Abstract

This specification defines an XHTML document type that is based upon the module framework and modules defined in XHTML Modularization [XHTMLMOD]. The purpose of this document type is to serve as the basis for future extended XHTML ‘family’ document types, and to provide a consistent, forward-looking document type cleanly separated from the deprecated, legacy functionality of HTML 4 [HTML4] that was brought forward into the XHTML 1.0 [XHTML] document types. This document type is most similar to XHTML 1.0 Strict, built using XHTML Modules. This means that many facilities available in other XHTML Family
document types (e.g., XHTML Frames) are not available in this document type. These other facilities are available through modules defined in XHTML Modularization, and document authors are free to define document types based upon XHTML 1.1 that use these facilities (see [XHTMLMOD] for information on creating new document types).

**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 a W3C Proposed Edited Recommendation. If approved, it will supersede the previous edition of XHTML 1.1. It reflects clarifications and corrections as a result of many years of use by the community. It also includes an XML Schema implementation of the language, and integrates the `lang` attribute to increase compatibility with User Agents and Assistive Technologies.

Publication as a Proposed Edited Recommendation does not imply endorsement by the W3C Membership. This is a draft document and may be updated, replaced or obsoleted by other documents at any time. It is inappropriate to cite this document as other than work in progress.

W3C Advisory Committee Members are invited to send formal review comments on this Proposed Edited Recommendation to the W3C Team until 4 June 2009. Members of the W3C Advisory Committee will find the appropriate review form for this document by consulting their list of current WBS questionnaires.

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.

This document is governed by the 24 January 2002 CPP as amended by the W3C Patent Policy Transition Procedure. W3C maintains a public list of any patent disclosures made in connection with the deliverables of the group; that page also includes instructions for disclosing a patent. An individual who has actual knowledge of a patent which the individual believes contains Essential Claim(s) must disclose the information in accordance with section 6 of the W3C Patent Policy.

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1. Introduction

This section is *normative*.

With the introduction of the XHTML family of modules and document types, the W3C has helped move the Internet content-development community from the days of malformed, non-standard markup into the well formed, valid world of XML [XML[p.13]]. In XHTML 1.0, this move was moderated by a goal of providing for easy migration of existing, HTML 4 (or earlier) based content to XHTML and XML. With the advent of the XHTML modules defined in XHTML Modularization, the W3C has removed support for deprecated elements and attributes from the XHTML family. These elements and attributes were largely presentation oriented functionality that is better handled via style sheets or client-specific default behavior.

Going forward, XHTML family document types will be based upon this new, more structural functional collection. In this specification, the W3C’s HTML Working Group has defined an initial document type based solely upon modules. This document type is designed to be portable to a broad collection of client devices, and applicable to the majority of Internet content. Content developers who base their content upon the functionality expressed in this specification can be confident that it will be consistently portable across XHTML family conforming user agents.
2. Conformance Definition

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. 13].

2.1. Document Conformance

This version of XHTML provides a definition of strictly conforming XHTML documents, which are restricted to elements and attributes from the XHTML namespace.

2.1.1. Strictly Conforming Documents

A strictly conforming XHTML 1.1 document is a document that requires only the facilities described as mandatory in this specification. Such a document MUST meet all the following criteria:

1. The document MUST conform to the constraints expressed in the schemas in Appendix D - XHTML 1.1 Schema [p. 27] and Appendix C - XHTML 1.1 Document Type Definition [p. 15].

2. The local part of the root element of the document MUST be html.

3. The start tag of the root element of the document MUST explicitly contain an xmlns declaration for the XHTML namespace [XMLNAMES] [p. 14]. The namespace URI for XHTML is defined to be http://www.w3.org/1999/xhtml.

   The start tag MAY also contain an xsi:schemaLocation attribute that associates this namespace with the XML Schema at the URI http://www.w3.org/MarkUp/SCHEMA/xhtml11.xsd.

   Sample root element

   <html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="http://www.w3.org/1999/xhtml
          http://www.w3.org/MarkUp/SCHEMA/xhtml11.xsd"
   >

4. The start tag SHOULD contain a version attribute that declares the version of XHTML in use. The version of this version of XHTML is -//W3C//DTD XHTML 1.1//EN.

5. Documents written using the markup language defined in this specification can be validated using the DTD defined in Appendix A [p. 15]. If a document author wants to facilitate such validation, the document MAY include a DOCTYPE declaration at the top of their document.
For example:

```xml
<?xml version="1.0" encoding="UTF-8"?><!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN" "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<head>
<title>Virtual Library</title>
</head>
<body>
<p>Moved to <a href="http://example.org/">example.org</a>.</p>
</body>
</html>
```

The SYSTEM identifier MAY be modified as appropriate.

Example of an XHTML 1.1 document

```
<?xml version="1.0" encoding="UTF-8"?><!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN" "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<head>
<title>Virtual Library</title>
</head>
<body>
<p>Moved to <a href="http://example.org/">example.org</a>.</p>
</body>
</html>
```

Note that in this example, the XML declaration is included. An XML declaration like the one above is not required in all XML documents. XHTML document authors SHOULD use XML declarations in all their documents. XHTML document authors MUST use an XML declaration when the character encoding of the document is other than the default UTF-8 or UTF-16 and no encoding is specified by a higher-level protocol.

XHTML 1.1 documents SHOULD be labeled with the Internet Media Type "application/xhtml+xml" as defined in [RFC3236][p.13]. For further information on using media types with XHTML, see the informative note [XHTMLMIME][p.14].

### 2.2. User Agent Conformance

A conforming user agent MUST meet all user agent conformance requirements defined in [XHTMLMOD][p.13].
3. The XHTML 1.1 Document Type

This section is normative.

