) of the event/conference	
<hr/>			
?		<b>ddf_doc/event/uri</b>	
		URI (URL) link to web page	

**Local field element**

?	®	<b>ddf_doc/local_field</b>	<p>This repeatable and optional element is used to handle additional information using a locally defined two-level field structure, where a local field may have one or more parallel subfields. The <code>local_field/@tag_type</code> attribute is used to pass instructions on how to index and display the field and its subfields in the receiving system. The element is organised in the following sub-elements:</p> <ul style="list-style-type: none"> <li><code>local_field/code</code> (field code),</li> <li><code>local_field/data</code> (field data),</li> <li><code>local_field/subfield</code> (subfield likewise split in code and data)</li> </ul>	
<hr/>				
(\$)		<b>ddf_doc/local_field/@tag_type</b>	Defining if/how field and should be indexed and displayed, see note	17)
?		<b>ddf_doc/local_field/@xml:lang</b>	Language of field	2)
<hr/>				
(\$)		<b>ddf_doc/local_field/code</b>	Field code (tag) using a-z and 0-9 only	
<hr/>				
(\$)		<b>ddf_doc/local_field/data</b>	Field data	
<hr/>				
?	®	<b>ddf_doc/local_field/subfield</b>	Repeatable subfield likewise split in code and data	
(\$)		<b>ddf_doc/local_field/subfield/code</b>	Subfield code (tag) using a-z and 0-9 only	
(\$)		<b>ddf_doc/local_field/subfield/data</b>	Subfield data	

## Publication element

- § **ddf\_doc/publication**
- The mandatory publication element carries all the information about how the document was published in the widest sense of the word, including electronic availability via personal homepages, institutional repositories and similar web sites.
- The publication element is structured in 8 publication cases, each with its own repertoire of sub-elements:
- In a journal (as an article or similar)
  - In a book (as a chapter or similar)
  - In a report (as a chapter or similar)
  - As a book (the book as a whole)
  - As a report (the report as a whole)
  - As a patent (or patent application)
  - As an Internet publication (institutional repository, preprint archive, home page etc.)
  - Any other form of publication
- These cases correspond to the sub-elements: *in\_journal*, *in\_book*, *in\_report*, *book*, *report*, *patent*, *inetpub* and *other*.
- At least one of these cases must be applied, but often two or more cases may be applied concurrently. For example, a journal article may be published "In a journal" and at the same be available at the author's institutional repository "As an Internet publication".

### Publication case - In a journal

- ! **ddf\_doc/publication/in\_journal**
- Use for articles, papers, etc. published in a journal (or submitted to a journal for publication)  
All data is placed in the sub-elements: *title*, *issn*, *year*, *vol*, *issue*, *pages*, *paperid*, *doi*, *uri*.
- (§) **ddf\_doc/publication/in\_journal/@pub\_status**
- Status of publication, like "submitted", "accepted", "published" – see note. 18)  
Is mandatory for in-journal publications because the time from "submitted" to "published" is often long and may cross year boundaries.
- (§) **ddf\_doc/publication/in\_journal/title**
- Journal title
- ! ® **ddf\_doc/publication/in\_journal/issn**
- Journal ISSN no. without dashes
- ! **ddf\_doc/publication/in\_journal/year**
- Year of publication in format yyyy
- ! **ddf\_doc/publication/in\_journal/vol**
- Volume number
- ! **ddf\_doc/publication/in\_journal/issue**
- Issue number
- ! **ddf\_doc/publication/in\_journal/pages**
- In the format Firstpage-Lastpage (or in case of Paper ID, the number of pages)
- ! **ddf\_doc/publication/in\_journal/paperid**
- Paper ID, an alternative to page numbers, typically used by e-journals
- ! **ddf\_doc/publication/in\_journal/doi**
- Digital Object Identifier
- + **ddf\_doc/publication/in\_journal/uri**
- URI (URL) link to article on the journal's web site  
Information about availability at preprint servers, web sites belonging to author or author's institution or similar should be recorded using the publication case "As an Internet publication"



- !            **ddf\_doc/in\_report/place**  
Place of publication
- !            **ddf\_doc/in\_report/publisher**  
Name of publisher
- !            **ddf\_doc/in\_report/year**  
Year of publication in format yyyy
- !            **ddf\_doc/in\_report/pages**  
In the format Firstpage-Lastpage
- +            **ddf\_doc/in\_report/uri**  
URI (URL) link to web site of report

**Publication case – As a book**

- !            **ddf\_doc/book**  
Use when the document is an entire book  
All data is placed in the sub-elements: *edition, isbn, place, publisher, year, pages, series, uri*.  
Note that in this case, the book title information is placed in *ddf\_doc/title*.
- (S)         **ddf\_doc/book/@pub\_status**  
Status of publication, like "submitted", "accepted", "published" 18)
- !            **ddf\_doc/book/edition**  
Book edition, like "2nd rev. ed."
- !    ®       **ddf\_doc/book/isbn**  
ISBN no. without dashes
- !            **ddf\_doc/book/place**  
Place of publication
- !            **ddf\_doc/book/publisher**  
Name of publisher
- !            **ddf\_doc/book/year**  
Year of publication in format yyyy
- !            **ddf\_doc/book/pages**  
Total no. of pages
- !    ®       **ddf\_doc/book/series**  
Book series information (like "Progress in Nanotechnology, vol. 14")
- +            **ddf\_doc/book/uri**  
URI (URL) link to web site of book

