Document Markup Language (DML) Specificati	on 1.0
--	--------

Document Markup Language (DML) Specification 1.0

Latest version:

http://purl.oclc.org/NET/dml/1.0/

Date issued:

2009-01-17

Editor:

Arnau Siches

Copyright © 2009 Arnau Siches.

Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License" (Appendix C, pg. 29).

Abstract

This specification defines the Document Markup Language (DML), a markup language for books, articles, notes and other types of document. DML is normatively available as a RELAX NG (Appendix A, pg. 26) schema with additional Schematron (Appendix A, pg. 26) assertions.

Table of Contents

1. Introduction	
1.1. Namespace	3
1.2. Status of this document	4
1.3. Acknowledgments	4
2. Elements	4
2.1. The abbr element	4
2.2. The cell element	5
2.3. The citation element	5
2.4. The dml element	6
2.5. The em element	7
2.6. The example element	8
2.7. The figure element	8
2.8. The group element	
2.9. The item element	9
2.10. The list element	10
2.11. The metadata element	
2.12. The note element	
2.13. The object element	
2.14. The p element	16
2.15. The quote element	
2.16. The section element	17
2.17. The span element	
2.18. The sub element	19
2.19. The summary element	19
2.20. The sup element	20
2.21. The table element	20
2.22. The title element	21
3. Core attributes	21
3.1. The @class attribute	22
3.2. The @dir attribute	22
3.3. The @href attribute	22
3.4. The @status attribute	22
3.5. The @xml:base attribute	23
3.6. The @xml:id attribute	23
3.7. The @xml:lang attribute	23
4. Metadata attributes	23
4.1. The @about attribute	23
4.2. The @content attribute	24
4.3. The @datatype attribute	24
4.4. The @property attribute	24
4.5. The @rel attribute	24
4.6. The @resource attribute	24
4.7. The @rev attribute	24
4.8. The @typeof attribute	25
5. Flow	25
5.1 Block	25

5.2. Inline	25
6. Schema	25
Appendix A — Resources	26
Appendix B — Conventions	
B.1 EBNF definitions	
Appendix C — GNU Free Documentation License	29
C.1 Preamble	29
C.2 Applicability and definitions	30
C.3 Verbatim copying	
C.4 Copying in quantity	
C.5 Modifications.	
C.6 Combining documents	33
C.7 Collections of documents	33
C.8 Aggregation with independent works	34
C.9 Translation	
C.10 Termination	
C.11 Future revisions of this license	35
C.12 Relicensing	
C.13 Addendum: How to use this License for your documents	

1. Introduction

DML is a general-purpose XML schema, particularly well suited to books, articles and annotations in other XML sources.

DML is normatively available as a RELAX NG (Appendix A, pg. 26) schema with additional Schematron (Appendix A, pg. 26) assertions to cover all missing cases.

DML is a simple set of elements and attributes which define the basic semantics for a generic document. It is designed keeping in mind that all specialization may be defined through a scoped XML schema. For example, to mark up code it may be used the *Programming Markup Language (Appendix A, pg. 27)*.

The *metadata model* use a set of metadata attributes (Section 4, pg. 23) which are originally defined in RDFa Syntax (Appendix A, pg. 26) from W3C.

This specification has a style and nomenclature conventions (Appendix B, pg. 27) to simplify the reading process.

1.1. Namespace

The *DML namespace* has the URI "http://purl.oclc.org/NET/dml/1.0/". It is usually associated with the "dml" prefix.

1.2. Status of this document

This is a *draft* and it may change at any time based on comments and on its development process.

Use the DML-discuss mailing list (Appendix A, pg. 27) to discuss and learn about Document Markup Language.

1.3. Acknowledgments

Many people has helped to realise this document. Some of them in no particular order are: Àlex Royo, Ferran Cases, Alejandro Gonzalo Bravo, David Rodríguez, Choan Gálvez, Tatiana Ledesma, lu Siches, Oscar Sanchez Casamitjana and Carolina Figueroa.

2. Elements

2.1. The abbr element

The abbr element represents an abbreviation or acronym.

Flow

```
Inline (Section 5.2, pg. 25)
```

Children

```
( em | metadata | object | quote | span | sub | sup | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
(
  cell | citation | em | example | item | metadata | note | object |
  p | quote | span | sub | summary | sup | title
)
```

The @content attribute (Section 4.2, pg. 24) may be used to provide an expansion of the abbreviation.