The XHTML 1.1 document type is a fully functional document type with rich semantics. It is not, however, as varied in functionality as the XHTML 1.0 Transitional or Frameset document types. These document types defined many presentational components that are better handled through style sheets or other similar mechanisms. Moreover, since the XHTML 1.1 document type is based exclusively upon the facilities defined in the XHTML modules [XHTMLMOD[p.13]], it does not contain any of the deprecated functionality of XHTML 1.0 nor of HTML 4. Despite these exceptions, or perhaps because of them, the XHTML 1.1 document type is a solid basis for future document types that are targeted at varied user agent environments.

The XHTML 1.1 document type is made up of the following XHTML modules. The elements, attributes, and minimal content models associated with these modules are defined in "XHTML Modularization" [XHTMLMOD[p.13]]. The elements are listed here for information purposes, but the definitions in "XHTML Modularization" should be considered definitive. In the on-line version of this document, the module names in the list below link into the definitions of the modules within the current version of "XHTML Modularization".

- **Structure Module**
  - body, head, html, title
- **Text Module**
  - abbr, acronym, address, blockquote, br, cite, code, dfn, div, em, h1, h2, h3, h4, h5, h6, kbd, p, pre, q, samp, span, strong, var
- **Hypertext Module**
  - a
- **List Module**
  - dl, dt, dd, ol, ul, li
- **Object Module**
  - object, param
- **Presentation Module**
  - b, big, hr, i, small, sub, sup, tt
- **Edit Module**
  - del, ins
- **Bidirectional Text Module**
  - bdo
- **Forms Module**
  - button, fieldset, form, input, label, legend, select, optgroup, option, textarea
- **Table Module**
  - caption, col, colgroup, table, tbody, td, tfoot, th, thead, tr
- **Image Module**
  - img
Client-side Image Map Module
area, map

Server-side Image Map Module
Attribute ismap on img

Intrinsic Events Module
Events attributes

Metainformation Module
meta

Scripting Module
noscript, script

Stylesheet Module
style element

Style Attribute Module
Deprecated
style attribute

Link Module
link

Base Module
base

XHTML also uses the Ruby Annotation module as defined in [RUBY][p.13]:

Ruby Annotation Module
ruby, rbc, rtc, rb, rt, rp

This specification also adds the lang attribute to the I18N attribute collection as defined in [XHTMLMOD][p.13]. The lang attribute is defined in [HTML4][p.13]. When this attribute and the xml:lang are specified on the same element, the xml:lang takes precedence. When both lang and xml:lang are specified on the same element, they SHOULD have the same value.

There are no additional definitions required by this document type. An implementation of this document type as an XML Schema is defined in Appendix D [p.27], and as an XML DTD is defined in Appendix C [p.15]. If there is any discrepancy between the language as defined in this section and the implementations in the appendices, the definition in this section MUST take precedence.
A. Changes from XHTML 1.0 Strict

This appendix is informative.

This Appendix describes the differences between XHTML 1.1 and XHTML 1.0 Strict. XHTML 1.1 represents a departure from both HTML 4 and XHTML 1.0. Most significant is the removal of features that were deprecated. In general, the strategy is to define a markup language that is rich in structural functionality, but that relies upon style sheets for presentation.

The differences can be summarized as follows:

1. On the a and map elements, the name attribute has been removed in favor of the id attribute (as defined in [XHTMLMOD[p.13]])
2. The "ruby" collection of elements has been added (as defined in [RUBY[p.13]])
B. References

This appendix is normative.

B.1. Normative References

[HTML4]
See: http://www.w3.org/TR/1999/REC-html401-19991224

[RUBY]
See: http://www.w3.org/TR/2001/REC-ruby-20010531

[XHTML1]
See: http://www.w3.org/TR/2002/REC-xhtml1-20020801

[XHTMLMOD]
See: http://www.w3.org/TR/2008/REC-xhtml-modularization-20081008

[XML]
[Extensible Markup Language (XML) 1.0 (Fourth Edition)], W3C Recommendation, T. Bray et al., eds., 16 August 2006.
Available at: http://www.w3.org/TR/2006/REC-xml-20060816
The latest version is available at: http://www.w3.org/TR/REC-xml

B.2. Informative References

[CATALOG]
See: http://www.oasis-open.org/html/a401.htm

[RFC2119]
[Key words for use in RFCs to indicate requirement levels], RFC 2119, S. Bradner, March 1997.
Available at: http://www.ietf.org/rfc/rfc2119.txt

[RFC2854]
[The "text/html" Media Type], D. Connely, L. Masinter, January 2000.
Available at: http://www.ietf.org/rfc/rfc2854.txt

[RFC3236]
[The "application/xhtml+xml" Media Type], M. Baker, P. Stark, January 2002.
Available at: http://www.ietf.org/rfc/rfc3236.txt
[XHTMLMIME]

[XHTML Media Types], Shane McCarron, 16 January 2009, or its successors.
Latest version available at: http://www.w3.org/TR/xhtml-media-types

[XMLNAMES]

[Namespaces in XML], W3C Recommendation, Tim Bray, Dave Hollander, Andrew Layman, 14 January 1999.
Available at: http://www.w3.org/TR/1999/REC-xml-names-19990114

[XMLSCHEMA]

Available at: http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/

Available at: http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/
C. XHTML 1.1 Document Type Definition

This appendix is normative.

C.1. SGML Open Catalog Entry for XHTML 1.1

This section contains the SGML Open Catalog-format definition [CATALOG[p.13] ] of the public identifiers for XHTML 1.1.

```
--- ............................................................ ---
-- File catalog .................................................... --
-- XHTML 1.1 Catalog Data File
Revision: @(#)xhtml11.cat 1.9 2001/04/04 SMI
See "Entity Management", SGML Open Technical Resolution 9401 for detailed information on supplying and using catalog data. This document is available from OASIS at URL:

--

-- .......................................................................... --
-- SGML declaration associated with XHTML .............................. --

OVERRIDE YES
SGMLDECL "xml1.dcl"

-- :::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::: --
-- XHTML 1.1 DTD modular driver file ....................................... --
-- note that this uses the local, flattened version of the DTD. If you want your catalog to use the master version of the XHTML Modules, change the entry to reference xhtml11.dtd instead of xhtml11-flat.dtd
--
PUBLIC "-//W3C//DTD XHTML 1.1//EN" "xhtml11-flat.dtd"

-- XHTML 1.1 framework modules .............................................. --

PUBLIC "-//W3C//ENTITIES XHTML 1.1 Document Model 1.0//EN" "xhtml11-model-1.mod"

-- End of catalog data .............................................................. --

```

C.2. XHTML 1.1 Driver

This section contains the driver for the XHTML 1.1 document type implementation as an XML DTD. It relies upon XHTML module implementations defined in [XHTMLMOD[p.13] ] and in [RUBY[p.13] ].
This is XHTML, a reformulation of HTML as a modular XML application.