**Publication case – As a report**

- !            **ddf\_doc/report**  
Use when the document is an entire report  
All data is placed in the sub-elements: *isbn, rep\_no, place, publisher, year, pages, uri*.  
Note that in this case, the report title information is placed in *ddf\_doc/title*.
- +            **ddf\_doc/report/@pub\_status**  
Status of publication, like "submitted", "accepted", "published" 18)
- !    ®       **ddf\_doc/report/isbn**  
ISBN no. without dashes
- !            **ddf\_doc/report/rep\_no**  
Report series and number



## 4. Notes

The notes in this section are referred to in section 2 and 3. They primarily consist of authoritative lists of codes and corresponding display values, which define the controlled vocabularies of a number of key attributes.

In many cases, these vocabularies may be extended by the DDF secretariat, acting as the DDF-MXD maintenance agency. DDF data suppliers needing such extensions should contact the DDF secretariat.

### 1) Type of document - codes and display text (for @doc\_type)

Code	Danish text	English text	Comment
dja	Tidsskrift-artikel	Journal article	Full article
djl	Tidsskrift-kommentar	Journal comment/letter/rev.	Book reviews, letters to editor, comments
dna	Avis-artikel	Newspaper article	
db	Bog	Book	An entire book
dba	Bog-kapitel	Book chapter	A chapter or article in a book
dbp	Bog forord, leksikonartikel	Book preface, encycl. entry	Entry in encyclopedia, preface to book
dr	Rapport	Report	
dra	Rapport-kapitel	Report chapter	
dcp	Konference-paper	Conference paper	Full paper
dca	Konference-abstract	Conference abstract	Abstract only
dco	Konference-plakat	Conference poster	
dct	Konference-foredrag	Conference talk	Slides, video, audio of talk
dw	Arbejdsrapport, (pr)eprint	Working paper, (pr)eprint	Informal print or Internet publication
dln	Undervisning-noter	Lecture notes	
dl	Undervisning-forelæsning	Lecture	Slides, video, audio of lecture
dp	Patent	Patent	
dtd	Afhandling-Doktor	Thesis Doctoral	
dtp	Afhandling-Ph.D.	Thesis PhD	
dtm	Afhandling-Kandidat	Thesis Master	
dts	Studenterrapport	Student report	
dso	Software	Software	
dd	Datasæt	Data set	
drt	Radio/TV-udsendelse	Radio/TV broadcast	Public broadcast
dx	Udstillingskatalog	Exhibition catalogue	
do	Andet	Other	

See note 21) for valid combinations of @doc\_type, @doc\_review and @doc\_level and comments on the use of these attributes for statistical purposes.

### 2) Language codes (for @doc\_lang and @xml:lang)

Codes must comply with the W3C rules for xml:lang, namely IETF RFC 3066 and ISO 639.

See <http://www.ietf.org/rfc/rfc3066.txt>  
and <http://www.w3.org/WAI/ER/IG/ert/iso639.htm>  
and <http://www.loc.gov/standards/iso639-2/>

In practice this provides for the use of 2-letter (ISO 639-1) as well as 3-letter codes (ISO 639-2). As the 3-letter codes are the most common in the bibliographical context, some illustrative examples (including mappings) are listed below. Please note the extra available codes "mul" and "und" for multiple languages and undetermined language respectively in ISO 639-2.

639-2	Danish text	English text	(639-1 equiv.)
ara	Arabisk	Arabic	ar
bul	Bulgarsk	Bulgarian	bg
cat	Katalansk	Catalan	ca
chi	Kinesisk	Chinese	zh

ces	Tjekkisk	Czech	cs
dan	Dansk	Danish	da
dut	Hollansk	Dutch	nl
eng	Engelsk	English	en
epo	Esperanto	Esperanto	eo
est	Estisk	Estonian	et
fao	Færøsk	Faroese	fo
fin	Finsk	Finnish	fi
fre	Fransk	French	fr
ger	Tysk	German	de
gre	Græsk	Greek	el
kal	Grønlandsk	Greenlandic	kl
heb	Hebræisk	Hebrew	he
hun	Ungarsk	Hungarian	hu
ice	Islansk	Icelandic	is
iri	Irsk	Irish	ga
ita	Italiensk	Italian	it
jpn	Japansk	Japanese	ja
kor	Koreansk	Korean	ko
kur	Kurdisk	Kurdish	ku
lat	Latin	Latin	la
lav	Lettisk	Latvian	lv
lit	Litauisk	Lithuanian	lt
mac	Makedonsk	Macedonian	mk
mlt	Maltesisk	Maltese	mt
mol	Moldavisk	Moldavian	mo
mon	Mongolsk	Mongolian	mn
<b>mul</b>	<b>Flere sprog</b>	<b>Multiple languages</b>	-
nep	Nepalesisk	Nepali	ne
nor	Norsk	Norwegian	no
nno	Nynorsk	Norwegian (Nynorsk)	nn
pli	Pali	Pali	pi
per	Persisk	Persian	fa
pol	Polsk	Polish	pl
por	Portugisisk	Portuguese	pt
ron	Rumænsk	Romanian	ro
rus	Russisk	Russian	ru
san	Sanskrit	Sanskrit	sa
scr	Serbokroatisk	Serbo-Croatian	hr
sin	Singalesisk	Singhalese	si
slo	Slovakisk	Slovak	sk
slv	Slovensk	Slovenian	sl
spa	Spansk	Spanish	es
sun	Sudanesisk	Sudanese	su
swa	Swahili	Swahili	sw
swe	Svensk	Swedish	sv
tam	Tamilsk	Tamil	ta
tha	Thailandsk	Thai	th
tib	Tibetansk	Tibetan	bo
tur	Tyrkisk	Turkish	tr
ukr	Ukrainsk	Ukrainian	uk
<b>und</b>	<b>Ubestemt</b>	<b>Undetermined</b>	-
urd	Urdu	Urdu	ur
vie	Vietnamesisk	Vietnamese	vi
wel	Walisisk	Welsh	cy
yid	Jiddisch	Yiddish	yi
zul	Zulu	Zulu	zu