The @about attribute (Section 4.1, pg. 23) may be used to provide a resource which contains the expanded form.

@content and @about attributes are mutually exclusive.

Example 2.1-1: abbr element with inline expansion

Example of <abbr content="Document Markup Language">DML</abbr>'s abbr element.

Example 2.1-2: abbr element with remote expansion

Example of <abbr about="http://example.org/glossary#dml">DML</abbr>'s abbr element.

2.2. The cell element

The cell element represents a table data container.

Flow

Block (Section 5.1, pg. 25)

Children

```
(
  (
    example | list | metadata | note | object | p | quote
)+ | (
    abbr | em | metadata | object | quote | span | sub | sup | text()
)+
)
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

(group)

2.3. The citation element

The citation element represents a citation reference of a quotation block.

Flow

Block (Section 5.1, pg. 25)

Children

```
( abbr | em | metadata | object | quote | span | sub | sup | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( quote )
```

2.4. The dml element

The dml element is the root element for a DML document.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
title,
  ( example | figure | list | metadata | note | object | p | quote | table )*,
  section*
)
```

Attributes

```
( $core.attrs* )
```

Example 2.4-1: Simple DML document

```
<dml xmlns="http://purl.oclc.org/NET/dml/1.0/">
  <title>Simple DML document</title>
  Lorem ipsum dolor sit amet...
</dml>
```

Example 2.4-2: DML document with metadata

2.5. The em element

The em element represents an emphasized text.

Flow

```
Inline (Section 5.2, pg. 25)
```

Children

```
( abbr | em | metadata | object | quote | span | sub | sup | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

```
abbr | cell | citation | em | example | item | metadata | note |
object | p | quote | span | sub | summary | sup | title
)
```

The @role attribute may be used to provide strong emphasized text with "strong" value.

Example 2.5-1: Usage of em element

```
<em>Lorem ipsum</em> dolor sit amet, consectetur adipisicing elit, sed do <em role="strong">eiusmod tempor incididunt ut labore</em> et dolore magna aliqua.
```

2.6. The example element

The example element represents an example.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
(
  title?,
  (figure | list | metadata | note | object | p | quote | table )+
)
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( dml | note | section )
```

Example 2.6-1: Usage of example element

```
<example xml:id="example-identifier">
  <title>Title of the Lorem Ipsum example</title>
  Lorem ipsum dolor sit amet...
</example>
```

2.7. The figure element

The figure element is a figure container; it usually contains an illustration or something to be shown graphically.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
title?,
  ( list | metadata | note | object | p | quote | table )+
)
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( dml | example | note | section | item | cell )
```

Example 2.7-1: Usage of figure element

```
<figure xml:id="figure-identifier">
  <title>It shown an illustration through a figure element</title>
  <object src="path/to/illustration"/>
  </figure>
```

2.8. The group element

The group element represents a generic table cell container.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
( group+ | title+ | ( title?, cell+ ) )
```

Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

```
( group | table )
```

The <code>@role</code> attribute *may* be used to provide a form to refine the <code>group</code> element meaning. Allowed values are:

• "header"

A header table group. Table header *must* be the first child of a table element.

• "footer"

A footer table group. Table footer *must* be child of a table element.

2.9. The item element

The item element represents a list item container.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
(
  ( title*, $block[not( item | title | citation )]+ ) |
  ( $inline | text() )+
)
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

(list)

2.10. The list element

The list element represents a list of items.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
( title?, item+ )
```

Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

```
( dml | $block[$block[not( self::list )]] )
```

The @role attribute may be used to define an ordered list with "ordered" value.

Example 2.10-1: Simple list

```
<list>
    <item>sugar</item>
    <item>salt</item>
    <item>pepper</item>
</list>
```

Example 2.10-2: Ordered list

```
<list role="ordered">
  <item>first</item>
  <item>second</item>
  <item>third</item>
</list>
```

Example 2.10-3: List with title

```
<list>
  <title>List title</title>
  <item>first</item>
   <item>second</item>
   <item>third</item>
</list>
```

Example 2.10-4: Definition list

