XHTML RDFa Modules

Modules to support RDF annotation of elements

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Abstract

The XHTML RDFa (RDF using attributes) modules define a collection of elements and attributes that enhance a document authors ability to annotate the relationships of content within and among documents. These modules can be integrated into any markup language based upon XHTML Modularization [XHTMLMOD [p.45]].

Status of This Document

This section describes the status of this document at the time of its publication. Other documents may supersede this document. A list of current W3C publications and the latest revision of this technical report can be found in the W3C technical reports index at http://www.w3.org/TR/.

This document is an internal editors draft for development purposes. However, its content is based upon mature materials from [XHTML2 [p.45]] and is therefore considered nearly complete.

This document has been produced by the W3C XHTML 2 Working Group as part of the HTML Activity. The goals of the XHTML 2 Working Group are discussed in the XHTML 2 Working Group charter.

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1. Introduction

This section is informative.

This document contains three modules designed to be used to help extend the scope of XHTML-family markup languages into new environments. It has been developed in conjunction with the RDF and semantic web communities to make it easier to annotate XHTML documents so that RDF information can be automatically extracted.

2. Conformance Requirements

This section is *normative*.

The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119 [p.45]].

Note that all examples in this document are informative, and are not meant to be interpreted as normative requirements.

2.1. Document Conformance

XHTML RDFa is not a stand-alone document type. It is intended to be integrated into other host languages such as XHTML. A conforming XHTML RDFa document is a document that requires only the facilities described as mandatory in this specification and the facilities described as mandatory in its host language. Such a document must meet all the following criteria:

1. The document MUST conform to the constraints expressed in Appendix A - Schema Implementation or Appendix B - DTD Implementation, combined with the constraints expressed in its host language implementation.

2. If the host language is not in the XHTML namespace, and the host language does not incorporate these modules into its own namespace, then the document MUST contain an `xmlns` declaration for the XHTML RDFa namespace [XMLNAMES [p.45]]. The namespace for XHTML RDFa Module is defined to be `http://www.w3.org/1999/xhtml`. An example start tag of a root element might look like:

   Example

   ```
   <html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" >
   ```

2.2. Host Language Conformance

When XHTML RDFa is included in a host language, all of the facilities required in this specification MUST be included in the host language. In addition, the elements and attributes defined in this specification MUST be included in the content model of the host language. Finally, XHTML RDFa requires the availability of the Core Attribute Collection as defined in XHTML Modularization.

2.3. User Agent Conformance

A conforming user agent MUST support all of the features required in this specification.

3. XHTML Hypertext Attributes Module

This section is *normative*.

The Hypertext Attributes Module defines the Hypertext attribute collection. This collection allows an element to be the start point of a hypertext link to a remote resource. When this module is selected, this collection is added to the Common attribute collection as defined in [XHTMLMOD [p.45]].

encoding

Do we need to bring the encoding attribute over too?

3.1. Hypertext Attribute Collection

3.1.1. The href attribute

This attribute specifies a URI to associate with the specified resource. *Note that when used in conjuction with elements such as* `a` *in XHTML, this attribute has additional semantics.*

Example

```
<link href="top.html" hreflang="en" hreftype="text/html" rel="contents"/>
```

3.1.2. The hreflang attribute

This attribute specifies the primary language of the resource designated by href [p.??] . It takes a value of type LanguageCodes. At its most general, it is a comma-separated list of language ranges with optional accept parameters, as defined in section 14.4 of [RFC2616 [p.??]] as the field value of the Accept-Language request header.

In its simplest case, this is just a language code, such as "nl", but it may also contain variant specifications such as "en-gb".

The user agent must use this list as the field value of the `accept-language` request header when requesting the resource using HTTP.

If this attribute is not present, the user agent must use its default value of the accept-language request header.

Example

```
<p>
   <a href="http://www.w3.org/2003/06/semantictour-pressrelease"
      hreflang="fr">
      The press release in French
   </a>
</p>
```

3.1.3. The hrefmedia attribute

This attribute indicates the type(s) of media to which to make available the content referenced by the associated href [p.??] URI. It takes a value of type MediaDesc.

Example

```
<p>
   <a href="http://www.example.com/forPrinters.html"
      hrefmedia="print">
      A printable version of this page.
   </a>
</p>
```

3.1.4. The hreftype attribute

This attribute specifies a value of type ContentTypes that indicates the allowable content types of the relevant href [p.??] URI. See the definition of type ContentTypes for details of how it is used.

Example

```
<p>
   <a href="http://www.w3.org"
      hreftype="text/html,application/xhtml+xml">
      The W3C Home Page
   </a>
</p>
```

4. XHTML Metainformation Attributes Module

This section is *normative*.

The Metainformation Attributes Module defines the Metainformation attribute collection. This collection allows elements to be annotated with metadata throughout an XHTML-family document. When this module is selected, this collection is added to the Common attribute collection as defined in [XHTMLMOD [p.45]].

Examples and Triples

All the examples in this section and the section following should clearly spell out the triples that are created by using the RDFa attributes in the ways described.

4.1. Metadata Attribute Collection

4.1.1. The about attribute

This attribute specifies a URI that indicates which resource has a specified property.

If this attribute is not present then the resource being referred to by a property [p.??] attribute on the same element is decided as follows:

1. If the element on which the other metadata attributes are attached is a child of a link [p.??] then the metadata inferred by the element concerns the URI referred to in the link [p.??] .
2. Otherwise, the metadata inferred by the element concerns the current document.

Example

```
<meta about="http://www.example.com/" property="dc:created">2004-03-20</meta>
```

4.1.2. The content attribute

This attribute specifies a value of type CDATA that defines the metadata associated with an element. If not specified, then the metadata for an element is its content. If it is specified, and there is no `property` attribute, then the property is considered to be `reference`.

Example

```
<meta about="http://www.example.com/" property="dc:created" content="2004-03-20"/>
```

4.1.3. The datatype attribute

This attribute defines as a QName the datatype of the content metadata of the element. If the attribute is not specified, then the default value is string [p.??] as defined by [XMLSCHEMA [p.??]].

Example

```
<meta about="http://www.example.com/" property="dc:created" datatype="xsd:date">2004-03-20</meta>
```

4.1.4. The instanceof attribute

This attribute indicates the `rdf:type` of the associated triple(s).

Default instanceof value

What is the default value for this attribute?

4.1.5. The property attribute

This attribute specifies a space-separated list of QNames that indicates which property is being defined by the element.

Example

```
<meta about="http://www.example.com/" property="dc:creator">John Smith</meta>
```

Authors may use the following properties, listed here with their conventional interpretations.

User agents, search engines, etc. are free to interpret these properties as necessary.

The list of predefined values (in the XHTML2 namesapce) are given below. Users may extend this collection of relationships, however new values must be defined in their own namespace, and the relationship names must be referenced in documents as qualified names (e.g., `dc:creator` for the Dublin Core "creator" relationship).

Note that in order to reference relationship definitions via QName, their namespace must be defined via an xmlns attribute somewhere suitable:

Example

```
<html ....  xmlns:dc="http://purl.org/dc/elements/1.1/">
```

description
: Gives a description of the resource.

generator
: Identifies the software used to generate the resource.

keywords
: Gives a comma-separated list of keywords describing the resource.

reference
: The default value, gives no explicit information about the relationship with the resource.

robots
: Gives advisory information intended for automated web-crawling software. This specification does not define values for this property.

title
: Specifies a title for the resource.

