Abstract

This document is version 1.1 of XHTML Modularization, an abstract modularization of XHTML and implementations of the abstraction using XML Document Type Definitions (DTDs), and XML Schemas. This modularization provides a means for subsetting and extending XHTML, a feature needed for extending XHTML’s reach onto emerging platforms. This second version of this specification includes several minor updates to provide clarifications and address errors found in
the first version. It also provides an implementation using XML Schemas.

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](http://www.w3.org/TR/).

W3C Advisory Committee Representatives are invited to submit their formal review per the instructions in the Call for Review (see [Advisory Committee questionnaires](http://www.w3.org/2002/Process/pgtAdvisoryCommitteeQuestionnaire.html)). The review period ends on 6 March 2006. Members of the public are also invited to send comments on this Proposed Recommendation to www-html-editor@w3.org [archive]. It is inappropriate to send discussion email to this address. Public discussion may take place on www-html@w3.org [archive].

Publication as a Proposed 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.

This document is based upon the [Modularization of XHTML in XML Schema](http://www.w3.org/TR/xhtml-modularization/last-call-12-hours/) last call draft of 3 October 2003 and the [Modularization of XHTML](http://www.w3.org/TR/xhtml-modularization/) W3C Recommendation of 10 April 2001. The materials from the former are incorporated as appendices into this document, and some clarifications were applied to material from the latter. No major changes in methodology or functionality are included in this version. The HTML Working Group believes that this specification addresses all known issues. Evidence of implementation use of the methodology and schema described herein is documented in the [Implementation Report](http://www.w3.org/TR/xhtml-modularization/).

This document has been produced by the [W3C HTML Working Group](http://www.w3.org/2002/Group/htmlwg/) as part of the [W3C HTML Activity](http://www.w3.org/2002/Group/htmlwg/). The goals of the HTML Working Group are discussed in the [HTML Working Group charter](http://www.w3.org/2002/Group/htmlwg/). The W3C staff contact for work on HTML is Masayasu Ishikawa. Patent disclosures relevant to this specification may be found on the [Working Group’s patent disclosure page](http://www.w3.org/2002/Group/htmlwg/patent-disclosures/).

Public discussion of HTML takes place on [www-html@w3.org](mailto:www-html@w3.org) [archive]. To subscribe send an email to [www-html-request@w3.org](mailto:www-html-request@w3.org) with the word subscribe in the subject line.

Please report errors in this document to [www-html-editor@w3.org](mailto:www-html-editor@w3.org) [archive].

The English version of this specification is the only normative version. Information about [translations of this document](http://www.w3.org/MarkUp/translations) is available at [http://www.w3.org/MarkUp/translations](http://www.w3.org/MarkUp/translations).
## Quick Table of Contents

1. **Introduction** .................................................. 9
2. **Terms and Definitions** ........................................ 13
3. **Conformance Definition** ....................................... 17
4. **Defining Abstract Modules** .................................... 21
5. **XHTML Abstract Modules** ...................................... 29
   A. **Building Schema Modules** ................................. 51
   B. **Developing Schema with defined and extended modules** 55
   C. **XHTML Schema Module Implementations** .................. 77
   D. **Building DTD Modules** ..................................... 131
   E. **Developing DTDs with defined and extended modules** ....... 139
   F. **XHTML DTD Module Implementations** ...................... 153
6. **References** .................................................... 245
7. **Design Goals** ................................................... 249
8. **Acknowledgements** ............................................... 253