**3) Annual report year of document (for @doc\_year)**

A 4-digit year indicating which annual report year ("indberetningsår") the document belongs to. In most cases this will be the same as the publication year, but (formal) publishing sometimes is not completed before the following calendar year or even later – a process outside the control of the author and the institution and a process which sometimes is repeated for the same document. The annual report year, on the other hand, documents when the institution considered the document to be completed and ready for listing in the annual report – a process under the control of the institution and which cannot be repeated for the same document. Thus the annual report year may be used for statistical purposes.

**4) Indicator for document review process (quality control) (for @doc\_review)**

Code	Danish text	English text	Comment
pr	Peer review	Peer review	
or	Andet review	Other review	Editorial, institutional review etc.
nr	Intet review	No review	
und	Ubestemt	Undetermined	The nature of the review process (if any) could not be determined

See note 21) for valid combinations of @doc\_type, @doc\_review and @doc\_level and comments on the use of these attributes for statistical purposes.

**5) Indicator for literary scope/level of document (for @doc\_level)**

Code	Danish text	English text	Comment
sci	Videnskabelig	Scientific	
edu	Undervisningsrettet	Educational	
pop	Populærvidenskabelig	Popular	
adm	Administrativ	Administrative	Progress reports, Annual reports, etc
und	Ubestemt	Undetermined	The literary scope/level could not be determined

See note 21) for valid combinations of @doc\_type, @doc\_review and @doc\_level and comments on the use of these attributes for statistical purposes.

**6) Codes for exporting database/institution (for @rec\_source)**

Codes in alphabetical order:

Code	Danish text
aaa	Arkitektskolen i Aarhus
aardas	Århus Dag- og Aftenseminarium
aas	Aalborg Sygehus
afg	Dansk Institut for Klinisk Epidemiologi
agri	Danmarks JordbrugsForskning
ai	Arbejds miljøInformation
akf	Amternes og kommunernes forskningsinstitut
ami	Arbejds miljøinstituttet
amr	Arbejds miljørådets Service Center
au	Aarhus Universitet
auc	Aalborg Universitet
bio	Det Bioteknologiske Forsknings- og Udviklingsprogram
bioteknik	Teknologisk Institut. Bioteknik
can	Kræftens Bekæmpelse
cemtv	Center for Evaluering af Medicinsk Teknologivurering
cfb	Center for Børnelitteratur
cuf	Dansk Center for Internationale Studier og Menneskerettigheder

dbi	Danmarks Biblioteksskole
dds	Danmarks Designskole
dfs	Dansk Folkemindesamling
dlh	Danmarks Lærerhøjskole
dmf	Dansk Matematisk Forening
dmu	Danmarks Miljøundersøgelser
dpi	Danmarks Pædagogiske Institut
dpu	Danmarks Pædagogiske Universitet
dss	Dansk Institut for Sundheds- og Sygeplejeforskning
dtf	Danmarks TransportForskning
dtu	Danmarks Tekniske Universitet
ens	Energistyrelsen
far	Danmarks Farmaceutiske Universitet
for	Forskningsstyrelsen
fou	Forsknings- og udviklingscentret for Hjælpemidler og Rehabilitering
fri	Forskningscenter Risø
fsl	Forskningscenter for Skov og Landskab
ftu	FTU-programmet
geus	Danmarks og Grønlands Geologiske Undersøgelse
hha	Handelshøjskolen i Århus
hhk	Copenhagen Business School
hhs	Handelshøjskole Syd
ifg	Institut for grænseregionsforskning
ifo	Institut for Forskning i Idræt og Folkelig Oplysning
jpsem	Jydsk Pædagogseminarium
ka	Kunstakademiets Arkitektskole
kab	Danmarks Kunstbibliotek
kib	Kunstindustrimuseets Bibliotek
ku	Københavns Universitet
kvl	Den Kgl. Veterinær- og Landbohøjskole
mup	Det Materialeteknologiske Udviklingsprogram
nlb	Danmarks Natur- og Lægevidenskabelige Bibliotek
ruc	Roskilde Universitet
sbi	By og Byg. Statens Byggeforskningsinstitut
sdu	Syddansk Universitet
seb	Sekretariat for Børnekultur netværk
shu	Statens Husdyrbrugsforsøg
sji	Statens Jordbrugs- og Fiskeriøkonomiske Institut
sp	Statens Planteavlsforsøg
ssl	Statens Skadedyrslaboratorium
suc	Sydjysk Universitetscenter
svs	Statens Veterinære Serumlab. og Statens Veterinære. Inst. for Virusforskning
►	Further codes may be registered with DDF