Note that previous versions of XHTML included an `author` property; this has now been replaced with the Dublin Core `creator` property.

Note that:

Example

```
<head>
    <title>My Life and Times</title>
</head>
```

is just a shorthand for:

Example

```
<head>
    <meta property="title">My Life and Times</meta>
```

Note that the title [p.??] attribute is just a shorthand for a common case:

Example

```
<a href="Jakob.html" title="Author biography">Jakob Nielsen</a>'s Alertbox for January 11, 1998
```

is equivalent to:

Example

```
<meta about="#jakob" property="title">Author biography</meta>
<a href="Jakob.html" id="jakob">Jakob Nielsen</a>'s Alertbox for January 11, 1998
```

That this allows you to specify richer, marked-up text for a title when needed.

4.1.6. The rel attribute

This attribute describes the relationship between the resource specified by the about [p.??] attribute (or its default value) and the resource referred to by the href [p.??] attribute. The type for this attribute is a space-separated list of QNames.

Example

```
<link href="top.html" rel="contents"/>
```

This example defines a link to a table of contents for the current document.

Example

```
<link href="doc.ps"
      rel="alternate"
      media="print"
      hreftype="application/postscript" />
```

This example defines a link to an alternate version of the document especially suited to printing.

Authors may use the following relationship names, listed here with their conventional interpretations.

User agents, search engines, etc. may interpret these relationships in a variety of ways. For example, user agents may provide access to linked documents through a navigation bar.

Users may extend this collection of relationships. However, extensions must be defined in their own namespace, and the relationship names must be referenced in documents as qualified names (e.g., dc:creator for the Dublin Core "creator" relationship).

Note that in order to reference relationship definitions via QName, their namespace must be defined via an xmlns attribute somewhere suitable:

Example

```
<html ....  xmlns:dc="http://purl.org/dc/elements/1.1/">
```

alternate
: Designates alternate versions for the document. When used together with the hreflang [p.??] attribute, it implies a translated version of the document. When used together with the hrefmedia [p.??] attribute, it indicates a version intended for that type of device.

appendix
: Refers to a resource serving as an appendix in a collection.

bookmark
: Refers to a bookmark. A bookmark is a link to a key entry point within an extended document. The title [p.??] attribute may be used, for example, to label the bookmark. Note that several bookmarks may be defined for a document.

cite
: Refers to a resource that defines a citation. In the following example, the `cite` is used to reference the book from which the quotation is taken:

  cite as book reference

```
As Gandalf the White said in
<span rel="cite" about="http://www.example.com/books/the_two_towers">
    The Two Towers
</span>,
<quote xml:lang="en">"The hospitality of
your hall is somewhat lessened of late, Theoden King."</quote>
```

cite to reference another specification

```
More information can be found in
<span property="cite" about="http://www.w3.org/TR/REC-xml">[XML]</cite>.
```

chapter
: Refers to a resource serving as a chapter in a collection.

contents
: Refers to a resource serving as a table of contents.

copyright
: Refers to a copyright statement for the resource.

glossary
: Refers to a resource providing a glossary of terms.

help
: Refers to a resource offering help (more information, links to other sources of information, etc.)

icon
: Refers to a resource that represents an icon.

index
: Refers to a resource providing an index.

meta
: Refers to a resource that provides metadata, for instance in RDF.

next
: Refers to the next resource (after the current one) in an ordered collection.

p3pv1
: Refers to a P3P Policy Reference File. See [P3P [p.??]].

prev
: Refers to the previous resource (before the current one) in an ordered collection.

profile

: Refers to a resource that defines relationships or provides metadata, for instance in RDF. User agents may use this URI in two ways:

  - As a globally unique name. User agents may be able to recognize the name (without actually retrieving the profile) and perform some activity based on known conventions for that profile. For instance, search engines could provide an interface for searching through catalogs of XHTML documents, where these documents all use the same profile for representing catalog entries.
  - As a link. User agents may dereference the URI and perform some activity based on the actual definitions within the profile (e.g., authorize the usage of the profile within the current XHTML document). This specification does not define formats for profiles.

  This example refers to a hypothetical profile that defines useful properties for document indexing. The properties defined by this profile -- including "author", "copyright", "keywords", and "date" -- have their values set by subsequent meta [p.??] declarations.

Example

```
<html ... xmlns:mp="http://www.example.com/profiles/rels">
 <head>
     <title>How to complete Memorandum cover sheets</title>
     <link rel="profile" href="http://www.example.com/profiles/slideshow" />
 </head>
 <body>
     <div class="slide">
         some slide content...
     </div>
 </body>
...
```

The use of the `rel` value of `profile` has the same effect as specifying a `profile` attribute on the `head` element of an XHTML document.

role
: Indicates the purpose of the resource. For some possible values, see [XHTMLROLE [p.45]] module.

section
: Refers to a resource serving as a section in a collection.

subsection
: Refers to a resource serving as a subsection in a collection.

start
: Refers to the first resource in a collection of resources. A typical use case might be a collection of chapters in a book.

No end or last value

We have a value of "start", but no corresponding "end" value. Do we need one?

up
: Refers to the resource "above" in a hierarchically structured set.

4.1.7. The resource attribute

This attribute can be used to define the resource referenced by a rel [p.??] , rev [p.??] , or property [p.??] attribute. When provided, the value of `resource` supercedes any value for the href [p.??] attribute on the same element.

4.1.8. The rev attribute

This attribute is the complement of the rel [p.??] attribute and describes the reverse relationship between the resource specified by the about [p.??] attribute (or its default value) and the resource referred to by the href [p.??] attribute. Its value is a space-separated list of QNames. For a list of relationship names, see the rel [p.??] attribute.

Example

```
<link href="doc.html" rev="contents"/>
```

This example states that the current document is the table of contents for the referenced document.

4.2. Metadata Attributes and RDF

The metadata attributes can be used to generate RDF statements, which consist of a subject, a predicate, and an object.

The attributes rel [p.??] , rev [p.??] and property [p.??] represent predicates. The predicate is obtained by concatenating the namespace URI and the local part of the QName of the attribute value.

For attribute rel [p.??] , the subject is the about [p.??] property, and the object is the value of the href [p.??] attribute; for attribute rev [p.??] , the subject and object roles are reversed: the subject is the href [p.??] attribute, and the object is the value of the about [p.??] property. In both cases, a relative href [p.??] value is interpreted in the context of the current document or, if present, by the value of a `xml:base` attribute.

For attribute property [p.??] , the subject is the about [p.??] property, and the object is the string literal in the content [p.??] attribute, or otherwise the XML literal that is the content of the element, decorated as necessary with the value of the datatype [p.??] attribute.

The about property is obtained as follows:

- If the element that the attributes are on has an about [p.??] attribute, then that is used.
- Otherwise for meta [p.??] and link [p.??] elements:
  - If the parent element has an explicit about [p.??] attribute, then that is the about property.
  - Otherwise, if the parent element has an id [p.??] attribute, then that is the about property.
  - Otherwise, the about property is a ’blank node’ representing the parent element (which is like an invisible automatically generated id [p.??] on the element).
- For all other elements, the about property is the closest about [p.??] attribute on an ancestor of the current element. If there is no such attribute, it is the [URI [p.??]] of the containing document.

4.3. Metadata as Content

One use of the metadata attributes is with elements that represent document content, since the same string literal can be used to specify both document content, and metadata.