## Full Table of Contents

1. **Introduction** .................................................. 9
   1.1. **What is XHTML?** ......................................... 9
   1.2. **What is XHTML Modularization?** ........................ 9
   1.3. **Why Modularize XHTML?** ................................ 9
      1.3.1. **Abstract modules** .................................. 10
      1.3.2. **Module implementations** ............................ 10
      1.3.3. **Hybrid document types** ............................. 10
      1.3.4. **Validation** ........................................... 11
      1.3.5. **Formatting Model** .................................. 11
2. **Terms and Definitions** ........................................ 13
3. **Conformance Definition** ....................................... 17
   3.1. **XHTML Host Language Document Type Conformance** .... 17
   3.2. **XHTML Integration Set Document Type Conformance** .... 18
   3.3. **XHTML Family Module Conformance** ........................ 18
   3.4. **XHTML Family Document Conformance** ........................ 19
   3.5. **XHTML Family User Agent Conformance** ................... 19
   3.6. **Naming Rules** ............................................ 19
   3.7. **XHTML Module Evolution** ................................ 20
4. **Defining Abstract Modules** ................................... 21
   4.1. **Syntactic Conventions** .................................. 21
   4.2. **Content Types** .......................................... 22
   4.3. **Attribute Types** .......................................... 22
   4.4. An Example Abstract Module Definition ........................ 26
B. Developing Schema with defined and extended modules
   B.1. Defining additional attributes
   B.2. Defining additional elements
   B.3. Defining the content model for a collection of modules
      B.3.1. Integrating a stand-alone module into XHTML
      B.3.2. Mixing a new module throughout the modules in XHTML
   B.4. Creating a new Document Type
      B.4.1. Creating a simple Document Type
      B.4.2. Creating a Language by extending XHTML
      B.4.3. Creating a Language by removing and replacing XHTML modules
      B.4.4. Creating a the new Document Type
   C. XHTML Schema Module Implementations
      C.1. Character Entities
      C.2. XHTML Schema Modular Framework
         C.2.1. XHTML Notations
         C.2.2. XHTML Datatypes
         C.2.3. XHTML Common Attribute Definitions
         C.2.4. XHTML Character Entities
      C.3. XHTML Module Implementations
         C.3.1. XHTML Core Modules
         C.3.2. Applet
         C.3.3. Text Modules
         C.3.4. Forms
         C.3.5. Tables
         C.3.6. Image
         C.3.7. Client-side Image Map
         C.3.8. Server-side Image Map
         C.3.9. Object
         C.3.10. Frames
         C.3.11. Target
         C.3.12. Iframe
         C.3.13. Intrinsic Events
         C.3.14. Metainformation
         C.3.15. Scripting
         C.3.16. Style Sheet
         C.3.17. Style Attribute
         C.3.18. Link
         C.3.19. Base
         C.3.20. Name Identification
         C.3.21. Legacy
         C.3.22. Ruby
      C.4. XHTML Schema Support Modules
         C.4.1. Block Phrasal
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.4.2. Block Presentational</td>
<td>119</td>
</tr>
<tr>
<td>C.4.3. Block Structural</td>
<td>120</td>
</tr>
<tr>
<td>C.4.4. Inline Phrasal</td>
<td>121</td>
</tr>
<tr>
<td>C.4.5. Inline Presentational</td>
<td>123</td>
</tr>
<tr>
<td>C.4.6. Inline Structural</td>
<td>123</td>
</tr>
<tr>
<td>C.4.7. Param</td>
<td>124</td>
</tr>
<tr>
<td>C.4.8. Legacy - Miscellaneous</td>
<td>125</td>
</tr>
<tr>
<td>D. Building DTD Modules</td>
<td>131</td>
</tr>
<tr>
<td>D.1. Parameter Entity Naming</td>
<td>131</td>
</tr>
<tr>
<td>D.2. Defining the Namespace of a Module</td>
<td>52</td>
</tr>
<tr>
<td>D.2.1. Qualified Names sub-module</td>
<td>132</td>
</tr>
<tr>
<td>D.2.2. Declaration sub-module(s)</td>