<b>7)</b>	<b>Record status codes (for @rec_status)</b>
-----------	--

Code	Danish text	English text	Comment
n	Ny post	New record	
c	Rettet post	Corrected/updated record	
d	Slettet post	Deleted record	

Note: Since data is gathered via OAI harvesting, 'new' (n) records should be set as 'updated' (c).

**8) Keyword vocabulary/thesaurus (for @key\_type)**

Code	Danish text	English text	Comment
fre	Fri/ukontrolleret	Free/uncontrolled	
ini	INIS	INIS	
eud	EUDISED	EUDISED	
ins	INSPEC	INSPEC	
loc	Lokal	Local	

► Further codes may be registered with DDF

**9) Classification system (for @class\_type)**

Code	Danish text	English text	Comment
ddc	Dewey	Dewey	
udc	UDK	UDC	
dk5	DK5	DK5	
def	DEF	DEF	
loc	Lokal	Local	

► Further codes may be registered with DDF

**10) Person roles in relation to document (for @pers\_role)**

Code	Danish text	English text	Comment
pau	Forfatter	Author	
pa1	Primær forfatter	Primary author	Optional – if needed to differentiate
pa2	Sekundær forfatter	Secondary author	Optional – if needed to differentiate
ped	Redaktør	Editor	
ppu	Udgiver	Publisher	
ptr	Oversætter	Translator	
pil	Illustrator	Illustrator	

► Further codes may be registered with DDF

**11) Affiliation reference key (for @aff\_no)**

The reference key is a simple 3-digit number “000”-“999” which uniquely identifies organisations within the document record. The reference key is used to associate a person unambiguously with the organisation to which s/he is affiliated. The reference key is not intended to carry any meaning outside the context of the document record.

**12) Identification system codes (for @id\_type)**

Code	Danish text	English text	Comment
cpr	CPR nr.	CPR no.	Danish national person identification
cvr	CVR nr.	CVR no.	Danish national enterprise identification
ddf_rec	DDF post ID	DDF record ID	Danish Research Database record ID
loc_rec	Lokal post-ID	Local record ID	Local (data supplier) record ID*
loc_per	Lokal person-ID	Local person ID	Local (data supplier) person ID*
loc_pro	Lokal project-ID	Local project ID	Local (data supplier) project ID*
loc_org	Lokal organisations-ID	Local organisation ID	Local (data supplier) organisation ID*

► Further codes may be registered with DDF

\* The local IDs are defined by the data supplying organisations se note 6).

A local ID prefixed with the code of the data-supplying organisation becomes nationally unique.

**13) Countries - codes and names**

Code	Danish text	English text	Comment
au	Australien	Australia	
at	Østrig	Austria	
ca	Canada	Canada	
ch	Schweiz	Switzerland	
cn	Kina	China	
de	Tyskland	Germany	
dk	Danmark	Denmark	
es	Spanien	Spain	
fi	Finland	Finland	
fr	Frankrig	France	
gb	Storbritannien	Great Britain	
gr	Grækenland	Greece	
hu	Ungarn	Hungary	
ie	Irland	Ireland	
in	Indien	India	
is	Island	Iceland	
it	Italien	Italia	
jp	Japan	Japan	
nl	Nederlandene	Netherlands	
no	Norge	Norway	
ru	Rusland	Russia	
pl	Polen	Poland	
pt	Portugal	Portugal	
se	Sverige	Sweden	
th	Thailand	Thailand	
us	USA	USA	
za	Sydafrika	South Africa	

- Further country codes may be added according to ISO 3166  
See <http://www.iso.org/iso/en/prods-services/iso3166ma/index.html>

**14) Organisation roles in relation to document (for @org\_role)**

Code	Danish text	English text	Comment
oau	Korporativ forfatter	Corporate author	
oaf	Institutionstilknøytning	Affiliation	
opu	Udgiver	Publisher	

- Further codes may be registered with DDF

**15) Project roles in relation to document (for @proj\_role)**

Code	Danish text	English text	Comment
pd	Leverance fra	Deliverable of	
pr	Relateret til	Related to	

- Further codes may be registered with DDF

**16) Event roles in relation to document (for @event\_role)**

Code	Danish text	English text	Comment
ep	Præsenteret ved	Presented at	
er	Relateret til	Related to	

- Further codes may be registered with DDF

**17) Local field types (for @tag\_type)**

**Code Field treatment in DDF**

- 1 Field is neither indexed nor displayed in search module  
 2 Field may be displayed in search module  
 3 Field may be indexed in search module  
 4 Field may be indexed and displayed in search module