The Extensible HyperText Markup Language (XHTML)

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for Informatics and Mathematics, Keio University).
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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.

Author: Murray M. Altheim <altheim@eng.sun.com>
Revision: $Id: xhtml11.dtd,v 1.29 2009/05/05 15:04:30 ahby Exp $

<!-- This is the driver file for version 1.1 of the XHTML DTD. -->

Please use this public identifier to identify it:

"-//W3C//DTD XHTML 1.1//EN"

<!-- ENTITY % XHTML.version "-//W3C//DTD XHTML 1.1//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:
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
<?xml version="1.0"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN" "http://www.w3.org/MarkUp/DTD/xhtml11.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" >

<?doc type="doctype" role="title" { XHTML 1.1 } ?>

<!-- ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::: -->
<!-- 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" >
<![%xhtml-prefw-redecl.module;[
%xhtml-prefw-redecl.mod;
<!-- end of xhtml-prefw-redecl.module --]>]]>

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

<!-- Inline Style Module ........................................ -->
<!ENTITY % xhtml-inlstyle.module "INCLUDE" >
<![%xhtml-inlstyle.module;[
%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 -->
C.3. XHTML 1.1 Customizations

An XHTML Family Document Type (such as XHTML 1.1) must define the content model that it uses. This is done through a separate content model module that is instantiated by the XHTML Modular Framework. The content model module and the XHTML 1.1 Driver (above) work together to customize the module implementations to the document type’s specific requirements. The content model module for XHTML 1.1 is defined below:

This is XHTML 1.1, a reformulation of HTML as a modular XML application. Copyright 1998-2008 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml11-model-1.mod,v 1.17 2009/02/03 14:31:50 ahby Exp $ SMI

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

PUBLIC "-//W3C//ENTITIES XHTML 1.1 Document Model 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml11-model-1.mod"

Revisions:
(none)

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

<!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;"
C.3. XHTML 1.1 Customizations

"%InlStruct.class;
%InlPhras.class;
%InlPres.class;
%Il8n.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;
%Il8n.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 % lang.attrib
    "xml:lang   %LanguageCode.datatype;  #IMPLIED
    lang     %LanguageCode.datatype;  #IMPLIED"
>
<!-- end of xhtmllll-model-1.mod -->
D. XHTML 1.1 XML Schema Definition

This appendix is normative.

D.1. XHTML 1.1 Schema Driver

This section contains the driver for the XHTML 1.1 document type implementation as an XML Schema. It relies upon XHTML module implementations defined in [XHTMLMOD][p.13] and in [RUBY][p.13].

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://www.w3.org/1999/xhtml"
  xmlns:xh11d="http://www.w3.org/1999/xhtml/datatypes/"
  xmlns="http://www.w3.org/1999/xhtml"
  elementFormDefault="qualified" >
  <xs:annotation>
    <xs:documentation>
      This is the XML Schema driver for XHTML 1.1.
      Please use this namespace for XHTML elements:

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

      $Id: xhtml11.xsd,v 1.7 2009/02/03 15:14:49 ahby Exp $
    </xs:documentation>
  </xs:annotation>
  <xs:documentation source="xhtml-copyright-1.xsd"/>
  <xs:annotation>
    <xs:documentation>
      This is XHTML, a reformulation of HTML as a modular XML application
      The Extensible HyperText Markup Language (XHTML)
      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 Schema
      modules and their accompanying xs: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
      these XML Schema modules for any purpose.

      They are provided "as is" without expressed or implied warranty.
    </xs:documentation>
  </xs:annotation>
  <xs:annotation>
    <xs:documentation>
      This is the Schema Driver file for XHTML1.1
      Document Type

      This schema
      + imports external schemas (xml.xsd)
```
XHTML™ 1.1 - Module-based XHTML - Second Edition

D.1. XHTML 1.1 Schema Driver

+ refedines (and includes) schema modules for XHTML1.1 Document Type.
+ includes Schema for Named content model for the
  XHTML1.1 Document Type

XHTML1.1 Document Type includes the following Modules
  XHTML Core modules (Required for XHTML Family Conformance)
  + text
  + hypertext
  + lists
  + structure
  Other XHTML modules
  + Edit
  + Bdo
  + Presentational
  + Link
  + Meta
  + Base
  + Scripting
  + Style
  + Image
  + Applet
  + Object
  + Param (Applet/Object modules require Param Module)
  + Tables
  + Forms
  + Client side image maps
  + Server side image maps
  + Ruby
</xs:documentation>
</xs:annotation>
</xs:import>
<xs:include
  schemaLocation="xhtml11-model-1.xsd">
  </xs:annotation>
  </xs:include>
  </xs:include>
  </xs:import>
  </xs:annotation>
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  </xs:import>
  </xs:annotation>
  </xs:include>
  </xs:include>
  </xs:import>
  </xs:annotation>
D.2. XHTML 1.1 Schema Modules

XHTML Family implementations using XML Schema are required to provide their own schema module that imports the required modules from XHTML Modularization.