```
<list>
    <item>
        <title>Dweeb</title>
        Young excitable person who may mature into a Nerd or Geek.
    </item>
    <item>
        <title>Hacker</title>
        A clever programmer.
    </item>
    <item>
        <title>Nerd</title>
        Technically bright but socially inept person.
    </item>
    </item>
    </item>
    </item>
    </item>
</item>
```

Example 2.10-5: Definition list with multiple terms and definitions

```
st>
 <item>
   <title>Center</title>
   <title>Centre</title>
   st>
     <item>A point equidistant from all points on the surface of a
     sphere.</item>
     <item>In some field sports, the player who holds the middle position on
     the field, court, or forward line.</item>
   </list>
 </item>
 <item>
   <title>Color</title>
   <title>Colour</title>
   The property possessed by an object of producing different sensations on
   the eye.
 </item>
</list>
```

2.11. The metadata element

The metadata element represents a metadata container.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
( $block+ )
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( dml | $block | $inline )
```

Example 2.11-1: Usage of metadata element

```
<metadata about="#document-id">
    tem property="dct:creator">Arnau Siches</item>
    <item property="dct:created">2008-12-29</item>
    <item property="dct:description">

            This specification defines the Document Markup Language (DML), a markup language for books, articles, documents, notes, etc.

            </item>
            </list>
            </metadata>
```

2.12. The note element

The note element represents a generic document note or annotation. It *may* be used as a root element in *DML islands* in non-DML documents.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
(
  ( title?, $block[not( title | note | citation )]+ ) |
  ( $inline | text() )+
)
```

Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

```
( dml | $block[$block[not( self::note )]] )
```

The @role attribute may be used to provide a form to refine the note element meaning. Allowed values are:

• "tip"

A suggestion, tip or trick.

• "warning"

An admonition note.

• "sidebar"

A note that is isolated from the main narrative flow.

• "footnote"

A footnote. Footnotes in paged media usually occur at the end of the page that reference it.

Example 2.12-1: Usage of note element

```
<note>
  Lorem ipsum dolor sit amet, consectetur adipisicing elit...

  </note>
```

Example 2.12-2: Usage of note [@role="footnote"] element

```
 Lorem ipsum dolor sit amet, <span href="#a-footnote">consectetur
   adipisicing</span> elit...

  ( ... )
  <note role="footnote" xml:id="a-footnote">

            ...sunt in culpa qui officia deserunt mollit anim id est laborum.

            </note>
```

2.13. The object element

The object element represents a generic embedded media object like images, videos, audio and other types of multimedia files.

Flow

When its parent is an inline element or a block element that only allows inline elements its flow is inline (Section 5.2, pg. 25), otherwise its flow is block (Section 5.1, pg. 25).

Children

```
(
   (
    figure | list | note | object | p | quote | section | table | title
)* | (
    abbr | em | object | quote | span | sub | sup | text()
)*
)
```

Attributes

```
( $core.attrs* | $meta.attrs* | @src | @type? | @width? | @height? )

• Parents

(
    abbr | cell | citation | dml | em | example | figure | item | note |
    object | p | quote | section | span | sub | sup | title
)
```

The @src attribute *must* be used to provide the URI (xs:anyuri) of the resource. It also specifies a *resource object* in RDF triple, as it is described in RDFa Recomendation (Appendix A, pg. 26) of W3C.

The @type attribute may be used to provide the MIME type (Appendix A, pg. 26) of the resource.

The @width attribute may be used to provide the width dimension of the resource.

The @height attribute may be used to provide the height dimension of the resource.

The children of the object element *must* be used to provide an alternative content if the resource provided by @src fails to load.

The alternative content *must* be *inline* or *block* in accordance of the flow of its object parent.

Example 2.13-1: Usage of block flow object element.

```
<figure xml:id="fig-markup-trends">
 <title>Usage of markup language in %</title>
 <object src="markup-trends.svg" type="application/svg+xml">
   st>
     <item>
       <title>HTML</title>
       98%
     </item>
     <item>
       <title>DocBook</title>
       1%
     </item>
       <title>Other</title>
       1%
     </item>
   </list>
  </object>
</figure>
```

Example 2.13-2: Usage of inline flow object element.

```
Press the <object src="accept-call-button-icon.svg"/><em>accept
call</em></object> button to allow an incoming call.
```

— 15 of 36 —

2.14. The p element

The p element represents a generic block of text, usually a paragraph.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
( $inline | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( dml | $block[$block] )
```

2.15. The quote element

The quote element represents a generic quotation container.