**18) Status of publication (for @pub\_status)**

Code	Danish text	English text	Comment
s	Indsendt	Submitted	
a	Accepteret	Accepted	
i	I trykken	In press	
p	Publiceret	Published	

**19) Date format for events**

The start and end dates of events may be recorded as a year (yyyy e.g. "2004"), as a month (yyyy-mm e.g. "2004-11") or as a day (yyyy-mm-dd e.g. "2004-11-03")

**20) International Patent Classification**

The Strasbourg Agreement (of 1971) concerning the International Patent Classification provides for a common classification for patents for invention including published patent applications, utility models and utility certificates. The International Patent Classification (IPC) is a hierarchical system in which the whole area of technology is divided into a range of sections, classes, subclasses and groups.

See <http://www.wipo.int/classifications/ipc/en/>

**21) Valid combinations of values of the 3 attributes @doc\_type, @doc\_review and @doc\_level**

@doc_type		@doc_review				@doc_level				
English display text	code	pr	or	nr	und	sci	edu	pop	adm	und
Journal article	dja	pr	or	nr	und	sci	edu	pop		und
Journal comment/letter/book review	djl	pr	or	nr	und	sci	edu	pop		und
Newspaper article	dna		or	nr	und			pop		und
Book	db	pr	or	nr	und	sci	edu	pop		und
Book chapter	dba	pr	or	nr	und	sci	edu	pop		und
Book preface, encyclopedia article	dbp	pr	or	nr	und	sci	edu	pop		und
Report	dr	pr	or	nr	und	sci	edu		adm	und
Report chapter	dra	pr	or	nr	und	sci	edu		adm	und
Conference paper	dcp	pr	or	nr	und	sci	edu			und
Conference abstract	dca	pr	or	nr	und	sci	edu			und
Conference poster	dco	pr	or	nr	und	sci	edu			und
Conference talk/presentation	dct	pr	or	nr	und	sci	edu			und
Working paper, (pr)eprint, ...	dw		or	nr	und	sci	edu	pop	adm	und
Lecture notes	dln			nr	und		edu			und
Lecture	dl			nr	und		edu			und
Patent	dp			nr	und	sci				und
Thesis Doctoral	dtd			nr	und	sci				und
Thesis Ph.D.	dtp			nr	und	sci				und
Thesis Master	dtm			nr	und		edu			und
Student report	dts			nr	und		edu			und
Software	dso			nr	und	sci	edu		adm	und
Data set	dd			nr	und	sci	edu		adm	und
Radio/TV broadcast	drt			nr	und		edu	pop		und
Other	do	pr	or	nr	und	sci	edu	pop	adm	und

The table above specifies for each @doc\_type value the allowed values of @doc\_review and @doc\_level. For example: "dna" (newspaper article) may be combined with either "or" or "nr" and with "pop".

One may retrieve documents (and statistical figures) using these three attributes in combination. In a number of cases a fourth attribute, @doc\_lang, may be added in order to distinguish between documents in national languages (Danish etc.) and documents in an international language (generally English).

### **Additional note on the relation between attribute values and coming Danish categories for statistics**

Danish universities are currently in the process of defining a set of publication categories, which may be used for statistical purposes across universities. Such categories typically correspond to the combination of two or three of the attributes above and may be retrieved from the database by a simple Boolean query.

The table below contains a set of publication categories recently proposed by a group of universities. For each category the combination of DDF attribute values that may be used to retrieve publications of the particular category is listed. This demonstrates that the DDF system of generic attributes is able to support this current proposal – and that it is likely to be able to support the resulting national categories and their evolution over time.

In addition to the table rows representing the categories of the proposal, a number of table rows (indented and in *italic font*) have been inserted to illustrate publication categories not covered by the proposal. These categories may perhaps be considered insignificant for certain statistical purposes, but will exist in the national database.