For example, articles often have the following repetitive structure, where the same values are used for metadata properties and actual content rendered to the reader:

Example

```
<html xmlns="http://www.w3.org/1999/xhtml"
      xmlns:dc="http://purl.org/dc/elements/1.1/">
  <head>
    <title>... title ...</title>
    <meta property="dc:date">2004-03-23</meta>
    <meta property="dc:title">
          High-tech rollers hit casino for &#163;1.3m
    </meta>
    <meta property="dc:creator">Steve Bird</meta>
  </head>
  <body>
    ...
    <span class="date">2004-03-23</span>
    <span class="headline">
          High-tech rollers hit casino for &#163;1.3m
    </span>
    <span class="byline">By Steve Bird</span>
    <span class="standfirst">
      Word of a hand-held device which can beat the roulette wheel
      has gambling bosses quaking
    </span>
    ...
    <p>...</p>
  </body>
</html>
```

By making use of the metadata attributes this can be shortened to the following:

Example

```
<html xmlns="http://www.w3.org/1999/xhtml"
      xmlns:dc="http://purl.org/dc/elements/1.1/">
  <head>
    <title>... title ...</title>
  </head>
  <body>
    ...
    <span property="dc:date"
        class="date">
        2004-03-23
    </span>
    <span property="dc:title"
        class="headline">
        High-tech rollers hit casino for &#163;1.3m
    </span>
    By <span property="dc:creator"
             class="byline">Steve Bird</span>
    <span class="standfirst">
        Word of a hand-held device which can beat the
        roulette wheel has gambling bosses quaking
    </span>
```

```
      ...
      <p>...</p>
    </body>
  </html>
```

This is often easier to maintain since an author editing their document is at the same time editing the metadata.

4.4. Mapping Lexical Content

Another use for the metadata attributes on other mark-up elements is to provide a *normalized* value for some text. This is especially important to certain types of consumers of metadata, such as search engines.

For example, the following article would be difficult to locate:

Example

```
Tomorrow the <span>Prime Minister</span> is expected to fly to ...
```

However, by using href [p.??] and content [p.??] we can indicate exactly which Prime Minister is being referred to, and when the journey is due to take place:

Example

```
<span content="2004-03-20">Tomorrow</span> the
<span href="http://example.com/people/TonyBlair/1">Prime Minister</span>
is expected to fly to ...
```

Note that if no property [p.??] , rel [p.??] , nor rev [p.??] is present then a default predicate of `reference` is used; the example would then be equivalent to:

Example

```
<span property="reference"
    content="2004-03-20">
    Tomorrow
</span>
the <span property="reference"
    href="http://example.com/people/TonyBlair/1">
    Prime Minister
</span>
is expected to fly to ...
```

A. Schema Implementation

This appendix is *normative*.

The schema implementation of XHTML RDFa Module conforms to the requirements defined in [XHTMLSCHEMAMOD [p.??]]. It is divided into an attributes module and an element module for the XHTML RDFa Module module defined in this Proposed Recommendation.

A.1. Hypertext Attributes Module

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:xh11d="http://www.w3.org/1999/xhtml/datatypes/"
    elementFormDefault="qualified"
>
  <xs:annotation>
    <xs:documentation>
      This is the XML Schema Hypertext Attributes module for XHTML

      $Id: xhtml-rdfa.ps,v 1.2 2007/08/11 19:11:37 jigsaw Exp $
    </xs:documentation>
    <xs:documentation source="xhtml-rdfa-copyright-1.xsd"/>
  </xs:annotation>

  <xs:annotation>
    <xs:documentation>
      XHTML Hypertext Attributes
    </xs:documentation>
  </xs:annotation>

  <xs:attribute name="href" type="xs:anyURI"/>
  <xs:attribute name="hreflang" type="xh11d:LanguageCodes"/>
  <xs:attribute name="hrefmedia" type="xh11d:MediaDesc"/>
  <xs:attribute name="hreftype" type="xh11d:ContentTypes"/>

  <xs:attributeGroup name="XHTML.hyperAttributes.attlist">
    <xs:attribute ref="href"/>
    <xs:attribute ref="hreflang"/>
    <xs:attribute ref="hrefmedia"/>
    <xs:attribute ref="hreftype"/>
  </xs:attributeGroup>

</xs:schema>
```

A.2. XHTML Metainformation Attributes Module

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:xh11d="http://www.w3.org/1999/xhtml/datatypes/"
    elementFormDefault="qualified"
>
```

```
  <xs:annotation>
    <xs:documentation>
      This is the XML Schema Metainformation Attributes module for XHTML

      $Id: xhtml-rdfa.ps,v 1.2 2007/08/11 19:11:37 jigsaw Exp $
    </xs:documentation>
    <xs:documentation source="xhtml-rdfa-copyright-1.xsd"/>
  </xs:annotation>

  <xs:annotation>
    <xs:documentation>
      XHTML Metainformation Attributes
    </xs:documentation>
  </xs:annotation>

  <xs:attribute name="about" type="xs:anyURI"/>
  <xs:attribute name="content" type="xh11d:CDATA"/>
  <xs:attribute name="datatype" type="xs:QName"/>
  <xs:attribute name="property" type="xs:QName"/>
  <xs:attribute name="rel" type="xs:QName"/>
  <xs:attribute name="rev" type="xs:QName"/>

  <xs:attributeGroup name="XHTML.metaAttributes.attlist">
    <xs:attribute ref="about"/>
    <xs:attribute ref="content"/>
    <xs:attribute ref="datatype"/>
    <xs:attribute ref="property"/>
    <xs:attribute ref="rel"/>
    <xs:attribute ref="rev"/>
  </xs:attributeGroup>

</xs:schema>
```

A.3. XHTML Metainformation Module

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
 xmlns:xs="http://www.w3.org/2001/XMLSchema"
 elementFormDefault="qualified"
 xmlns:xh11d="http://www.w3.org/1999/xhtml/datatypes/"
>
    <xs:import namespace="http://www.w3.org/1999/xhtml/datatypes/"
               schemaLocation="xhtml-datatypes-1.xsd" />

    <xs:annotation>
        <xs:documentation>
      This is the XML Schema Metainformation module for XHTML
      $Id: xhtml-rdfa.ps,v 1.2 2007/08/11 19:11:37 jigsaw Exp $
    </xs:documentation>
        <xs:documentation source="xhtml-rdfa-copyright-1.xsd"/>
    </xs:annotation>
    <xs:annotation>
        <xs:documentation>
      Meta Information