<td>134</td>
</tr>
<tr>
<td>D.2.3. Using the module as a stand-alone DTD</td>
<td>136</td>
</tr>
<tr>
<td>D.2.4. Namespace Idiosyncrasies</td>
<td>138</td>
</tr>
<tr>
<td>E. Developing DTDs with defined and extended modules</td>
<td>139</td>
</tr>
<tr>
<td>E.1. Defining additional attributes</td>
<td>56</td>
</tr>
<tr>
<td>E.2. Defining additional elements</td>
<td>56</td>
</tr>
<tr>
<td>E.3. Defining the content model for a collection of modules</td>
<td>57</td>
</tr>
<tr>
<td>E.3.1. Integrating a stand-alone module into XHTML</td>
<td>141</td>
</tr>
<tr>
<td>E.3.2. Mixing a new module throughout the modules in XHTML</td>
<td>141</td>
</tr>
<tr>
<td>E.4. Creating a new DTD</td>
<td>142</td>
</tr>
<tr>
<td>E.4.1. Creating a simple DTD</td>
<td>142</td>
</tr>
<tr>
<td>E.4.2. Creating a DTD by extending XHTML</td>
<td>144</td>
</tr>
<tr>
<td>E.4.3. Creating a DTD by removing and replacing XHTML modules</td>
<td>145</td>
</tr>
<tr>
<td>E.4.4. Creating a new DTD</td>
<td>145</td>
</tr>
<tr>
<td>E.5. Using the new DTD</td>
<td>151</td>
</tr>
<tr>
<td>F. XHTML DTD Module Implementations</td>
<td>153</td>
</tr>
<tr>
<td>F.1. XHTML Character Entities</td>
<td>153</td>
</tr>
<tr>
<td>F.1.1. XHTML Latin 1 Character Entities</td>
<td>153</td>
</tr>
<tr>
<td>F.1.2. XHTML Special Characters</td>
<td>154</td>
</tr>
<tr>
<td>F.1.3. XHTML Mathematical, Greek, and Symbolic Characters</td>
<td>156</td>
</tr>
<tr>
<td>F.2. XHTML Modular Framework</td>
<td>159</td>
</tr>
<tr>
<td>F.2.1. XHTML Base Architecture</td>
<td>161</td>
</tr>
<tr>
<td>F.2.2. XHTML Notations</td>
<td>78</td>
</tr>
<tr>
<td>F.2.3. XHTML Datatypes</td>
<td>79</td>
</tr>
<tr>
<td>F.2.4. XHTML Common Attribute Definitions</td>
<td>80</td>
</tr>
<tr>
<td>F.2.5. XHTML Qualified Names</td>
<td>168</td>
</tr>
<tr>
<td>F.2.6. XHTML Character Entities</td>
<td>81</td>
</tr>
<tr>
<td>F.3. XHTML Module Implementations</td>
<td>174</td>
</tr>
<tr>
<td>F.3.1. XHTML Core Modules</td>
<td>82</td>
</tr>
<tr>
<td>F.3.2. Applet</td>
<td>181</td>
</tr>
<tr>
<td>F.3.3. Text Modules</td>
<td>87</td>
</tr>
<tr>
<td>F.3.4. Forms</td>
<td>186</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>F.3.5</td>
<td>Tables</td>
</tr>
<tr>
<td>F.3.6</td>
<td>Image</td>
</tr>
<tr>
<td>F.3.7</td>
<td>Client-side Image Map</td>
</tr>
<tr>
<td>F.3.8</td>
<td>Server-side Image Map</td>
</tr>
<tr>
<td>F.3.9</td>
<td>Object</td>
</tr>
<tr>
<td>F.3.10</td>
<td>Frames</td>
</tr>
<tr>
<td>F.3.11</td>
<td>Target</td>
</tr>
<tr>
<td>F.3.12</td>
<td>Iframe</td>
</tr>
<tr>
<td>F.3.13</td>
<td>Intrinsic Events</td>
</tr>
<tr>
<td>F.3.14</td>
<td>Metainformation</td>
</tr>
<tr>
<td>F.3.15</td>
<td>Scripting</td>
</tr>
<tr>
<td>F.3.16</td>
<td>Style Sheet</td>
</tr>
<tr>
<td>F.3.17</td>
<td>Style Attribute</td>
</tr>
<tr>
<td>F.3.18</td>
<td>Link</td>
</tr>
<tr>
<td>F.3.19</td>
<td>Base</td>
</tr>
<tr>
<td>F.3.20</td>
<td>Name Identification</td>
</tr>
<tr>
<td>F.3.21</td>
<td>Legacy</td>
</tr>
<tr>
<td>F.4</td>
<td>XHTML DTD Support Modules</td>
</tr>
<tr>
<td>F.4.1</td>
<td>Block Phrasal</td>
</tr>
<tr>
<td>F.4.2</td>
<td>Block Presentational</td>
</tr>
<tr>
<td>F.4.3</td>
<td>Block Structural</td>
</tr>
<tr>
<td>F.4.4</td>
<td>Inline Phrasal</td>
</tr>
<tr>
<td>F.4.5</td>
<td>Inline Presentational</td>
</tr>
<tr>
<td>F.4.6</td>
<td>Inline Structural</td>
</tr>
<tr>
<td>F.4.7</td>
<td>Param</td>
</tr>
<tr>
<td>F.4.8</td>
<td>Legacy Redeclarations</td>
</tr>
<tr>
<td>G</td>
<td>References</td>
</tr>
<tr>
<td>G.1</td>
<td>Normative References</td>
</tr>
<tr>
<td>G.2</td>
<td>Informative References</td>
</tr>
<tr>
<td>H</td>
<td>Design Goals</td>
</tr>
<tr>
<td>H.1</td>
<td>Requirements</td>
</tr>
<tr>
<td>H.1.1</td>
<td>Granularity</td>
</tr>
<tr>
<td>H.1.2</td>
<td>Composibility</td>
</tr>
<tr>
<td>H.1.3</td>
<td>Ease of Use</td>
</tr>
<tr>
<td>H.1.4</td>
<td>Compatibility</td>
</tr>
<tr>
<td>H.1.5</td>
<td>Conformance</td>
</tr>
<tr>
<td>J</td>
<td>Acknowledgements</td>
</tr>
</tbody>
</table>
1. Introduction