<b>Publication categories for statistics</b>			<b>Type</b>	<b>Level</b>	<b>Review</b>
Journal article	Scientific	With peer-review	dja	sci	pr
Journal article	Scientific	Without peer-review	dja	sci	or/nr/und
<i>Journal article</i>	<i>Educational</i>		<i>dja</i>	<i>edu</i>	<i>...</i>
Journal article	Popular		dja	pop	...
Journal comment/letter/book rev.	Scientific	With peer-review	djl	sci	pr
Journal comment/letter/book rev.	Scientific	Without peer-review	djl	sci	or/nr/und
<i>Journal comment/letter/book rev.</i>	<i>Educational</i>		<i>djl</i>	<i>edu</i>	<i>...</i>
Journal comment/letter/book rev.	Popular		djl	pop	...
Newspaper article	Popular		dna	pop	...
Book	Scientific		db	sci	...
<i>Book</i>	<i>Scientific</i>	<i>With peer-review</i>	<i>db</i>	<i>sci</i>	<i>pr</i>
<i>Book</i>	<i>Scientific</i>	<i>Without peer-review</i>	<i>db</i>	<i>sci</i>	<i>or/nr/und</i>
Book	Educational		db	edu	...
Book	Popular		db	pop	...
Book chapter	Scientific		dba	sci	...
<i>Book chapter</i>	<i>Scientific</i>	<i>With peer-review</i>	<i>dba</i>	<i>sci</i>	<i>pr</i>
<i>Book chapter</i>	<i>Scientific</i>	<i>Without peer-review</i>	<i>dba</i>	<i>sci</i>	<i>or/nr/und</i>
Book chapter	Educational		dba	edu	...
Book chapter	Popular		dba	pop	...
Book preface, encyclop. article	Scientific		dbp	sci	...
<i>Book preface, encyclop. article</i>	<i>Scientific</i>	<i>With peer-review</i>	<i>dbp</i>	<i>sci</i>	<i>pr</i>
<i>Book preface, encyclop. article</i>	<i>Scientific</i>	<i>Without peer-review</i>	<i>dbp</i>	<i>sci</i>	<i>or/nr/und</i>
Book preface, encyclop. article	Educational		dbp	edu	...
Book preface, encyclop. article	Popular		dbp	pop	...
Report	Scientific		dr	sci	...
<i>Report</i>	<i>Educational</i>		<i>dr</i>	<i>edu</i>	<i>...</i>
<i>Report</i>	<i>Administrative</i>		<i>dr</i>	<i>adm</i>	<i>...</i>
Report chapter	Scientific		dra	sci	...
<i>Report chapter</i>	<i>Educational</i>		<i>dra</i>	<i>edu</i>	<i>...</i>
<i>Report chapter</i>	<i>Administrative</i>		<i>dra</i>	<i>adm</i>	<i>...</i>

<b>Publication categories for statistics</b>			<b>Type</b>	<b>Level</b>	<b>Review</b>
Conference paper	Scientific		dcp	sci	...
<i>Conference paper</i>	<i>Scientific</i>	<i>With peer-review</i>	<i>dcp</i>	<i>sci</i>	<i>pr</i>
<i>Conference paper</i>	<i>Scientific</i>	<i>Without peer-review</i>	<i>dcp</i>	<i>sci</i>	<i>or/nr/und</i>
<i>Conference paper</i>	<i>Educational</i>		<i>dcp</i>	<i>edu</i>	...
Conference abstract	Scientific		dca	sci	...
<i>Conference abstract</i>	<i>Scientific</i>	<i>With peer-review</i>	<i>dca</i>	<i>sci</i>	<i>pr</i>
<i>Conference abstract</i>	<i>Scientific</i>	<i>Without peer-review</i>	<i>dca</i>	<i>sci</i>	<i>or/nr/und</i>
<i>Conference abstract</i>	<i>Educational</i>		<i>dca</i>	<i>edu</i>	...
Conference poster	Scientific		dco	sci	...
<i>Conference poster</i>	<i>Scientific</i>	<i>With peer-review</i>	<i>dco</i>	<i>sci</i>	<i>pr</i>
<i>Conference poster</i>	<i>Scientific</i>	<i>Without peer-review</i>	<i>dco</i>	<i>sci</i>	<i>or/nr/und</i>
<i>Conference poster</i>	<i>Educational</i>		<i>dco</i>	<i>edu</i>	...
Conference talk/presentation	Scientific		dct	sci	...
<i>Conference talk/presentation</i>	<i>Scientific</i>	<i>With peer-review</i>	<i>dct</i>	<i>sci</i>	<i>pr</i>
<i>Conference talk/presentation</i>	<i>Scientific</i>	<i>Without peer-review</i>	<i>dct</i>	<i>sci</i>	<i>or/nr/und</i>
<i>Conference talk/presentation</i>	<i>Educational</i>		<i>dct</i>	<i>edu</i>	...
Working paper, (pr)eprint, ...	Scientific		dw	sci	...
<i>Working paper, (pr)eprint, ...</i>	<i>Educational</i>		<i>dw</i>	<i>edu</i>	...
<i>Working paper, (pr)eprint, ...</i>	<i>Popular</i>		<i>dw</i>	<i>pop</i>	...
<i>Working paper, (pr)eprint, ...</i>	<i>Administrative</i>		<i>dw</i>	<i>adm</i>	...
Lecture notes	Educational		dln	edu	...
<i>Lecture (audio/video/slides)</i>	<i>Educational</i>		<i>dl</i>	<i>edu</i>	...
Patent			dp	sci	...
Thesis Doctoral	Scientific		dtd	sci	...
Thesis PhD	Scientific		dtp	sci	...
<i>Thesis Master</i>	<i>Educational</i>		<i>dtm</i>	<i>edu</i>	...
<i>Student report</i>	<i>Educational</i>		<i>dts</i>	<i>edu</i>	...
<i>Software</i>	<i>Scientific</i>		<i>dso</i>	<i>sci</i>	...
<i>Software</i>	<i>Educational</i>		<i>dso</i>	<i>edu</i>	...
<i>Software</i>	<i>Administrative</i>		<i>dso</i>	<i>adm</i>	...
<i>Data set</i>	<i>Scientific</i>		<i>dd</i>	<i>sci</i>	...
<i>Data set</i>	<i>Educational</i>		<i>dd</i>	<i>edu</i>	...
<i>Data set</i>	<i>Administrative</i>		<i>dd</i>	<i>adm</i>	...
Radio/TV broadcast	Educational		drt	edu	...
Radio/TV broadcast	Popular		drt	pop	...
Other	Scientific		do	sci	...
Other	Educational		do	edu	...
Other	Popular		do	pop	...
<i>Other</i>	<i>Administrative</i>		<i>do</i>	<i>adm</i>	...