        * link
        * meta

      This module declares the link and meta element type and their attributes,
```

```
      used to provide declarative document metainformation.
    </xs:documentation>
        <xs:documentation source="http://www.w3.org/TR/2007/xhtml-rdfa/Overview.html#s_meta"/>
    </xs:annotation>
    <xs:attributeGroup name="xhtml.link.attlist">
        <xs:attributeGroup ref="xhtml.Common.attrib"/>
        <xs:attribute name="charset" type="xh11d:Charset"/>
        <xs:attribute name="type" type="xh11d:ContentType"/>
        <xs:attribute name="media" type="xh11d:MediaDesc"/>
    </xs:attributeGroup>
    <xs:group name="xhtml.link.content">
        <xs:sequence/>
    </xs:group>
    <xs:complexType name="xhtml.link.type">
        <xs:group ref="xhtml.link.content"/>
        <xs:attributeGroup ref="xhtml.link.attlist"/>
    </xs:complexType>
    <xs:attributeGroup name="xhtml.meta.attlist">
        <xs:attributeGroup ref="xhtml.Common.attrib"/>
        <xs:attribute name="http-equiv" type="xs:NMTOKEN"/>
        <xs:attribute name="name" type="xs:NMTOKEN"/>
        <xs:attribute name="scheme" type="xh11d:CDATA"/>
    </xs:attributeGroup>
    <xs:group name="xhtml.meta.content">
        <xs:sequence/>
    </xs:group>
    <xs:complexType name="xhtml.meta.type">
        <xs:group ref="xhtml.meta.content"/>
        <xs:attributeGroup ref="xhtml.meta.attlist"/>
    </xs:complexType>
</xs:schema>
```

B. DTD Implementation

This appendix is *normative*.

The DTD implementation of XHTML RDFa Module conforms to the requirements defined in [XHTMLMOD [p.45]]. Consequently, it provides a Qualified Names sub-module, and a module file for the XHTML RDFa Module module defined in this Proposed Recommendation.

B.1. Qualified Names Module

Note that this module defines the parameter entity `%xhtml-rdfa-attrs.qname;`. This entity is intended to be used in the attribute lists of elements in any host language that permits the use of the RDFa attributes on elements in its own namespace. In this case the Host Language driver should set a parameter entity `%XHTML-RDFA.prefixed;` to `INCLUDE` and a parameter entity `%XHTML-RDFA.prefix;` to a value that is the prefix for the XHTML RDFa Module attributes.

```
<!-- ....................................................................... -->
<!-- XHTML RDFa Qname Module  ..................................... -->
<!-- file: xhtml-rdfa-qname-1.mod

     This is XHTML RDFa - the RDFa Attribute Module for XHTML.

     Copyright 2007 W3C (MIT, ERCIM, Keio), All Rights Reserved.

     This DTD module is identified by the PUBLIC and SYSTEM identifiers:

       PUBLIC "-//W3C//ENTITIES XHTML RDFa Attribute Qnames 1.0//EN"
       SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-rdfa-qname-1.mod"

     Revisions:
     (none)
     ....................................................................... -->

<!-- XHTML RDFa Attribute Qname (Qualified Name) Module

     This module is contained in two parts, labeled Section 'A' and 'B':

       Section A declares parameter entities to support namespace-
       qualified names, namespace declarations, and name prefixing
       for XHTML RDFa and extensions.

       Section B declares parameter entities used to provide
       namespace-qualified names for the XHTML RDFa elements
       and attributes:

         %link.qname;   the xmlns-qualified name for link
         ...

     XHTML RDFa extensions would create a module similar to this one.
-->

<!-- Section A: XHTML RDFa Attribute XML Namespace Framework :::::::::::::: -->
```

```
<!-- 1. Declare a %XHTML-RDFA.prefixed; conditional section keyword, used
        to activate namespace prefixing. The default value should
        inherit '%NS.prefixed;' from the DTD driver, so that unless
        overridden, the default behavior follows the overall DTD
        prefixing scheme.
-->
<!ENTITY % NS.prefixed "IGNORE" >
<!ENTITY % XHTML-RDFA.prefixed "%NS.prefixed;" >

<!-- 2. Declare a parameter entity (eg., %XHTML-RDFA.xmlns;) containing
        the URI reference used to identify the XHTML RDFa Attribute namespace
-->
<!ENTITY % XHTML-RDFA.xmlns  "http://www.w3.org/1999/xhtml" >

<!-- 3. Declare parameter entities (eg., %XML.prefix;) containing
        the default namespace prefix string(s) to use when prefixing
        is enabled. This may be overridden in the DTD driver or the
        internal subset of an document instance. If no default prefix
        is desired, this may be declared as an empty string.

     NOTE: As specified in [XMLNAMES], the namespace prefix serves
     as a proxy for the URI reference, and is not in itself significant.
-->
<!ENTITY % XHTML-RDFA.prefix  "" >

<!-- 4. Declare parameter entities (eg., %XHTML-RDFA.pfx;) containing the
        colonized prefix(es) (eg., '%XHTML-RDFA.prefix;:') used when
        prefixing is active, an empty string when it is not.
-->
<![%XHTML-RDFA.prefixed;[
<!ENTITY % XHTML-RDFA.pfx  "%XHTML-RDFA.prefix;:" >
]]>
<![%XHTML.prefixed;[
<!ENTITY % XHTML-RDFA.pfx  "%XHTML.prefix;:" >
]]>
<!ENTITY % XHTML-RDFA.pfx  "" >

<!-- declare qualified name extensions here ............ -->
<!ENTITY % xhtml-rdfa-qname-extra.mod "" >
%xhtml-rdfa-qname-extra.mod;

<!-- 5. The parameter entity %XHTML-RDFA.xmlns.extra.attrib; may be
        redeclared to contain any non-XHTML RDFa Attribute namespace
        declaration attributes for namespaces embedded in XML. The default
        is an empty string.  XLink should be included here if used
        in the DTD.
-->
<!ENTITY % XHTML-RDFA.xmlns.extra.attrib "" >


<!-- Section B: XML Qualified Names ::::::::::::::::::::::::::::: -->

<!-- 6. This section declares parameter entities used to provide
        namespace-qualified names for the XHTML RDFa attribute modules.

        Note that these names are NOT prefixed to be compatible with
```

```
        XHTML Modularization 1.1
-->

<!-- end of xhtml-rdfa-qname-1.mod -->
```

B.2. XHTML HyperAttributes Module

```
<!-- ..................................................................... -->
<!-- XHTML Hypertext Attributes Module  ................................... -->
<!-- file: xhtml-hyperAttributes-1.mod

     This is XHTML-RDFa, modules to annotate XHTML family documents.
     Copyright 2007 W3C (MIT, ERCIM, Keio), All Rights Reserved.
     Revision: $Id: xhtml-rdfa.ps,v 1.2 2007/08/11 19:11:37 jigsaw Exp $

     This DTD module is identified by the PUBLIC and SYSTEM identifiers:

       PUBLIC "-//W3C//ENTITIES XHTML HyperAttributes 1.0//EN"
       SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-hyperAttributes-1.mod"

     Revisions:
     ..................................................................... -->

<!-- Common Attributes

     This module declares a collection of hypertext related
     attributes.

     %NS.decl.attrib; is declared in the XHTML Qname module.

     This file also includes declarations of "global" versions of the
     attributes.  The global versions of the attributes are for use on
     elements in other namespaces.
-->

<!ENTITY % href.attrib
     "href        %URI.datatype;             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.href.attrib
     "%XHTML.prefix;:href          %URI.datatype;        #IMPLIED"
>
]]>

<!ENTITY % hreflang.attrib
     "hreflang        %LanguageCode.datatype;             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.hreflang.attrib
     "%XHTML.prefix;:hreflang          %LanguageCode.datatype;        #IMPLIED"
>
]]>

<!ENTITY % hrefmedia.attrib
```

```
     "hrefmedia        %MediaDesc.datatype;              #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.hrefmedia.attrib
     "%XHTML.prefix;:hrefmedia           %MediaDesc.datatype;        #IMPLIED"
>
]]>

<!ENTITY % hreftype.attrib
     "hreftype        %ContentTypes.datatype;             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.hreftype.attrib
     "%XHTML.prefix;:hreftype           %ContentTypes.datatype;        #IMPLIED"
>
]]>

<!ENTITY % Hyper.attrib.extra "" >

<!ENTITY % Hyper.attrib
     "%href.attrib;
      %hreflang.attrib;
      %hrefmedia.attrib;
      %hreftype.attrib;
      %Hyper.attrib.extra;"
>