Flow

When its parent is an inline element or a block element that only allows inline elements its flow is inline (Section 5.2, pg. 25), otherwise its flow is block (Section 5.1, pg. 25).

Children

```
( $block[not( quote | citation )]+ citation? | ( $inline | text() )+ )
```

Attributes

```
( $core.attrs* | $meta.attrs* | @citation? )
```

Parents

```
( dml | $block[not( quote | citation )] | $inline[not( quote )] )
```

The <code>@citation</code> attribute must be used to provide the URI (xs:anyuri) of the resource cited when the flow of quote element is *inline*, otherwise it must not be used.

Example 2.15-1: Usage of block flow quote element.

```
<section>
  ( ... )
  <quote>
    op>DML is a general-purpose XML schema, particularly well suited to books,
    articles and annotations in other XML sources.
    <citation><span href="http://purl.oclc.org/NET/dml/1.0/">Document Markup
    Language Specification 1.0, Introduction</span>. A. Siches. 2009</citation>
  </quote>
    ( ... )
  </section>
```

Example 2.15-2: Usage of inline flow quote element.

2.16. The section element

The section element represents a generic document section.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
( title, $block[not( title | citation )]+ )
```

Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

```
( dml | note | object[parent::$block] | quote[parent::$block] | section )
```

The <code>@role</code> attribute may be used to provide a form to refine the meaning of the <code>section</code> element. Allowed values are:

• "abstract"

A summary or statement of the contents of a document.

• "part"

A part of a book. Parts usually group related chapters in a book.

• "chapter"

A main division of a book.

• "appendix"

An appendix in a document. Appendixes usually occur at the end of a document.

• "header"

A header section. Usually it groups common parts like a tagline, author, version history information, etc.

• "footer"

A footer section. Usually it groups information about its parent such as rights, related links, etc.

• "toc"

A table of contents.

Example 2.16-1: Usage of section element

```
<section xml:id="introduction">
  <title>Introduction</title>

    Lorem ipsum dolor sit amet, consectetur adipisicing elit...

</section>
```

Example 2.16-2: An appendix section

```
<section role="appendix">
  <title>Resources</title>
  st>
        ( ... )
      </list>
</section>
```

2.17. The span element

The span element has no specific semantic. It is provided as a container of inline content.

Flow

Inline (Section 5.2, pg. 25)

Children

```
( $inline | text() )+

• Attributes
   ( $core.attrs* | $meta.attrs* )
• Parents
```

2.18. The sub element

(\$block | \$inline)

The sub element represents a subscript.

Flow

```
Inline (Section 5.2, pg. 25)
```

Children

```
( $inline | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( $block | $inline )
```

2.19. The summary element

The summary element is a tabular data summary.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
( $inline | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( table )
```

2.20. The sup element

The sup element represents a superscript.

Flow

```
Inline (Section 5.2, pg. 25)
```

Children

```
( $inline | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( $block | $inline )
```

2.21. The table element

The table element represents a table container.

Flow

```
Block (Section 5.1, pg. 25)
```

Children

```
( title?, summary, group+ )
```

Attributes

```
( $core.attrs* | $meta.attrs* | @scope )
```

Parents

```
( dml | $block[$block] )
```

The <code>@scope</code> attribute *must* be used to provide the primary scope of groups. Allowed values are: <code>"row"</code> and <code>"column"</code>.

Example 2.21-1: Usage of table element

```
<title>ISO-639-1 codes</title>
 <summary>Common ISO-639-1 codes with its english name/summary>
 <group role="header">
   <title>Name</title>
   <title>Code</title>
 </group>
 <group>
   <group>
     <cell>English</cell>
     <cell>en</cell>
   </group>
   <group>
     <cell>German</cell>
     <cell>de</cell>
   </group>
 </group>
```

2.22. The title element

The title element represents a header container.

```
• Flow
```

```
Block (Section 5.1, pg. 25)
```

Children

```
( $inline | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( dml | $block[$block] )
```

3. Core attributes

```
$core.attrs = (
   @class | @dir | @href | @status | @xml:base | @xml:id | @xml:lang
)
```

These attributes *must not* be repeated in the same element.

3.1. The @class attribute

The @class attribute provides additional user-specified classification for an element. Value type is xs:NMTOKENS.

Any number of elements may be assigned the same class name.