... indicates that the attribute is not considered when retrieving this data type (may have any value)

## 5. Examples

**Example 1: Book with two editors, one of which is affiliated with a DDF data supplier.**

### Partially collapsed XML document tree

```
- <ddf_doc format_version="1.0.0" doc_type="db" doc_lang="eng" doc_year="1996" doc_review="or"
  doc_level="sci" rec_source="dtu" rec_id="6652897" rec_upd="1996-10-11" rec_status="n">
- <title>
  - <original>
    <main>Design Principles for Interactive Software</main>
    </original>
  </title>
- <description>
  + <abstract xml:lang="eng"></abstract>
    <note xml:lang="eng">Written by IFIP Working Group 2.7</note>
  + <subject></subject>
  </description>
+ <person pers_role="ped" aff_no="001"></person>
+ <person pers_role="ped" aff_no="003"></person>
+ <organisation org_role="oaf" aff_no="001"></organisation>
+ <organisation org_role="oau" aff_no="002"></organisation>
+ <organisation org_role="oaf" aff_no="003"></organisation>
- <publication>
  + <book pub_status="p"></book>
  </publication>
</ddf_doc>
```

---

### Full XML document

```
<ddf_doc xmlns="http://mx.forskningsdatabasen.dk/ns/mxd/1.0" format_version="1.0.0" doc_type="db"
  doc_lang="eng" doc_year="1996" doc_review="or" doc_level="sci" rec_source="dtu" rec_id="6652897"
  rec_upd="1996-10-11" rec_status="n">
  <title><original ><main>Design Principles for Interactive Software</main></original></title>
  <description>
    <abstract xml:lang="eng">
      The book addresses the crucial intersection of Human-Computer Interaction (HCI) and software engineering. It examines quality from the perspectives of both HCI and Software Engineering, and then systematically develops and illustrates a framework for reasoning about the interaction between quality concerns from HCI and Software Engineering on the one hand, and critical aspects of software development such as the choice of software architecture and the deployment of software tools. The book presents a framework for future research and development, both in academia and industry, into specialised software architectures, methods and tools for high quality interactive systems. Likely developments over the next few years depend mostly on the development of better formal approaches to the definition of practical and relevant software properties, better ways of describing and comparing software architectures, and more rigorous and reflective approaches to requirements definition for software tools. The book develops key concepts for guiding the application of these developments to the production of high quality interactive software.
    </abstract>
    <note xml:lang="eng">Written by IFIP Working Group 2.7</note>
```



```

<subject>
  <keyword key_type="fre" xml:lang="eng">Human-computer interaction</keyword>
  <keyword key_type="fre" xml:lang="eng">Software engineering</keyword>
  <keyword key_type="fre" xml:lang="eng">Documentation, theory</keyword>
  <class class_type="ddc">005.1</class>
  <class class_type="udc">681.3.02</class>
</subject>
</description>
<person pers_role="ped" aff_no="001">
  <name><first>Cristian</first><last>Gram</last></name>
  <id id_type="loc_per">v661</id>
  <email>cg@imm.dtu.dk</email>
</person>
<person pers_role="ped" aff_no="003">
  <name><first>Gilbert</first><last>Cockton</last></name>
  <country>gb</country>
</person>
<organisation org_role="oaf" aff_no="001">
  <name xml:lang="eng">
    <level1>Technical University of Denmark</level1>
    <level2>Department of Information Technology</level2>
    <acronym>DTU_IT</acronym>
  </name>
  <country>dk</country>
  <uri>http://www.imm.dtu.dk/</uri>
</organisation>
<organisation org_role="oau" aff_no="002">
  <name xml:lang="eng">
    <level1>International Federation for Information Processing</level1>
    <level2>Technical Committee 2: Software Theory and Practice</level2>
    <level3>Working Group 2.7: User Interface Engineering</level3>
    <acronym>IFIP_TC2_WG2.7</acronym>
  </name>
  <uri>http://www.ifip.or.at/</uri>
</organisation>
<organisation org_role="oaf" aff_no="003">
  <name xml:lang="eng">
    <level1>University of Glasgow</level1>
  </name>
  <country>gb</country>
  <uri>http://www.gla.ac.uk/</uri>
</organisation>
<publication>
  <book pub_status="p">
    <edition>1</edition>
    <isbn>0412724707</isbn>
    <place>London</place>
    <publisher>Chapman and Hall</publisher>
    <year>1996</year>
    <pages>248</pages>
    <uri>http://www.amazon.com/exec/obidos/ASIN/0412724707/104-9175344-3964725</uri>
  </book>
</publication>
</ddf_doc>