This section is informative.

1.1. What is XHTML?

XHTML is the reformulation of HTML 4 as an application of XML. XHTML 1.0 specifies three XML document types that correspond to the three HTML 4 DTDs: Strict, Transitional, and Frameset. XHTML 1.0 is the basis for a family of document types that subset and extend HTML.

1.2. What is XHTML Modularization?

XHTML Modularization is a decomposition of XHTML 1.0, and by reference HTML 4, into a collection of abstract modules that provide specific types of functionality. These abstract modules are implemented in this specification using the XML Document Type Definition language, but an implementation using XML Schemas is expected. The rules for defining the abstract modules, and for implementing them using XML DTDs, are also defined in this document.

These modules may be combined with each other and with other modules to create XHTML subset and extension document types that qualify as members of the XHTML-family of document types.

1.3. Why Modularize XHTML?

The modularization of XHTML refers to the task of specifying well-defined sets of XHTML elements that can be combined and extended by document authors, document type architects, other XML standards specifications, and application and product designers to make it economically feasible for content developers to deliver content on a greater number and diversity of platforms.

Over the last couple of years, many specialized markets have begun looking to HTML as a content language. There is a great movement toward using HTML across increasingly diverse computing platforms. Currently there is activity to move HTML onto mobile devices (hand held computers, portable phones, etc.), television devices (digital televisions, TV-based Web browsers, etc.), and appliances (fixed function devices). Each of these devices has different requirements and constraints.

Modularizing XHTML provides a means for product designers to specify which elements are supported by a device using standard building blocks and standard methods for specifying which building blocks are used. These modules serve as "points of conformance" for the content community. The content community can now target the installed base that supports a certain collection of modules, rather than worry about the installed base that supports this or that permutation of XHTML elements. The use of standards is critical for modularized XHTML to be
successful on a large scale. It is not economically feasible for content developers to tailor content to each and every permutation of XHTML elements. By specifying a standard, either software processes can autonomously tailor content to a device, or the device can automatically load the software required to process a module.

Modularization also allows for the extension of XHTML’s layout and presentation capabilities, using the extensibility of XML, without breaking the XHTML standard. This development path provides a stable, useful, and implementable framework for content developers and publishers to manage the rapid pace of technological change on the Web.

1.3.1. Abstract modules

An XHTML document type is defined as a set of abstract modules. A abstract module defines one kind of data that is semantically different from all others. Abstract modules can be combined into document types without a deep understanding of the underlying schemas that define the modules.

1.3.2. Module implementations

A module implementation consists of a set of element types, a set of attribute-list declarations, and a set of content model declarations, where any of these three sets may be empty. An attribute-list declaration in a module may modify an element type outside the element types defined in the module, and a content model declaration may modify an element type outside the element type set of the module.

One implementation mechanism is XML DTDs. An XML DTD is a means of describing the structure of a class of XML documents, collectively known as an XML document type. XML DTDs are described in the XML 1.0 Recommendation [XML] [p.246] . Another implementation mechanism is XML Schema [XMLSCHEMA] [p.246] .

1.3.3. Hybrid document types

A hybrid document type is an document type composed from a collection of XML DTDs or DTD Modules. The primary purpose of the modularization framework described in this document is to allow a DTD author to combine elements from multiple abstract modules into a hybrid document type, develop documents against that hybrid document type, and to validate that document against the associated hybrid document type definition.

One of the most valuable benefits of XML over SGML is that XML reduces the barrier to entry for standardization of element sets that allow communities to exchange data in an interoperable format. However, the relatively static nature of HTML as the content language for the Web has meant that any one of these communities have previously held out little hope that their XML document types would be able to see widespread adoption as part of Web standards. The modularization framework allows for the dynamic incorporation of these diverse document types within the XHTML-family of document types, further reducing the barriers to the incorporation of these domain-specific vocabularies in XHTML documents.
1.3.4. Validation

The use of well-formed, but not valid, documents is an important benefit of XML. In the process of developing a document type, however, the additional leverage provided by a validating parser for error checking is important. The same statement applies to XHTML document types with elements from multiple abstract modules.