<!ENTITY % XHTML.global.hyper.attrib.extra "" >

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.hyper.attrib
     "%XHTML.global.href.attrib;
      %XHTML.global.hreflang.attrib;
      %XHTML.global.hrefmedia.attrib;
      %XHTML.global.hreftype.attrib;
      %XHTML.global.hyper.attrib.extra;"
>
]]>

<!ENTITY % XHTML.global.hyper.attrib "" >

<!-- end of xhtml-hyperAttributes-1.mod -->
```

B.3. XHTML Metainformation Attributes Module

```
<!-- ..................................................................... -->
<!-- XHTML Common Attributes Module  ..................................... -->
<!-- file: xhtml-attribs-1.mod

     This is XHTML-RDFa, modules to annotate XHTML family documents.
     Copyright 2007 W3C (MIT, ERCIM, Keio), All Rights Reserved.
     Revision: $Id: xhtml-rdfa.ps,v 1.2 2007/08/11 19:11:37 jigsaw Exp $

     This DTD module is identified by the PUBLIC and SYSTEM identifiers:
```

```
        PUBLIC "-//W3C//ENTITIES XHTML MetaAttributes 1.0//EN"
        SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-metaAttributes-1.mod"

      Revisions:
      (none)
      ..................................................................... -->

<!-- Common Attributes

     This module declares a collection of meta-information related
     attributes.

     %NS.decl.attrib; is declared in the XHTML Qname module.

     This file also includes declarations of "global" versions of the
     attributes.  The global versions of the attributes are for use on
     elements in other namespaces.
-->

<!ENTITY % QName.datatype "CDATA" >
<!ENTITY % QNames.datatype "CDATA" >

<!ENTITY % about.attrib
     "about        %URI.datatype;             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.about.attrib
     "%XHTML.prefix;:about           %URI.datatype;        #IMPLIED"
>
]]>

<!ENTITY % instanceof.attrib
     "instanceof        %QName.datatype;             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.instanceof.attrib
     "%XHTML.prefix;:instanceof           %QName.datatype;        #IMPLIED"
>
]]>

<!ENTITY % property.attrib
     "property        %QNames.datatype;             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.property.attrib
     "%XHTML.prefix;:property           %QNames.datatype;        #IMPLIED"
>
]]>

<!ENTITY % resource.attrib
     "resource        %URI.datatype;             #IMPLIED"
>
```

```
<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.resource.attrib
     "%XHTML.prefix;:resource           %URI.datatype;        #IMPLIED"
>
]]>

<!ENTITY % content.attrib
     "content        CDATA             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.content.attrib
     "%XHTML.prefix;:content           CDATA        #IMPLIED"
>
]]>

<!ENTITY % datatype.attrib
     "datatype        %QName.datatype;             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.datatype.attrib
     "%XHTML.prefix;:datatype           %QName.datatype;        #IMPLIED"
>
]]>

<!ENTITY % rel.attrib
     "rel        %QNames.datatype;             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.rel.attrib
     "%XHTML.prefix;:rel           %QNames.datatype;        #IMPLIED"
>
]]>

<!ENTITY % rev.attrib
     "rev        %QNames.datatype;             #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.rev.attrib
     "%XHTML.prefix;:rev           %QNames.datatype;        #IMPLIED"
>
]]>

<!ENTITY % Metainformation.extra.attrib "" >

<!ENTITY % Metainformation.attrib
     "%about.attrib;
      %content.attrib;
      %datatype.attrib;
      %instanceof.attrib;
      %property.attrib;
      %rel.attrib;
      %resource.attrib;
      %rev.attrib;
```

```
      %Metainformation.extra.attrib;"
>

<!ENTITY % XHTML.global.metainformation.extra.attrib "" >

<![%XHTML.global.attrs.prefixed;[

<!ENTITY % XHTML.global.metainformation.attrib
     "%XHTML.global.about.attrib;
      %XHTML.global.content.attrib;
      %XHTML.global.datatype.attrib;
      %XHTML.global.instanceof.attrib;
      %XHTML.global.property.attrib;
      %XHTML.global.rel.attrib;
      %XHTML.global.resource.attrib;
      %XHTML.global.rev.attrib;
      %XHTML.global.metainformation.extra.attrib;"
>
]]>

<!ENTITY % XHTML.global.metainformation.attrib "" >


<!-- end of xhtml-metaAttributes-1.mod -->
```

B.4. XHTML Metainformation Module

```
<!-- ..................................................................... -->
<!-- XHTML Document Metainformation Module  ............................... -->
<!-- file: xhtml-meta-2.mod

     This is XHTML-RDFa, modules to annotate XHTML family documents.
     Copyright 2007 W3C (MIT, ERCIM, Keio), All Rights Reserved.
     Revision: $Id: xhtml-rdfa.ps,v 1.2 2007/08/11 19:11:37 jigsaw Exp $

     This DTD module is identified by the PUBLIC and SYSTEM identifiers:

       PUBLIC "-//W3C//ELEMENTS XHTML Metainformation 2.0//EN"
       SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-meta-2.mod"

     Revisions:
     (none)
     ..................................................................... -->

<!-- Meta Information

        meta
        link

     This module declares the meta and link element types,
     used to provide declarative document metainformation.
-->

<!-- meta: Generic Metainformation ..................... -->

<!ENTITY % meta.element  "INCLUDE" >
```

```
<![%meta.element;[
<!ENTITY % meta.content  "( #PCDATA | %Inline.mix; )*" >
<!ENTITY % meta.qname  "meta" >
<!ELEMENT %meta.qname;  %meta.content; >
<!-- end of meta.element -->]]>

<!ENTITY % meta.attlist  "INCLUDE" >
<![%meta.attlist;[
<!ATTLIST %meta.qname;
      %Common.attrib;
      http-equiv   NMTOKEN                  #IMPLIED
      name         NMTOKEN                  #IMPLIED
      scheme       CDATA                    #IMPLIED
>
<!-- end of meta.attlist -->]]>

<!-- link: Media-Independent Link ..................... -->

<!ENTITY % link.element  "INCLUDE" >
<![%link.element;[
<!ENTITY % link.content  "( %link.qname; | %meta.qname; )*" >
<!ENTITY % link.qname  "link" >
<!ELEMENT %link.qname;  %link.content; >
<!-- end of link.element -->]]>

<!ENTITY % link.attlist  "INCLUDE" >
<![%link.attlist;[
<!ATTLIST %link.qname;
      %Common.attrib;
      charset      %Charset.datatype;       #IMPLIED
      type         %ContentType.datatype;   #IMPLIED
      media        %MediaDesc.datatype;     #IMPLIED
>
<!-- end of link.attlist -->]]>

<!-- end of xhtml-meta-2.mod -->
```

C. DTD Markup Language Example

This appendix is *informative*.

This appendix includes an example of a markup language created using the modules in this specification, coupled with other modules from [XHTMLMOD [p.45]]. The resulting markup language, "xhtml-rdfa" is provided solely as an example, and does not represent an intended direction in terms of a formal markup language from he W3C.

The following sample demonstrates some simple uses of RDFa within an xhtml-rdfa document.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML+RDFa 1.0//EN"
                      "http://www.w3.org/MarkUp/DTD/xhtml-rdfa-1.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en">
    <head>
        <title>This is a test document</title>
    </head>
    <body>
        <p>This is a test
            <span rel="cite" href="Overview.html">citation to XHTML+RDFa</span>
        </p>
        <p>Here is more content:
            <span href="Overview.html" hreflang="en" hreftype="text/html">
                the specification
            </span>
            That should NOT be a link.
        </p>
        <p>
            <span content="some information" rel="cite" resource="http://www.w3.org/TR">
            The W3C TR page
            </span>
        </p>
        <div content="some information" rel="cite" resource="http://www.w3.org/TR">
            The W3C TR page
        </div>
    </body>
</html>
```