3.2. The @dir attribute

The @dir attribute specifies the direction of the element and its descendants. Allowed values are:

• "ltr"

Left to right text.

• "rtl"

Right to left text.

3.3. The @href attribute

The @href attribute specifies the location of a resource through an URI (xs:anyuRI). It also specifies a resource object in RDF triple, as it is described in RDFa Recomendation (Appendix A, pg. 26) of W3C.

3.4. The @status attribute

The @status attribute specifies the status of the content in the element. Allowed values are:

• "added"

Added text since last revision.

• "deleted"

Deleted text since last revision.

• "draft"

Text work in progress.

• "review"

Text to evaluate or reevaluate but publishable.

Document Markup Language (DML) Specification 1.0 Metadata attributes

• user-value

Specific status defined by the users according their publishing process. This value *must* be an xs:NMTOKEN.

3.5. The @xml:base attribute

The <code>@xml:base</code> attribute specifies the base URI (<code>xs:anyURI</code>) of the element and its descendants. Its value *must* be interpreted according xml:base W3C recomendation (Appendix A, pg. 26).

3.6. The @xml:id attribute

The <code>@xml:id</code> attribute identifies the unique ID (xs:ID) value of the element.

Its value *must* be interpreted according xml:id W3C recomendation (Appendix A, pg. 26).

3.7. The @xml:lang attribute

The <code>@xml:lang</code> attribute identifies the language of the element and its descendants. Its value *must* be interpreted according XML 1.0 (Appendix A, pg. 26).

4. Metadata attributes

```
$meta.attrs = (
   @about | @content | @datatype | @property | @rel | @resource | @rev | @typeof
)
```

These attributes *must not* be repeated in the same element.

4.1. The @about attribute

The @about attribute provides a *subject* for an RDF triple through an URIorSafeCURIE (Appendix A, pg. 26).

This attribute is part of RDFa Recomendation (Appendix A, pg. 26) of W3C.

4.2. The @content attribute

The @content attribute provides a machine-readable content for a literal in an RDF triple.

This attribute is part of RDFa Recomendation (Appendix A, pg. 26) of W3C.

4.3. The @datatype attribute

The @datatype attribute provides a datatype of a literal through a CURIE (Appendix A, pg. 26).

This attribute is part of RDFa Recomendation (Appendix A, pg. 26) of W3C.

4.4. The @property attribute

The @property attribute provides a predicate for an RDF triple through a whitespace separated list of CURIEs (Appendix A, pg. 26).

This attribute is part of RDFa Recomendation (Appendix A, pg. 26) of W3C.

4.5. The @rel attribute

The @rel attribute provides a predicate for an RDF triple through a whitespace separated list of CURIEs (Appendix A, pg. 26).

This attribute is part of RDFa Recomendation (Appendix A, pg. 26) of W3C.

4.6. The @resource attribute

The @resource attribute provides an object for an RDF triple through a URIorSafeCURIE (Appendix A, pg. 26).

This attribute is part of RDFa Recomendation (Appendix A, pg. 26) of W3C.

4.7. The @rev attribute

The @rev attribute provides a reverse predicate for an RDF triple through a whitespace separated list of CURIEs (Appendix A, pg. 26).

This attribute is part of RDFa Recomendation (Appendix A, pg. 26) of W3C.

4.8. The @typeof attribute

The @typeof attribute provides the type(s) associated with a subject for an RDF triple through a whitespace separated list of CURIEs (Appendix A, pg. 26).

This attribute is part of RDFa Recomendation (Appendix A, pg. 26) of W3C.

5. Flow

Usually any elements belong to a single flow type, block or inline flow type but there are two cases (object and quote) where they change their type depending on their sibling elements.

5.1. Block

Block elements are containers of other block elements or wrappers of inline (Section 5.2, pg. 25) elements and raw text.

```
$block = (
  cell | citation | example | figure | group | item | list | metadata | note |
  object | p | quote | section | summary | table | title
)
```

5.2. Inline

Inline elements are used to mark up running text. It may contain inline elements and raw text.

```
$inline = (
  abbr | em | object | quote | span | sub | sup
)
```

(Draft)