A document is an instance of one particular document type defined by the DTD identified in the document’s prologue. Validating the document is the process of checking that the document complies with the rules in the document type definition.

One document can consist of multiple document fragments. Validating only fragments of a document, where each fragment is of a different document type than the other fragments in the document, is beyond the scope of this framework - since it would require technology that is not yet defined.

However, the modularization framework allows multiple document type definitions to be integrated and form a new document type (e.g. SVG integrated into XHTML). The new document type definition can be used for normal XML 1.0 validation.

1.3.5. Formatting Model

Earlier versions of HTML attempted to define parts of the model that user agents are required to use when formatting a document. With the advent of HTML 4, the W3C started the process of divorcing presentation from structure. XHTML 1.0 maintained this separation, and this document continues moving HTML and its descendants down this path. Consequently, this document makes no requirements on the formatting model associated with the presentation of documents marked up with XHTML Family document types.

Instead, this document recommends that content authors rely upon style mechanisms such as CSS to define the formatting model for their content. When user agents support the style mechanisms, documents will format as expected. When user agents do not support the style mechanisms, documents will format as appropriate for that user agent. This permits XHTML Family user agents to support rich formatting models on devices where that is appropriate, and lean formatting models on devices where that is appropriate.
2. Terms and Definitions

This section is informative.

While some terms are defined in place, the following definitions are used throughout this document. Familiarity with the W3C XML 1.0 Recommendation [XML] [p. 246] is highly recommended.

abstract module
   a unit of document type specification corresponding to a distinct type of content,
   corresponding to a markup construct reflecting this distinct type.

content model
   the declared markup structure allowed within instances of an element type. XML 1.0
differentiates two types: elements containing only element content (no character data) and
mixed content (elements that may contain character data optionally interspersed with child
elements). The latter are characterized by a content specification beginning with the
"#PCDATA" string (denoting character data).

document model
   the effective structure and constraints of a given document type. The document model
constitutes the abstract representation of the physical or semantic structures of a class of
documents.

document type
   a class of documents sharing a common abstract structure. The ISO 8879 [SGML] [p. 245]
definition is as follows: "a class of documents having similar characteristics; for example,
journal, article, technical manual, or memo. (4.102)"

document type definition (DTD)
   a formal, machine-readable expression of the XML structure and syntax rules to which a
document instance of a specific document type must conform; the schema type used in
XML 1.0 to validate conformance of a document instance to its declared document type.
The same markup model may be expressed by a variety of DTDs.

driver
   a generally short file used to declare and instantiate the modules of a DTD. A good rule of
thumb is that a DTD driver contains no markup declarations that comprise any part of the
document model itself.

element
   an instance of an element type.

element type
   the definition of an element, that is, a container for a distinct semantic class of document
content.

entity
   an entity is a logical or physical storage unit containing document content. Entities may be
composed of parse-able XML markup or character data, or unparsed (i.e., non-XML,
possibly non-textual) content. Entity content may be either defined entirely within the
document entity ("internal entities") or external to the document entity ("external entities"). In
parsed entities, the replacement text may include references to other entities.
entity reference
   a mnemonic string used as a reference to the content of a declared entity (eg., "&amp;" for "&", "&lt;" for ", &copy;" for "©").
facilities
   elements, attributes, and the semantics associated with those elements and attributes.
generic identifier
   the name identifying the element type of an element. Also, element type name.
hybrid document
   A hybrid document is a document that uses more than one XML namespace. Hybrid documents may be defined as documents that contain elements or attributes from hybrid document types.
 instantiate
   to replace an entity reference with an instance of its declared content.
markup declaration
   a syntactical construct within a DTD declaring an entity or defining a markup structure. Within XML DTDs, there are four specific types: entity declaration defines the binding between a mnemonic symbol and its replacement content; element declaration constrains which element types may occur as descendants within an element (see also content model); attribute definition list declaration defines the set of attributes for a given element type, and may also establish type constraints and default values; notation declaration defines the binding between a notation name and an external identifier referencing the format of an unparsed entity.
markup model
   the markup vocabulary (i.e., the gamut of element and attribute names, notations, etc.) and grammar (i.e., the prescribed use of that vocabulary) as defined by a document type definition (i.e., a schema) The markup model is the concrete representation in markup syntax of the document model, and may be defined with varying levels of strict conformity. The same document model may be expressed by a variety of markup models.
module
   an abstract unit within a document model expressed as a DTD fragment, used to consolidate markup declarations to increase the flexibility, modifiability, reuse and understanding of specific logical or semantic structures.
modularization
   an implementation of a modularization model; the process of composing or de-composing a DTD by dividing its markup declarations into units or groups to support specific goals. Modules may or may not exist as separate file entities (i.e., the physical and logical structures of a DTD may mirror each other, but there is no such requirement).
modularization model
   the abstract design of the document type definition (DTD) in support of the modularization goals, such as reuse, extensibility, expressiveness, ease of documentation, code size, consistency and intuitiveness of use. It is important to note that a modularization model is only orthogonally related to the document model it describes, so that two very different modularization models may describe the same document type.
parameter entity
   an entity whose scope of use is within the document prolog (i.e., the external subset/DTD or internal subset). Parameter entities are disallowed within the document instance.
parent document type
   A parent document type of a hybrid document is the document type of the root element.
tag
descriptive markup delimiting the start and end (including its generic identifier and any attributes) of an element.
3. Conformance Definition