The actual markup language is created by combining the basics of XHTML 1.1 and the modules in this specification. This is done by using a content model module, and then a driver module:

C.1. XHTML+RDFa Content Model Module

```
<!-- ..................................................................... -->
<!-- XHTML+RDFa Document Model Module  ..................................... -->
<!-- file: xhtml-rdfa-model-1.mod

     This is XHTML+RDFa.
     Copyright 1998-2007 W3C (MIT, ERCIM, Keio), All Rights Reserved.
     Revision: $Id: xhtml-rdfa.ps,v 1.2 2007/08/11 19:11:37 jigsaw Exp $ SMI

     This DTD module is identified by the PUBLIC and SYSTEM identifiers:
```

```
        PUBLIC "-//W3C//ENTITIES XHTML+RDFa Document Model 1.0//EN"
        SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-rdfa-model-1.mod"

      Revisions:
      (none)
      ..................................................................... -->

<!-- XHTML+RDFa Document Model

      This module describes the groupings of elements that make up
      common content models for XHTML elements.

      XHTML has three basic content models:

          %Inline.mix;  character-level elements
          %Block.mix;   block-like elements, eg., paragraphs and lists
          %Flow.mix;    any block or inline elements

      Any parameter entities declared in this module may be used
      to create element content models, but the above three are
      considered 'global' (insofar as that term applies here).

      The reserved word '#PCDATA' (indicating a text string) is now
      included explicitly with each element declaration that is
      declared as mixed content, as XML requires that this token
      occur first in a content model specification.
-->
<!-- Extending the Model

      While in some cases this module may need to be rewritten to
      accommodate changes to the document model, minor extensions
      may be accomplished by redeclaring any of the three *.extra;
      parameter entities to contain extension element types as follows:

          %Misc.extra;    whose parent may be any block or
                          inline element.

          %Inline.extra;  whose parent may be any inline element.

          %Block.extra;   whose parent may be any block element.

      If used, these parameter entities must be an OR-separated
      list beginning with an OR separator ("|"), eg., "| a | b | c"

      All block and inline *.class parameter entities not part
      of the *struct.class classes begin with "| " to allow for
      exclusion from mixes.
-->

<!-- ..............  Optional Elements in head  .................. -->

<!ENTITY % HeadOpts.mix
      "( %script.qname; | %style.qname; | %meta.qname;
       | %link.qname; | %object.qname; )*"
>

<!-- .................  Miscellaneous Elements  .................. -->
```

```
<!-- ins and del are used to denote editing changes
-->
<!ENTITY % Edit.class "| %ins.qname; | %del.qname;" >

<!-- script and noscript are used to contain scripts
     and alternative content
-->
<!ENTITY % Script.class "| %script.qname; | %noscript.qname;" >

<!ENTITY % Misc.extra "" >

<!-- These elements are neither block nor inline, and can
     essentially be used anywhere in the document body.
-->
<!ENTITY % Misc.class
     "%Edit.class;
      %Script.class;
      %Misc.extra;"
>

<!-- ....................  Inline Elements  ..................... -->

<!ENTITY % InlStruct.class "%br.qname; | %span.qname;" >

<!ENTITY % InlPhras.class
     "| %em.qname; | %strong.qname; | %dfn.qname; | %code.qname;
      | %samp.qname; | %kbd.qname; | %var.qname; | %cite.qname;
      | %abbr.qname; | %acronym.qname; | %q.qname;" >

<!ENTITY % InlPres.class
     "| %tt.qname; | %i.qname; | %b.qname; | %big.qname;
      | %small.qname; | %sub.qname; | %sup.qname;" >

<!ENTITY % I18n.class "| %bdo.qname;" >

<!ENTITY % Anchor.class "| %a.qname;" >

<!ENTITY % InlSpecial.class
     "| %img.qname; | %map.qname;
      | %object.qname;" >

<!ENTITY % InlForm.class
     "| %input.qname; | %select.qname; | %textarea.qname;
      | %label.qname; | %button.qname;" >

<!ENTITY % Inline.extra "" >

<!ENTITY % Ruby.class "| %ruby.qname;" >

<!-- %Inline.class; includes all inline elements,
     used as a component in mixes
-->
<!ENTITY % Inline.class
     "%InlStruct.class;
      %InlPhras.class;
      %InlPres.class;
```

```
       %I18n.class;
       %Anchor.class;
       %InlSpecial.class;
       %InlForm.class;
       %Ruby.class;
       %Inline.extra;"
>

<!-- %InlNoRuby.class; includes all inline elements
     except ruby, used as a component in mixes
-->
<!ENTITY % InlNoRuby.class
     "%InlStruct.class;
      %InlPhras.class;
      %InlPres.class;
      %I18n.class;
      %Anchor.class;
      %InlSpecial.class;
      %InlForm.class;
      %Inline.extra;"
>

<!-- %NoRuby.content; includes all inlines except ruby
-->
<!ENTITY % NoRuby.content
     "( #PCDATA
      | %InlNoRuby.class;
      %Misc.class; )*"
>

<!-- %InlNoAnchor.class; includes all non-anchor inlines,
     used as a component in mixes
-->
<!ENTITY % InlNoAnchor.class
     "%InlStruct.class;
      %InlPhras.class;
      %InlPres.class;
      %I18n.class;
      %InlSpecial.class;
      %InlForm.class;
      %Ruby.class;
      %Inline.extra;"
>

<!-- %InlNoAnchor.mix; includes all non-anchor inlines
-->
<!ENTITY % InlNoAnchor.mix
     "%InlNoAnchor.class;
      %Misc.class;"
>

<!-- %Inline.mix; includes all inline elements, including %Misc.class;
-->
<!ENTITY % Inline.mix
     "%Inline.class;
      %Misc.class;"
>
```

```
<!-- .....................  Block Elements  ..................... -->

<!-- In the HTML 4.0 DTD, heading and list elements were included
     in the %block; parameter entity. The %Heading.class; and
     %List.class; parameter entities must now be included explicitly
     on element declarations where desired.
-->

<!ENTITY % Heading.class
     "%h1.qname; | %h2.qname; | %h3.qname;
      | %h4.qname; | %h5.qname; | %h6.qname;" >

<!ENTITY % List.class "%ul.qname; | %ol.qname; | %dl.qname;" >

<!ENTITY % Table.class "| %table.qname;" >

<!ENTITY % Form.class  "| %form.qname;" >

<!ENTITY % Fieldset.class  "| %fieldset.qname;" >

<!ENTITY % BlkStruct.class "%p.qname; | %div.qname;" >

<!ENTITY % BlkPhras.class
     "| %pre.qname; | %blockquote.qname; | %address.qname;" >

<!ENTITY % BlkPres.class "| %hr.qname; " >

<!ENTITY % BlkSpecial.class
     "%Table.class;
      %Form.class;
      %Fieldset.class;"
>

<!ENTITY % Block.extra "" >

<!-- %Block.class; includes all block elements,
     used as an component in mixes
-->
<!ENTITY % Block.class
     "%BlkStruct.class;
      %BlkPhras.class;
      %BlkPres.class;
      %BlkSpecial.class;
      %Block.extra;"
>

<!-- %Block.mix; includes all block elements plus %Misc.class;
-->
<!ENTITY % Block.mix
     "%Heading.class;
      | %List.class;
      | %Block.class;
      %Misc.class;"
>

<!-- ................  All Content Elements  .................. -->
```

```
<!-- %Flow.mix; includes all text content, block and inline
-->
<!ENTITY % Flow.mix
     "%Heading.class;
      | %List.class;
      | %Block.class;
      | %Inline.class;
      %Misc.class;"
>

<!-- end of xhtml-rdfa-model-1.mod -->
```