```xml
<?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/"
  xmlns:xmlns="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xml:id="http://www.w3.org/1999/xlink"
  xmlns:xhtml="http://www.w3.org/1999/xhtml"
  xmlns:xhtml-framework="http://www.w3.org/MarkUp/SCHEMA/xhtml-framework-1.xsd"
  xmlns:xhtml-text="http://www.w3.org/MarkUp/SCHEMA/xhtml-text-1.xsd"
  xmlns:xhtml-copyright="http://www.w3.org/MarkUp/SCHEMA/xhtml-copyright-1.xsd"
  xmlns:xhtml-edit="http://www.w3.org/MarkUp/SCHEMA/xhtml-edit-1.xsd"
  xmlns:xhtml-bdo="http://www.w3.org/MarkUp/SCHEMA/xhtml-bdo-1.xsd"
  xmlns:xhtml-presentational="http://www.w3.org/MarkUp/SCHEMA/xhtml-presentational-1.xsd"
  xmlns:xhtml-link="http://www.w3.org/MarkUp/SCHEMA/xhtml-link-1.xsd"
  xmlns:xhtml-meta="http://www.w3.org/MarkUp/SCHEMA/xhtml-meta-1.xsd"
  xmlns:xhtml-base="http://www.w3.org/MarkUp/SCHEMA/xhtml-base-1.xsd"
  xmlns:xhtml-scripting="http://www.w3.org/MarkUp/SCHEMA/xhtml-scripting-1.xsd"
  xmlns:xhtml-style="http://www.w3.org/MarkUp/SCHEMA/xhtml-style-1.xsd"
  xmlns:xhtml-image="http://www.w3.org/MarkUp/SCHEMA/xhtml-image-1.xsd"
  xmlns:xhtml-applet="http://www.w3.org/MarkUp/SCHEMA/xhtml-applet-1.xsd"
  xmlns:xhtml-object="http://www.w3.org/MarkUp/SCHEMA/xhtml-object-1.xsd"
  xmlns:xhtml-param="http://www.w3.org/MarkUp/SCHEMA/xhtml-param-1.xsd"
  xmlns:xhtml-tables="http://www.w3.org/MarkUp/SCHEMA/xhtml-tables-1.xsd"
  xmlns:xhtml-target="http://www.w3.org/MarkUp/SCHEMA/xhtml-target-1.xsd"
  xmlns:xhtml-forms="http://www.w3.org/MarkUp/SCHEMA/xhtml-forms-1.xsd"
  xmlns:xhtml-client="http://www.w3.org/MarkUp/SCHEMA/xhtml-client-1.xsd"
  xmlns:xhtml-server="http://www.w3.org/MarkUp/SCHEMA/xhtml-server-1.xsd"
  targetNamespace="http://www.w3.org/1999/xhtml"
  schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-1.xsd"/>

<xs:import namespace="http://www.w3.org/1999/xhtml/datatypes/"
  schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-datatypes-1.xsd"/>

<xs:annotation>
  <xs:documentation>
This schema includes all modules for XHTML1.1 Document Type.
$Id: xhtml11-modules-1.xsd,v 1.10 2009/02/03 15:14:49 ahby Exp $
</xs:documentation>
</xs:annotation>

<xs:include schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-framework-1.xsd">
<xs:annotation>
  <xs:documentation>
Schema Framework Component Modules:
  + notations
  + datatypes
  + common attributes
  + character entities
</xs:documentation>
</xs:annotation>
</xs:include>

<xs:include schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-text-1.xsd">
<xs:annotation>
  <xs:documentation>
Text Module
  The Text module includes declarations for all core
text container elements and their attributes.
  + block phrasal
  + block structural
  + inline phrasal
  + inline structural
Elements defined here:
  * address, blockquote, pre, h1, h2, h3, h4, h5, h6
  * div, p
  * abbr, acronym, cite, code, dfn, em, kbd, q, samp, strong, var
</xs:documentation>
</xs:annotation>
</xs:include>
```

D.2. XHTML 1.1 Schema Modules

XHTML Family implementations using XML Schema are required to provide their own schema module that imports the required modules from XHTML Modularization.

```xml
<?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/"
  xmlns:xmlns="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xml:id="http://www.w3.org/1999/xlink"
  xmlns:xhtml="http://www.w3.org/1999/xhtml"
  xmlns:xhtml-framework="http://www.w3.org/MarkUp/SCHEMA/xhtml-framework-1.xsd"
  xmlns:xhtml-text="http://www.w3.org/MarkUp/SCHEMA/xhtml-text-1.xsd"
  xmlns:xhtml-copyright="http://www.w3.org/MarkUp/SCHEMA/xhtml-copyright-1.xsd"
  xmlns:xhtml-edit="http://www.w3.org/MarkUp/SCHEMA/xhtml-edit-1.xsd"
  xmlns:xhtml-bdo="http://www.w3.org/MarkUp/SCHEMA/xhtml-bdo-1.xsd"
  xmlns:xhtml-presentational="http://www.w3.org/MarkUp/SCHEMA/xhtml-presentational-1.xsd"
  xmlns:xhtml-link="http://www.w3.org/MarkUp/SCHEMA/xhtml-link-1.xsd"
  xmlns:xhtml-meta="http://www.w3.org/MarkUp/SCHEMA/xhtml-meta-1.xsd"
  xmlns:xhtml-base="http://www.w3.org/MarkUp/SCHEMA/xhtml-base-1.xsd"
  xmlns:xhtml-scripting="http://www.w3.org/MarkUp/SCHEMA/xhtml-scripting-1.xsd"
  xmlns:xhtml-style="http://www.w3.org/MarkUp/SCHEMA/xhtml-style-1.xsd"
  xmlns:xhtml-image="http://www.w3.org/MarkUp/SCHEMA/xhtml-image-1.xsd"
  xmlns:xhtml-applet="http://www.w3.org/MarkUp/SCHEMA/xhtml-applet-1.xsd"
  xmlns:xhtml-object="http://www.w3.org/MarkUp/SCHEMA/xhtml-object-1.xsd"
  xmlns:xhtml-param="http://www.w3.org/MarkUp/SCHEMA/xhtml-param-1.xsd"
  xmlns:xhtml-tables="http://www.w3.org/MarkUp/SCHEMA/xhtml-tables-1.xsd"
  xmlns:xhtml-target="http://www.w3.org/MarkUp/SCHEMA/xhtml-target-1.xsd"
  xmlns:xhtml-forms="http://www.w3.org/MarkUp/SCHEMA/xhtml-forms-1.xsd"
  xmlns:xhtml-client="http://www.w3.org/MarkUp/SCHEMA/xhtml-client-1.xsd"
  xmlns:xhtml-server="http://www.w3.org/MarkUp/SCHEMA/xhtml-server-1.xsd"
  targetNamespace="http://www.w3.org/1999/xhtml"
  schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-1.xsd"/>