6. Schema

RELAX NG and Schematron references

Appendix A — Resources

RELAX NG

- ISO/IEC 19757-2:2008: Information technology Document Schema Definition Language (DSDL) — Part 2: Regular-grammar-based validation — RELAX NG (http://standards.iso.org/ittf/PubliclyAvailableStandards/c052348_ISO_IEC_19757-2_2008(E).zip). ISO/IEC. 2008.
- RELAX NG Home page (http://www.relaxng.org/)

Schematron

- ISO/IEC 19757-3:2006: Information technology Document Schema Definition Language (DSDL) — Part 3: Rule-based validation — Schematron (http://standards.iso.org/ittf/ PubliclyAvailableStandards/c040833_ISO_IEC_19757-3_2006(E).zip). ISO/IEC. 2006.
- Schematron Home page (http://www.schematron.com)

IETF (Internet Engineering Task Force)

- RFC 2119: Key words for use in RFCs to Indicate Requirement Levels (http://www.apps.ietf.org/rfc/rfc2119.html). S. Bradner. 1997.
- RFC 4646: Tags for the Identification of Languages (http://www.apps.ietf.org/rfc/rfc4646.html). A. Phillips, Ed., M. Davis. 2006.
- RFC 2045: Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies (http://www.apps.ietf.org/rfc/rfc2045.html). N. Freed, N. Borenstein. 1996.

xml namespace

- xml:id Version 1.0 (http://www.w3.org/TR/2005/REC-xml-id-20050909/). N. Walsh, D. Veillard, J. Marsh. 2005.
- Extensible Markup Language (XML) 1.0 (Fifth Edition), 2.12 Language Identification (http://www.w3.org/TR/REC-xml/#sec-lang-tag). T. Bray, J. Paoli, C. M. Sperberg-McQueen, E. Maler, F. Yergeau. 2008.
- XML Base (http://www.w3.org/TR/2001/REC-xmlbase-20010627/). J. Marsh. 2001.

RDFa

- RDFa in XHTML: Syntax and Processing (http://www.w3.org/TR/2008/REC-rdfa-syntax-20081014).
 B. Adida, M. Birbeck, S. McCarron, S. Pemberton. 2008.
- RDFa Primer (http://www.w3.org/TR/2008/NOTE-xhtml-rdfa-primer-20081014/). B. Adida, M. Birbeck. 2008.
- RDFa in XHTML: Syntax and Processing, CURIE definition (http://www.w3.org/TR/rdfa-syntax/#dt_curie). B. Adida, M. Birbeck, S. McCarron, S. Pemberton. 2008.
- RDFa in XHTML: Syntax and Processing, URIorSafeCURIE definition (http://www.w3.org/TR/rdfa-syntax/#dt_uriorsafecurie).
 B. Adida, M. Birbeck, S. McCarron, S. Pemberton. 2008.

Dublin Core Metadata Initiative

Dublin Core Metadata Initiative Home page. (http://dublincore.org/)

B Document Markup Language (DML) Specification 1.0 Conventions

Expressing Dublin Core metadata using HTML/XHTML meta and link elements (http://dublincore.org/documents/2008/08/04/dc-html/). P. Jhonston, A. Powell. 2008.

XPath

• XML Path Language (XPath) 2.0, A.1 EBNF (http://www.w3.org/TR/xpath20/#id-grammar). A. Berglund, S. Boag, D. Chamberlin, M. F. Fernández, M. Kay, J. Robie, J. Siméon. 2007.

Discuss

DML-discuss mailing list (http://groups.google.com/group/dml-discuss)

XML Schemes

 Programming Markup Language Specification 1.0 (http://purl.oclc.org/NET/pml/1.0/). A. Siches. 2009.

CSS

 Cascading Style Sheets Level 2 Revision 1 (CSS 2.1) Specification, 9.2.4 The 'display' property (http://www.w3.org/TR/CSS21/visuren.html#propdef-display). B. Bos, T. Çelik, I. Hickson, H Wium Lie. 2007.

Appendix B — Conventions

The keywords *must*, *must* not, *required*, *shall*, *shall* not, *should*, *should* not, *recommended*, *may*, and *optional*, when emphasized, are to be interpreted as described in IETF RFC 2119 (Appendix A, pg. 26).

- A monospaced font is used for code, elements, atributes, tags and value literals.
- An italic monospaced font is used for variables.

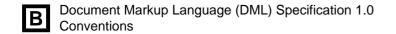
The expressions to define allowed *children*, *attributes* and *parent* for an element uses XPath 2.0 grammar (Appendix A, pg. 27) with addition of quantifier modificators (Appendix B, pg. 28).