C.2. XHTML+RDFa Driver Module

```
<!-- ....................................................................... -->
<!-- XHTML 1.1 + RDFa DTD  ................................................. -->
<!-- file: xhtml-rdfa.dtd
-->

<!-- XHTML 1.1 + RDFa DTD

     This is an example markup language combining XHTML 1.1 and the RDFa
     modules.

     XHTML+RDFa
     Copyright 1998-2007 World Wide Web Consortium
        (Massachusetts Institute of Technology, European Research Consortium
         for Informatics and Mathematics, Keio University).
         All Rights Reserved.

     Permission to use, copy, modify and distribute the XHTML DTD and its
     accompanying documentation for any purpose and without fee is hereby
     granted in perpetuity, provided that the above copyright notice and
     this paragraph appear in all copies.  The copyright holders make no
     representation about the suitability of the DTD for any purpose.

     It is provided "as is" without expressed or implied warranty.

-->
<!-- This is the driver file for version 1 of the XHTML + RDFa DTD.

     Please use this public identifier to identify it:

         "-//W3C//DTD XHTML+RDFa 1.0//EN"
-->
<!ENTITY % XHTML.version  "-//W3C//DTD XHTML+RDFa 1.0//EN" >

<!-- Use this URI to identify the default namespace:

         "http://www.w3.org/1999/xhtml"

     See the Qualified Names module for information
     on the use of namespace prefixes in the DTD.

     Note that XHTML namespace elements are not prefixed by default,
```

```
     but the XHTML namespace prefix is defined as "xhtml" so that
     other markup languages can extend this one and use the XHTML
     prefixed global attributes if required.

-->
<!ENTITY % NS.prefixed "IGNORE" >
<!ENTITY % XHTML.prefix "xhtml" >

<!-- Be sure to include prefixed global attributes - we don't need
     them, but languages that extend XHTML 1.1 might.
-->
<!ENTITY % XHTML.global.attrs.prefixed "INCLUDE" >

<!-- Reserved for use with the XLink namespace:
-->
<!ENTITY % XLINK.xmlns "" >
<!ENTITY % XLINK.xmlns.attrib "" >

<!-- For example, if you are using XHTML 1.1 directly, use the public
     identifier in the DOCTYPE declaration, with the namespace declaration
     on the document element to identify the default namespace:

       <?xml version="1.0"?>
       <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML+RDFa 1.0//EN"
                             "http://www.w3.org/MarkUp/DTD/xhtml-rdfa-1.dtd">
       <html xmlns="http://www.w3.org/1999/xhtml"
             xml:lang="en">
       ...
       </html>

     Revisions:
     (none)
-->

<!-- reserved for future use with document profiles -->
<!ENTITY % XHTML.profile  "" >

<!-- ensure XHTML Notations are disabled -->
<!ENTITY % xhtml-notations.module "IGNORE" >

<!-- Bidirectional Text features
     This feature-test entity is used to declare elements
     and attributes used for bidirectional text support.
-->
<!ENTITY % XHTML.bidi  "INCLUDE" >

<!-- ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::: -->

<!-- Pre-Framework Redeclaration placeholder  ..................... -->
<!-- this serves as a location to insert markup declarations
     into the DTD prior to the framework declarations.
-->
<!ENTITY % xhtml-prefw-redecl.module "IGNORE" >
<!ENTITY % xhtml-prefw-redecl.mod "" >
<![%xhtml-prefw-redecl.module;[
%xhtml-prefw-redecl.mod;
<!-- end of xhtml-prefw-redecl.module -->]]>
```

```
<!-- we need the datatypes now -->
<!ENTITY % xhtml-datatypes.module "INCLUDE" >
<![%xhtml-datatypes.module;[
<!ENTITY % xhtml-datatypes.mod
     PUBLIC "-//W3C//ENTITIES XHTML Datatypes 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-datatypes-1.mod" >
%xhtml-datatypes.mod;]]>

<!-- bring in the RDFa attributes cause we need them in Common -->
<!ENTITY % xhtml-hyperAttributes.module "INCLUDE" >
<![%xhtml-hyperAttributes.module;[
<!ENTITY % xhtml-hyperAttributes.mod
     PUBLIC "-//W3C//ENTITIES XHTML HyperAttributes 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-hyperAttributes-1.mod" >
%xhtml-hyperAttributes.mod;]]>

<!ENTITY % xhtml-metaAttributes.module "INCLUDE" >
<![%xhtml-metaAttributes.module;[
<!ENTITY % xhtml-metaAttributes.mod
     PUBLIC "-//W3C//ENTITIES XHTML MetaAttributes 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-metaAttributes-1.mod" >
%xhtml-metaAttributes.mod;]]>

<!-- bring in the Role attribute cause we need them it in Common -->
<!ENTITY % xhtml-role.module "INCLUDE" >
<![%xhtml-role.module;[
<!ENTITY % xhtml-role.mod
     PUBLIC "-//W3C//ENTITIES XHTML Role Attribute Qnames 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-role-qname-1.mod" >
%xhtml-role.mod;]]>

<!ENTITY % xhtml-events.module "INCLUDE" >

<!ENTITY % Common.extra.attrib
    "%Hyper.attrib;
     %Metainformation.attrib;
     %xhtml-role.attrs.qname;"
>

<!-- Inline Style Module  ..................................... -->
<!ENTITY % xhtml-inlstyle.module "INCLUDE" >
<![%xhtml-inlstyle.module;[
<!ENTITY % xhtml-inlstyle.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Inline Style 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-inlstyle-1.mod" >
%xhtml-inlstyle.mod;]]>

<!-- declare Document Model module instantiated in framework
-->
<!ENTITY % xhtml-model.mod
     PUBLIC "-//W3C//ENTITIES XHTML+RDFa Document Model 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-rdfa-model-1.mod" >

<!-- Modular Framework Module (required) ....................... -->
<!ENTITY % xhtml-framework.module "INCLUDE" >
<![%xhtml-framework.module;[
```

```
<!ENTITY % xhtml-framework.mod
     PUBLIC "-//W3C//ENTITIES XHTML Modular Framework 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-framework-1.mod" >
%xhtml-framework.mod;]]>

<!-- Post-Framework Redeclaration placeholder  ..................... -->
<!-- this serves as a location to insert markup declarations
     into the DTD following the framework declarations.
-->
<!ENTITY % xhtml-postfw-redecl.module "IGNORE" >
<!ENTITY % xhtml-postfw-redecl.mod "">
<![%xhtml-postfw-redecl.module;[
%xhtml-postfw-redecl.mod;
<!-- end of xhtml-postfw-redecl.module -->]]>



<!-- Text Module (Required)  ..................................... -->
<!ENTITY % xhtml-text.module "INCLUDE" >
<![%xhtml-text.module;[
<!ENTITY % xhtml-text.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Text 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-text-1.mod" >
%xhtml-text.mod;]]>

<!-- Hypertext Module (required) ................................. -->
<!ENTITY % a.attlist  "IGNORE" >
<!ENTITY % xhtml-hypertext.module "INCLUDE" >
<![%xhtml-hypertext.module;[
<!ENTITY % xhtml-hypertext.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Hypertext 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-hypertext-1.mod" >
%xhtml-hypertext.mod;]]>
<!ATTLIST %a.qname;
      %Common.attrib;
      charset      %Charset.datatype;       #IMPLIED
      type         %ContentType.datatype;   #IMPLIED
      accesskey    %Character.datatype;     #IMPLIED
      tabindex     %Number.datatype;        #IMPLIED
>

<!-- Lists Module (required)  .................................... -->