<xs:import namespace="http://www.w3.org/1999/xhtml/datatypes/"
  schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-datatypes-1.xsd"/>

<xs:annotation>
  <xs:documentation>
This schema includes all modules for XHTML1.1 Document Type.
$Id: xhtml11-modules-1.xsd,v 1.10 2009/02/03 15:14:49 ahby Exp $
</xs:documentation>
</xs:annotation>

<xs:include schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-framework-1.xsd">
<xs:annotation>
  <xs:documentation>
Schema Framework Component Modules:
  + notations
  + datatypes
  + common attributes
  + character entities
</xs:documentation>
</xs:annotation>
</xs:include>

<xs:include schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-text-1.xsd">
<xs:annotation>
  <xs:documentation>
Text Module
  The Text module includes declarations for all core
text container elements and their attributes.
  + block phrasal
  + block structural
  + inline phrasal
  + inline structural
Elements defined here:
  * address, blockquote, pre, h1, h2, h3, h4, h5, h6
  * div, p
  * abbr, acronym, cite, code, dfn, em, kbd, q, samp, strong, var
</xs:documentation>
</xs:annotation>
</xs:include>
```
D.2. XHTML 1.1 Schema Modules

<xs:redefine schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-list-1.xsd">
  <xs:annotation>
    <xs:documentation source="http://www.w3.org/TR/2001/REC-xhtml-modularization-20010410/abstract_modules.html#s_listmodule"/>
    Lists module
    Elements defined here:
      * dt, dd, dl, ol, ul, li
  </xs:annotation>
</xs:redefine>

<xs:include schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-struct-1.xsd">
  <xs:annotation>
    <xs:documentation source="http://www.w3.org/TR/2001/REC-xhtml-modularization-20010410/abstract_modules.html#s_structuremodule"/>
    Structural module
    Elements defined here:
      * title, head, body, html
  </xs:annotation>
</xs:include>

<xs:include schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-edit-1.xsd">
  <xs:annotation>
    <xs:documentation source="http://www.w3.org/TR/xhtml-modularization/abstract_modules.html#s_editmodule"/>
    Edit module
    Elements defined here:
      * ins, del
  </xs:annotation>
</xs:include>
Bidirectional element module

Elements defined here:
* bdo

Presentational module

Elements defined here:
* hr, b, big, i, small, sub, sup, tt

Link module

Elements defined here:
* link

Meta module

Elements defined here:
* meta

Base module

Elements defined here:
* base
<xs:attributeGroup name="xhtml.img.attlist">
  <xs:attributeGroup ref="xhtml.img.attlist">
    <xs:annotation>
      <xs:documentation>
        Original Image Attributes (in Image Module)
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.img.csim.attlist">
  <xs:attributeGroup ref="xhtml.img.csim.attlist">
    <xs:annotation>
      <xs:documentation>
        Redefinition by Client Side Image Map Module
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.img.ssmap.attlist">
  <xs:attributeGroup ref="xhtml.img.ssmap.attlist">
    <xs:annotation>
      <xs:documentation>
        Redefinition by Server Side Image Module
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>

</xs:attributeGroup>

<xs:attributeGroup name="xhtml.area.attlist">
  <xs:attributeGroup ref="xhtml.area.attlist">
    <xs:annotation>
      <xs:documentation>
        Original Area Attributes (in CSI Module)
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.area.events.attlist">
  <xs:attributeGroup ref="xhtml.area.events.attlist">
    <xs:annotation>
      <xs:documentation>
        Redefinition by Events Attribute Module
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.area.target.attlist">
  <xs:attributeGroup ref="xhtml.area.target.attlist">
    <xs:annotation>
      <xs:documentation>
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>

</xs:attributeGroup>

<xs:attributeGroup name="xhtml.csim.attlist">
  <xs:attributeGroup ref="xhtml.csim.attlist">
    <xs:annotation>
      <xs:documentation>
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.ssmap.attlist">
  <xs:attributeGroup ref="xhtml.ssmap.attlist">
    <xs:annotation>
      <xs:documentation>
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>

</xs:attributeGroup>

<xs:attributeGroup name="xhtml.csim.map.attlist">
  <xs:attributeGroup ref="xhtml.csim.map.attlist">
    <xs:annotation>
      <xs:documentation>
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.ssmap.map.attlist">
  <xs:attributeGroup ref="xhtml.ssmap.map.attlist">
    <xs:annotation>
      <xs:documentation>
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:attributeGroup>
Target Module - Area Attribute Additions

Server-side image maps module

Attributes defined here:
* ismap on img

Object module

Elements defined here:
* object

Param module

Elements defined here:
* param

Tables module

Elements defined here:
* table, caption, thead, tbody, colgroup, col, tr, th, td

Forms module

Elements defined here:
* form, label, input, select, optgroup, option,
* textarea, fieldset, legend, button

Changes to XHTML Form Attlist

Original Form Attributes (declared in Forms Module)

XHTML Events Module - Attribute additions
D.2. XHTML 1.1 Schema Modules

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D.3. XHTML 1.1 Customizations

An XHTML Family Document Type (such as XHTML 1.1) must define the content model that it uses. This is done through a separate content model module that is instantiated by the XHTML Modular Framework. The content model module and the XHTML 1.1 Driver (above) work together to customize the module implementations to the document type’s specific requirements. The content model module for XHTML 1.1 is defined below:

```xml
<?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:import
        namespace="http://www.w3.org/1999/xhtml/datatypes/"
        schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-datatypes-1.xsd"/>
    <xs:annotation>
        <xs:documentation>
            This is the XML Schema module of common content models for XHTML1
        </xs:documentation>
    </xs:annotation>
    <xs:documentation source="xhtml-copyright-1.xsd"/>
</xs:schema>
```
XHTML Document Model

This module describes the groupings of elements/attributes that make up common content models for XHTML elements. XHTML has following basic content models:

- `xhtml.Inline.mix`: character-level elements
- `xhtml.Block.mix`: block-like elements, e.g., paragraphs and lists
- `xhtml.Flow.mix`: any block or inline elements
- `xhtml.HeadOpts.mix`: Head Elements
- `xhtml.InlinePre.mix`: Special class for pre content model
- `xhtml.InlineNoAnchor.mix`: Content model for Anchor

Any groups declared in this module may be used to create element content models, but the above are considered ‘global’ (insofar as that term applies here). XHTML has the following Attribute Groups:

- `xhtml.Core.extra.attrib`
- `xhtml.I18n.extra.attrib`
- `xhtml.Common.extra`

The above attribute Groups are considered Global
<xs:group name="xhtml.Core.extra.attrib">
  <xs:annotation>
    <xs:documentation>Extend Core Attributes</xs:documentation>
  </xs:annotation>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.Global.core.extra.attrib">
  <xs:annotation>
    <xs:documentation>Extended Global Core Attributes</xs:documentation>
  </xs:annotation>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.Global.I18n.extra.attrib">
  <xs:annotation>
    <xs:documentation>Extended Global I18n attributes</xs:documentation>
  </xs:annotation>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.Global.Common.extra">
  <xs:annotation>
    <xs:documentation>Extended Global Common Attributes</xs:documentation>
  </xs:annotation>
</xs:attributeGroup>

<xs:group name="xhtml.Head.extra">
  <xs:sequence/>
</xs:group>

<xs:group name="xhtml.HeadOpts.mix">
  <xs:choice>
    <xs:element name="script" type="xhtml.script.type"/>
    <xs:element name="style" type="xhtml.style.type"/>
    <xs:element name="meta" type="xhtml.meta.type"/>
    <xs:element name="link" type="xhtml.link.type"/>
    <xs:element name="object" type="xhtml.object.type"/>
    <xs:group ref="xhtml.Head.extra"/>
  </xs:choice>
</xs:group>

<xs:group name="xhtml.head.content">
  <xs:sequence>
    <xs:group ref="xhtml.Head.extra"/>
  </xs:sequence>
</xs:group>
<xs:element
  name="del"
  type="xhtml.edit.type"/>
</xs:choice>
</xs:group>
<!--
script and noscript are used to contain scripts
and alternative content
-->  
<xs:group
  name="xhtml.Script.class">
<xs:choice>
  <xs:element
    name="script"
    type="xhtml.script.type"/>
  <xs:element
    name="noscript"
    type="xhtml.noscript.type"/>
</xs:choice>
</xs:group>
<xs:group
  name="xhtml.Misc.extra">
<xs:sequence/>
</xs:group>
<!--
These elements are neither block nor inline, and can
essentially be used anywhere in the document body.
-->  
<xs:group
  name="xhtml.Misc.class">
<xs:choice>
  <xs:group
    ref="xhtml.Edit.class"/>
  <xs:group
    ref="xhtml.Script.class"/>
  <xs:group
    ref="xhtml.Misc.extra"/>
</xs:choice>
</xs:group>
<!-- Inline Elements -->
<xs:group
  name="xhtml.InlStruct.class">
<xs:choice>
  <xs:element
    name="br"
    type="xhtml.br.type"/>
  <xs:element
    name="span"
    type="xhtml.span.type"/>
</xs:choice>
</xs:group>
<xs:group
  name="xhtml.InlPhras.class">
<xs:choice>
  <xs:element
    name="em"
    type="xhtml.em.type"/>
</xs:choice>
</xs:group>
D.3. XHTML 1.1 Customizations

<xsl:element name="strong"
    type="xhtml.strong.type"/>
<xsl:element name="dfn"
    type="xhtml.dfn.type"/>
<xsl:element name="code"
    type="xhtml.code.type"/>
<xsl:element name="samp"
    type="xhtml.samp.type"/>
<xsl:element name="kbd"
    type="xhtml.kbd.type"/>
<xsl:element name="var"
    type="xhtml.var.type"/>
<xsl:element name="cite"
    type="xhtml.cite.type"/>
<xsl:element name="abbr"
    type="xhtml.abbr.type"/>
<xsl:element name="acronym"
    type="xhtml.acronym.type"/>
<xsl:element name="q"
    type="xhtml.q.type"/>
</xsl:choice>
</xsl:group>
<xsl:group name="xhtml.InlPres.class">
  <xsl:choice>
    <xsl:element name="tt"
        type="xhtml.InlPres.type"/>
    <xsl:element name="i"
        type="xhtml.InlPres.type"/>
    <xsl:element name="b"
        type="xhtml.InlPres.type"/>
    <xsl:element name="big"
        type="xhtml.InlPres.type"/>
    <xsl:element name="small"
        type="xhtml.InlPres.type"/>
    <xsl:element name="sub"
        type="xhtml.InlPres.type"/>
    <xsl:element name="sup"
        type="xhtml.InlPres.type"/>
  </xsl:choice>
</xsl:group>
</xs:group>
<xs:group
    name="xhtml.I18n.class">
    <xs:sequence>
        <xs:element
            name="bdo"
            type="xhtml.bdo.type"/>
    </xs:sequence>
</xs:group>
<xs:group
    name="xhtml.Anchor.class">
    <xs:sequence>
        <xs:element
            name="a"
            type="xhtml.a.type"/>
    </xs:sequence>