When an element (node with type "element") is mentioned in the text with an associated attribute (Appendix B, pg. 27) it is always showed as a predicate. Element EBNF definition (Appendix B.1, pg. 29).

Example B-1: Notation for the section element

section
section[@role]

When an attribute (node with type "attribute") is mentioned in the text, it is always preceded by an at-sign (a) and it optionally has an associated value. Attribute EBNF definition (Appendix B.1, pg. 29).



Example B-2: Notation for the @role attribute

@role
@role="chapter"

When a value is mentioned in the text, it is always preceded and followed by an quote ("). Value EBNF definition (Appendix B.1, pg. 29).

Example B-3: Notation for the "chapter" value

"chapter"

When a tag is mentioned in the text, it is always preceded by a less-than symbol (<) and it is followed by a greater-than symbol (>). Tag EBNF definition (Appendix B.1, pg. 29).

When a tag is mentioned with some omitted attributes it has an ellipsis symbol (...) preceding greater-than symbol (>).

Example B-4: Notation for the start tag <section ...>

<section role="chapter" ...>

Any element or attribute can be modified by a quantifier modificator as follows:

• ? Zero or one time.

+
 One or more times.

Zero or more times.

Therefore, to indicate that an "status" attribute is optional the expression will be @status?. Or, if a "section" element is repeatable the expression will be section+.

For brevity, throughout this document, assume that the following namespace prefixes have been defined:

- "dct" http://purl.org/dc/terms/
- "dml" http://purl.oclc.org/NET/dml/1.0/

• "rdf"

http://www.w3.org/1999/02/22-rdf-syntax-ns#

• "xi"

http://www.w3.org/2001/XInclude

• "xs"

http://www.w3.org/2001/XMLSchema

B.1 EBNF^[1] definitions

```
Element ::= Name ('[' Attribute ']')*
Attribute ::= '@' Name ('=' Value)?
Tag ::= '<' Name (S Name '=' Value)* S? '...'? '/'? '>'
Name ::= ([A-Za-z]+ ':')? [A-Za-z] [A-Za-z0-9_-.]*
Value ::= '"' [^<>"]+ '"'
S ::= (#x20 | #x9 | #xD | #xA)+
```

Appendix C — GNU Free Documentation License

Version 1.3, 3 November 2008

Copyright (C) 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc. http://fsf.org/ (http://fsf.org/)

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

C.1 Preamble

The purpose of this License is to make a manual, textbook, or other functional and useful document "free" in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

^[1] W3C notation (http://www.w3.org/TR/REC-xml/#sec-notation)

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

C.2 Applicability and definitions

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you". You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History".) To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

C.3 Verbatim copying

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

C.4 Copying in quantity

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent

steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

C.5 Modifications

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

- A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.
- B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.
- C. State on the Title page the name of the publisher of the Modified Version, as the publisher.
- D. Preserve all the copyright notices of the Document.
- E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.
- F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.
- G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.
- H. Include an unaltered copy of this License.
- I. Preserve the section Entitled "History", Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.
- J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.
- K. For any section Entitled "Acknowledgements" or "Dedications", Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.
- L. Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.

- M. Delete any section Entitled "Endorsements". Such a section may not be included in the Modified Version.
- N. Do not retitle any existing section to be Entitled "Endorsements" or to conflict in title with any Invariant Section.
- O. Preserve any Warranty Disclaimers.

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties--for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

C.6 Combining documents

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History" in the various original documents, forming one section Entitled "History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements".

C.7 Collections of documents

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy

that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

C.8 Aggregation with independent works

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

C.9 Translation

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

C.10 Termination

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

C.11 Future revisions of this license

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See http://www.gnu.org/copyleft/ (http://www.gnu.org/copyleft/).

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

C.12 Relicensing

"Massive Multiauthor Collaboration Site" (or "MMC Site") means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A "Massive Multiauthor Collaboration" (or "MMC") contained in the site means any set of copyrightable works thus published on the MMC site.

"CC-BY-SA" means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

"Incorporate" means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is "eligible for relicensing" if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

C.13 Addendum: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

Copyright (C) YEAR YOUR NAME.

Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the "with...Texts." line with this:

with the Invariant Sections being LIST THEIR TITLES, with the Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST.

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.