<!ENTITY % xhtml-list.module "INCLUDE" >
<![%xhtml-list.module;[
<!ENTITY % xhtml-list.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Lists 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-list-1.mod" >
%xhtml-list.mod;]]>

<!-- ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::: -->

<!-- Edit Module  ................................................ -->
<!ENTITY % xhtml-edit.module "INCLUDE" >
<![%xhtml-edit.module;[
<!ENTITY % xhtml-edit.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Editing Elements 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-edit-1.mod" >
```

```
%xhtml-edit.mod;]]>

<!-- BIDI Override Module  ..................................... -->
<!ENTITY % xhtml-bdo.module "%XHTML.bidi;" >
<![%xhtml-bdo.module;[
<!ENTITY % xhtml-bdo.mod
     PUBLIC "-//W3C//ELEMENTS XHTML BIDI Override Element 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-bdo-1.mod" >
%xhtml-bdo.mod;]]>

<!-- Ruby Module  ............................................. -->
<!ENTITY % Ruby.common.attlists "INCLUDE" >
<!ENTITY % Ruby.common.attrib "%Common.attrib;" >
<!ENTITY % xhtml-ruby.module "INCLUDE" >
<![%xhtml-ruby.module;[
<!ENTITY % xhtml-ruby.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Ruby 1.0//EN"
            "http://www.w3.org/TR/ruby/xhtml-ruby-1.mod" >
%xhtml-ruby.mod;]]>

<!-- Presentation Module  ..................................... -->
<!ENTITY % xhtml-pres.module "INCLUDE" >
<![%xhtml-pres.module;[
<!ENTITY % xhtml-pres.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Presentation 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-pres-1.mod" >
%xhtml-pres.mod;]]>

<!-- Document Metainformation Module  ......................... -->
<!ENTITY % xhtml-meta.module "INCLUDE" >
<![%xhtml-meta.module;[
<!ENTITY % xhtml-meta.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Metainformation 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-meta-1.mod" >
%xhtml-meta.mod;]]>

<!-- Base Element Module  ..................................... -->
<!ENTITY % xhtml-base.module "INCLUDE" >
<![%xhtml-base.module;[
<!ENTITY % xhtml-base.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Base Element 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-base-1.mod" >
%xhtml-base.mod;]]>

<!-- Scripting Module  ........................................ -->
<!ENTITY % xhtml-script.module "INCLUDE" >
<![%xhtml-script.module;[
<!ENTITY % xhtml-script.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Scripting 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-script-1.mod" >
%xhtml-script.mod;]]>

<!-- Style Sheets Module  ..................................... -->
<!ENTITY % xhtml-style.module "INCLUDE" >
<![%xhtml-style.module;[
<!ENTITY % xhtml-style.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Style Sheets 1.0//EN"
```

```
            "http://www.w3.org/MarkUp/DTD/xhtml-style-1.mod" >
%xhtml-style.mod;]]>

<!-- Image Module  ..................................... -->
<!ENTITY % xhtml-image.module "INCLUDE" >
<![%xhtml-image.module;[
<!ENTITY % xhtml-image.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Images 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-image-1.mod" >
%xhtml-image.mod;]]>

<!-- Client-side Image Map Module  ..................... -->
<!ENTITY % area.attlist  "IGNORE" >
<!ENTITY % xhtml-csismap.module "INCLUDE" >
<![%xhtml-csismap.module;[
<!ENTITY % xhtml-csismap.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Client-side Image Maps 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-csismap-1.mod" >
%xhtml-csismap.mod;]]>
<!ATTLIST %area.qname;
      %Common.attrib;
      shape        %Shape.datatype;         'rect'
      coords       %Coords.datatype;        #IMPLIED
      nohref       ( nohref )               #IMPLIED
      alt          %Text.datatype;          #REQUIRED
      tabindex     %Number.datatype;        #IMPLIED
      accesskey    %Character.datatype;     #IMPLIED
>

<!-- Server-side Image Map Module  ..................... -->
<!ENTITY % xhtml-ssismap.module "INCLUDE" >
<![%xhtml-ssismap.module;[
<!ENTITY % xhtml-ssismap.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Server-side Image Maps 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-ssismap-1.mod" >
%xhtml-ssismap.mod;]]>

<!-- Param Element Module  ............................. -->
<!ENTITY % xhtml-param.module "INCLUDE" >
<![%xhtml-param.module;[
<!ENTITY % xhtml-param.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Param Element 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-param-1.mod" >
%xhtml-param.mod;]]>

<!-- Embedded Object Module  ........................... -->
<!ENTITY % xhtml-object.module "INCLUDE" >
<![%xhtml-object.module;[
<!ENTITY % xhtml-object.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Embedded Object 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-object-1.mod" >
%xhtml-object.mod;]]>

<!-- Tables Module ..................................... -->
<!ENTITY % xhtml-table.module "INCLUDE" >
<![%xhtml-table.module;[
<!ENTITY % xhtml-table.mod
```

```
     PUBLIC "-//W3C//ELEMENTS XHTML Tables 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-table-1.mod" >
%xhtml-table.mod;]]>

<!-- Forms Module  ..................................................... -->
<!ENTITY % xhtml-form.module "INCLUDE" >
<![%xhtml-form.module;[
<!ENTITY % xhtml-form.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Forms 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-form-1.mod" >
%xhtml-form.mod;]]>

<!-- Target Attribute Module  ........................................... -->
<!ENTITY % xhtml-target.module "INCLUDE" >
<![%xhtml-target.module;[
<!ENTITY % xhtml-target.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Target 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-target-1.mod" >
%xhtml-target.mod;]]>

<!-- Legacy Markup ..................................................... -->
<!ENTITY % xhtml-legacy.module "IGNORE" >
<![%xhtml-legacy.module;[
<!ENTITY % xhtml-legacy.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Legacy Markup 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-legacy-1.mod" >
%xhtml-legacy.mod;]]>

<!-- Document Structure Module (required)  ............................. -->
<!ENTITY % head.attlist  "IGNORE" >
<!ENTITY % xhtml-struct.module "INCLUDE" >
<![%xhtml-struct.module;[
<!ENTITY % xhtml-struct.mod
     PUBLIC "-//W3C//ELEMENTS XHTML Document Structure 1.0//EN"
            "http://www.w3.org/MarkUp/DTD/xhtml-struct-1.mod" >
%xhtml-struct.mod;]]>
<!ENTITY % profile.attrib
     "profile      %URI.datatype;           '%XHTML.profile;'"
>
<!ATTLIST %head.qname;
      %Common.attrib;
      %profile.attrib;
>

<!-- end of XHTML-RDFa DTD  ........................................... -->
<!-- ................................................................... -->
```

D. References

This appendix is *normative*.

D.1. Normative References

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D.2. Other References

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E. Acknowledgments

This section is informative.

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