</xs:group>
<xs:group
    name="xhtml.InlSpecial.class">
    <xs:choice>
        <xs:element
            name="img"
            type="xhtml.img.type"/>
        <xs:element
            name="map"
            type="xhtml.map.type"/>
        <xs:element
            name="object"
            type="xhtml.object.type"/>
    </xs:choice>
</xs:group>
<xs:group
    name="xhtml.InlForm.class">
    <xs:choice>
        <xs:element
            name="input"
            type="xhtml.input.type"/>
        <xs:element
            name="select"
            type="xhtml.select.type"/>
        <xs:element
            name="textarea"
            type="xhtml.textarea.type"/>
        <xs:element
            name="label"
            type="xhtml.label.type"/>
        <xs:element
            name="button"
            type="xhtml.button.type"/>
    </xs:choice>
</xs:group>
<xs:group
    name="xhtml.Inline.extra">
    <xs:sequence/>
</xs:group>
<xs:group
    name="xhtml.Ruby.class"/>
<xs:sequence>
  <xs:element
    name="ruby"
    type="xhtml.ruby.type"/>
</xs:sequence>
</xs:group>
<!--
Inline.class includes all inline elements,
used as a component in mixes
-->
<xs:group
  name="xhtml.Inline.class">
  <xs:choice>
    <xs:group
      ref="xhtml.InlStruct.class"/>
    <xs:group
      ref="xhtml.InlPhras.class"/>
    <xs:group
      ref="xhtml.InlPres.class"/>
    <xs:group
      ref="xhtml.I18n.class"/>
    <xs:group
      ref="xhtml.Anchor.class"/>
    <xs:group
      ref="xhtml.InlSpecial.class"/>
    <xs:group
      ref="xhtml.InlForm.class"/>
    <xs:group
      ref="xhtml.Ruby.class"/>
    <xs:group
      ref="xhtml.Inline.extra"/>
  </xs:choice>
</xs:group>
<!--
InlNoRuby.class includes all inline elements
except ruby
-->
<xs:group
  name="xhtml.InlNoRuby.class">
  <xs:choice>
    <xs:group
      ref="xhtml.InlStruct.class"/>
    <xs:group
      ref="xhtml.InlPhras.class"/>
    <xs:group
      ref="xhtml.InlPres.class"/>
    <xs:group
      ref="xhtml.I18n.class"/>
    <xs:group
      ref="xhtml.Anchor.class"/>
    <xs:group
      ref="xhtml.InlSpecial.class"/>
    <xs:group
      ref="xhtml.InlForm.class"/>
    <xs:group
      ref="xhtml.Inline.extra"/>
  </xs:choice>
</xs:group>
InlinePre.mix
Used as a component in pre model
-->
<xs:group
name="xhtml.InlinePre.mix">
<xs:choice>
  <xs:group
    ref="xhtml.InlStruct.class"/>
  <xs:group
    ref="xhtml.InlPhras.class"/>
  <xs:element
    name="tt"
    type="xhtml.InlPres.type"/>
  <xs:element
    name="i"
    type="xhtml.InlPres.type"/>
  <xs:element
    name="b"
    type="xhtml.InlPres.type"/>
  <xs:group
    ref="xhtml.I18n.class"/>
  <xs:group
    ref="xhtml.Anchor.class"/>
  <xs:group
    ref="xhtml.Misc.class"/>
  <xs:element
    name="map"
    type="xhtml.map.type"/>
  <xs:group
    ref="xhtml.Inline.extra"/>
</xs:choice>
</xs:group>
<!--
InlNoAnchor.class includes all non-anchor inlines,
used as a component in mixes
-->
<xs:group
name="xhtml.InlNoAnchor.class">
<xs:choice>
  <xs:group
    ref="xhtml.InlStruct.class"/>
  <xs:group
    ref="xhtml.InlPhras.class"/>
  <xs:group
    ref="xhtml.InlPres.class"/>
  <xs:group
    ref="xhtml.I18n.class"/>
  <xs:group
    ref="xhtml.InlSpecial.class"/>
  <xs:group
    ref="xhtml.InlForm.class"/>
  <xs:group
    ref="xhtml.Ruby.class"/>
  <xs:group
    ref="xhtml.Inline.extra"/>
</xs:choice>
</xs:group>
InInNoAnchor.mix includes all non-anchor inlines

-->
<xs:group
   name="xhtml.InlNoAnchor.mix">
  <xs:choice>
    <xs:group
       ref="xhtml.InlNoAnchor.class"/>
    <xs:group
       ref="xhtml.Misc.class"/>
  </xs:choice>
</xs:group>

Inline.mix includes all inline elements, including Misc.class

-->
<xs:group
   name="xhtml.Inline.mix">
  <xs:choice>
    <xs:group
       ref="xhtml.Inline.class"/>
    <xs:group
       ref="xhtml.Misc.class"/>
  </xs:choice>
</xs:group>

InInNoRuby.mix includes all of inline.mix elements except ruby

-->
<xs:group
   name="xhtml.InlNoRuby.mix">
  <xs:choice>
    <xs:group
       ref="xhtml.InlNoRuby.class"/>
    <xs:group
       ref="xhtml.Misc.class"/>
  </xs:choice>
</xs:group>

In the HTML 4 DTD, heading and list elements were included in the block group. The Heading.class and List.class groups must now be included explicitly on element declarations where desired.

-->
<xs:group
   name="xhtml.Heading.class">
  <xs:choice>
    <xs:element
       name="h1"
       type="xhtml.h1.type"/>
    <xs:element
       name="h2"
       type="xhtml.h2.type"/>
    <xs:element
       name="h3"
       type="xhtml.h3.type"/>
Block.mix includes all block elements plus %Misc.class;

All Content Elements
Flow.mix includes all text content, block and inline
Note that the "any" element included here allows us to add data from any other namespace, a necessity for compound document creation. Note however that it is not possible to add to any head level element without further modification. To add RDF metadata to the head of a document, modify the structure module.

BlkNoForm.mix includes all non-form block elements, plus Misc.class
D.4. XML Schema Ruby Implementation

The RUBY specification does not currently define an XHTML Module using XML Schema. One is defined here:

```xml
<?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 Ruby module for XHTML
        </xs:documentation>
        <xs:documentation source="xhtml-copyright-1.xsd"/>
    </xs:annotation>

    <xs:annotation>
        <xs:documentation>
            "Ruby" are short runs of text alongside the base text, typically used in East Asian documents to indicate pronunciation or to provide a short annotation. The full specification for Ruby is here:

            http://www.w3.org/TR/2001/REC-ruby-20010531/
        </xs:documentation>
        <xs:documentation source="xhtml-copyright-1.xsd"/>
    </xs:annotation>

    Simple or Basic Ruby are defined in a separate module.

    This module defines "Ruby" or "complex Ruby" as described in the specification:

    http://www.w3.org/TR/2001/REC-ruby-20010531/#complex

    This module declares the elements and their attributes used to support complex ruby annotation markup. Elements defined here
```
* ruby, rbc, rtc, rb, rt, rp

This module expects the document model to define the following content models
+ InlNoRuby.mix
</xs:documentation>
<xs:documentation
    source="http://www.w3.org/TR/2001/REC-ruby-20010531/"/>
</xs:annotation>

<xs:group name="xhtml.ruby.content.simple">
  <xs:sequence>
    <xs:element name="rb" type="xhtml.rb.type"/>
  </xs:sequence>
</xs:group>

<xs:group name="xhtml.ruby.content.complex">
  <xs:sequence>
    <xs:element name="rbc" type="xhtml.rbc.type"/>
    <xs:element name="rtc" type="xhtml.rtc.type" maxOccurs="2"/>
  </xs:sequence>
</xs:group>

<!--
add to this group any common attributes for all Ruby elements
-->
<xs:attributeGroup name="xhtml.ruby.common.attrib"/>

<xs:group name="xhtml.ruby.content">
  <xs:choice>
    <xs:group ref="xhtml.ruby.content.simple"/>
    <xs:group ref="xhtml.ruby.content.complex"/>
  </xs:choice>
</xs:group>

<complexType name="xhtml.ruby.type">
  <xs:group ref="xhtml.ruby.content"/>
  <xs:attributeGroup ref="xhtml.ruby.common.attrib"/>
</complexType>

<!--
rbc (ruby base component) element
-->
<xs:attributeGroup name="xhtml.rbc.attlist">
  <xs:attributeGroup ref="xhtml.ruby.common.attrib"/>
</xs:attributeGroup>

<xs:group name="xhtml.rbc.content">
  <xs:sequence>
<xs:element name="rb" type="xhtml.rb.type" />
</xs:sequence>
</xs:group>

<xs:complexType name="xhtml.rb.type">
 <xs:group ref="xhtml.rb.content"/>
 <xs:attributeGroup ref="xhtml.rb.attlist"/>
</xs:complexType>

<xs:complexType name="xhtml.rbc.type">
 <xs:group ref="xhtml.rbc.content"/>
 <xs:attributeGroup ref="xhtml.rbc.attlist"/>
</xs:complexType>

<!--
rtc (ruby text component) element
-->
<xs:attributeGroup name="xhtml.rtc.attlist">
 <xs:attributeGroup ref="xhtml.ruby.common.attrib"/>
</xs:attributeGroup>

<xs:group name="xhtml.rtc.content">
 <xs:sequence>
   <xs:element name="rt" type="xhtml.rt.type" maxOccurs="unbounded"/>
 </xs:sequence>
</xs:group>

<xs:complexType name="xhtml.rtc.type">
 <xs:group ref="xhtml.rt.content"/>
 <xs:attributeGroup ref="xhtml.rtc.attlist"/>
</xs:complexType>

<!--
rb (ruby base) element
-->
<xs:attributeGroup name="xhtml.rb.attlist">
 <xs:attributeGroup ref="xhtml.ruby.common.attrib"/>
</xs:attributeGroup>

<xs:group name="xhtml.rb.content">
 <xs:sequence>
   <xs:group ref="xhtml.InlNoRuby.mix" minOccurs="0" maxOccurs="unbounded"/>
 </xs:sequence>
</xs:group>

<xs:complexType name="xhtml.rb.type" mixed="true">
 <xs:group ref="xhtml.rb.content"/>
 <xs:attributeGroup ref="xhtml.rb.attlist"/>
</xs:complexType>

<!--
rt (ruby text) element
-->
<xs:attributeGroup name="xhtml.rt.attlist">
 <xs:attributeGroup ref="xhtml.ruby.common.attrib"/>
 <xs:attribute name="rbspan" type="xhtml11d:Number" default="1"/>
</xs:attributeGroup>

<xs:group name="xhtml.rt.content">
 <xs:sequence>
   <xs:group ref="xhtml.InlNoRuby.mix" minOccurs="0" maxOccurs="unbounded"/>
 </xs:sequence>
</xs:group>
</xs:group>

<xs:complexType name="xhtml.rt.type" mixed="true">
  <xs:group ref="xhtml.rt.content"/>
  <xs:attributeGroup ref="xhtml.rt.attlist"/>
</xs:complexType>

<!-- rp (ruby parenthesis) element -->
<xs:attributeGroup name="xhtml.rp.attlist">
  <xs:attributeGroup ref="xhtml.ruby.common.attrib"/>
</xs:attributeGroup>

<xs:group name="xhtml.rp.content">
  <xs:sequence/>
</xs:group>
</xs:complexType>

</xs:complexType>
E. Acknowledgements

This appendix is *informative*.

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