```

**Example 2: Conference paper published in proceedings in book form****Partially collapsed XML document tree**

```
- <ddf_doc format_version="1.0.0" doc_type="dcp" doc_lang="eng" doc_year="2004" doc_review="pr"
  doc_level="sci" rec_source="aaa" rec_id="8954" rec_upd="2005-05-02" rec_status="n">
  - <title>
    - <original>
      <main>Quality Control in Visualization Processes</main>
    </original>
  </title>
  - <description>
    + <abstract xml:lang="eng"></abstract>
    + <subject></subject>
  </description>
  + <person pers_role="pau" aff_no="001"></person>
  + <person pers_role="pau" aff_no="001"></person>
  + <organisation org_role="oaf" aff_no="001"></organisation>
  + <event event_role="ep"></event>
  - <publication>
    + <in_book pub_status="p"></in_book>
  </publication>
</ddf_doc>
```

---

**Full XML document**

```
<ddf_doc xmlns="http://mx.forskningsdatabasen.dk/ns/mxd/1.0" format_version="1.0.0" doc_type="dcp"
  doc_lang="eng" doc_year="2004" doc_review="pr"
  doc_level="sci" rec_source="aaa" rec_id="8954" rec_upd="2005-05-02" rec_status="n">

  <title><original><main>Quality Control in Visualization Processes</main></original></title>
  <description>
    <abstract xml:lang="eng">
      Computer visualizations of planned built environment and infrastructures are increasingly used
      as a basis for democratic decisions when the impact of the projects is of wide-ranging interests
      and influence. It is of great importance for the democratic process that all aspects of the
      material in a project can be trusted as a basis for discussion and decisions among politicians and
      citizens. This paper describes the objective aspects of the quality of data in the information basis
      for 3D visualizations and it calculates the precision that can be achieved by the known methods
      of 3D-CAD visualization. Furthermore, the paper suggests a model that can secure sufficient
      quality in future visualization work processes by accumulating documentation for both the
      factual basic data and information that carry the aim and meaning of the message and make
      this information accessible through the visualization.
    </abstract>
    <subject>
      <keyword key_type="fre" xml:lang="eng">3Dvisualization</keyword>
      <keyword key_type="fre" xml:lang="eng">Process Model</keyword>
      <keyword key_type="fre" xml:lang="eng">Quality Control</keyword>
    </subject>
  </description>
  <person pers_role="pau" aff_no="001">
    <name><first>Uffe</first><last>Lentz</last></name>
    <title>Professor, arkitekt</title>
    <email>uffe.lentz@aarch.dk</email>
    <uri>http://aarch.dk/arkitektskolen_aarhus/personale/persondata/uffe-lentz/</uri>
  </person>
```

```

<person pers_role="pau" aff_no="001">
  <name><first>Andreas</first><last>Lykke-Olsen</last></name>
  <title>Ph.d.-studerende, arkitekt</title>
  <email>andreas.lykke-olesen@aarch.dk</email>
  <uri>http://aarch.dk/arkitektskolen_aarhus/personale/persondata/andreas-lykke-olesen/</uri>
</person>
<organisation org_role="oaf" aff_no="001">
  <name xml:lang="dan">
    <level1>Arkitektskolen i Aarhus</level1>
    <level2>Institut for Design</level2>
  </name>
  <country>dk</country>
  <uri>http://aarch.dk/institutter/institut_for_design/</uri>
</organisation>
<event event_role="ep">
  <title xml:lang="eng">
    <full>Architecture in the Network Society. Association for Education in CAAD in
      Europe Conference</full>
    <acronym>eCAADe</acronym>
    <number>22</number>
  </title>
  <dates><start>2004-09-15</start><end>2004-09-18</end></dates>
  <place>Copenhagen</place>
  <uri>http://www.ecaade2004.dk/</uri>
</event>
<publication>
  <in_book pub_status="p">
    <title>Architecture in the Network Society, 22nd eCAADe Conference Proceedings</title>
    <isbn>0954118324</isbn>
    <publisher>CumInCAD Cumulative index of Computer Aided Architectural Design</publisher>
    <year>2004</year>
    <pages>380-386</pages>
    <uri>http://cumincad.scix.net/cgi-bin/works/Show?2004_380</uri>
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**Example 3: Journal article with one author****Collapsed XML document tree**

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**Full XML document**

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    Recent applications of microemulsion electrokinetic chromatography
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      Microemulsions are used in a similar way as micellar solutions are used for separations in capillary electrophoresis. Within the last six years, a number of papers have appeared in the literature in which the separation characteristics of microemulsion electrokinetic chromatography (MEEKC) have been investigated. One of the major fields of application for MEEKC has been the lipophilicity of chemical substances but the technique has also been applied for the analysis of substances within the fields of natural products, pharmaceuticals, vitamins, peptides, proteins, and nucleic acid bases as well as nucleosides. An overview of the applications is given together with the microemulsions used for each application.
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  <person pers_role="pau" aff_no="001">
    <name><first>Steen Honore</first><last>Hansen</last></name>
    <email>shh@dfuni.dk</email>
    <uri>http://www.dfh.dk/index.php?id=1338</uri>
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    <name xml:lang="eng">
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      <year>2003</year> <vol>24</vol><issue>22-23</issue><pages>3900-3907</pages>
      <doi>10.1002/elps.200305637</doi>
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