This section is *normative*.

In order to ensure that XHTML-family documents are maximally portable among XHTML-family user agents, this specification rigidly defines conformance requirements for both of these and for XHTML-family document types. While the conformance definitions can be found in this section, they necessarily reference normative text within this document, within the base XHTML specification \[XHTML1\][p.246] , and within other related specifications. It is only possible to fully comprehend the conformance requirements of XHTML through a complete reading of all normative references.

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.245] .

3.1. XHTML Host Language Document Type Conformance

It is possible to modify existing document types and define wholly new document types using both modules defined in this specification and other modules. Such a document type is "XHTML Host Language Conforming" when it meets the following criteria:

1. The document type MUST be defined using one of the implementation methods defined by the W3C. Currently this is limited to XML DTDs and XML Schema.
2. The schema which defines the document type MUST have a unique identifier as defined in \[Naming Rules\][p.19] that begins with the character sequence "XHTML".
3. The schema which defines the document type must include, at a minimum, the Structure, Hypertext, Text, and List modules defined in this specification.
4. For each of the W3C-defined modules that are included, all of the elements, attributes, types of attributes (including any required enumerated value lists), and any required minimal content models must be included (and optionally extended) in the document type's content model. When content models are extended, all of the elements and attributes (along with their types or any required enumerated value lists) required in the original content model must continue to be required.
5. The schema that defines the document type may define additional elements and attributes. However, these MUST be in their own XML namespace \[XMLNAMES\][p.246] . If additional elements are defined by a module, the attributes defined in included XHTML modules are available for use on those elements, but MUST be referenced using their namespace-qualified identifier (e.g., xhtml:id). The semantics of the attributes remain the same as when used on an XHTML-namespace element.
3.2. XHTML Integration Set Document Type Conformance

It is also possible to define document types that are based upon XHTML, but do not adhere to its structure. Such a document type is "XHTML Integration Set Conforming" when it meets the following criteria:

1. The document type MUST be defined using one of the implementation methods defined by the W3C. Currently this is limited to XML DTDs and XML Schemas.
2. The schema that defines the document type MUST have a unique identifier as defined in Naming Rules [p.19]. This identifier MUST contain the character sequence "XHTML", but MUST NOT start with that character sequence.
3. The schema which defines the document type MUST include, at a minimum, the Hypertext, Text, and List modules defined in this specification.
4. For each of the W3C-defined modules that are included, all of the elements, attributes, types of attributes (including any required enumerated lists), and any required minimal content models MUST be included (and optionally extended) in the document type’s content model. When content models are extended, all of the elements and attributes (along with their types or any required enumerated value lists) required in the original content model MUST continue to be required.
5. The schema that defines the document type MAY define additional elements and attributes. However, these MUST be in their own XML namespace [XMLNAMES][p.246]. If additional elements are defined by a module, the attributes defined in included XHTML modules are available for use on those elements, but MUST be referenced using their namespace-qualified identifier (e.g., xhtml:id). The semantics of the attributes remain the same as when used on an XHTML-namespace element.

3.3. XHTML Family Module Conformance

This specification defines a method for defining XHTML-conforming modules. A module conforms to this specification when it meets all of the following criteria:

1. The document type MUST be defined using one of the implementation methods defined by the W3C. Currently this is limited to XML DTDs and XML Schemas.
2. The schema that defines the module MUST have a unique identifier as defined in Naming Rules [p.19].
3. When the module is defined using an XML DTD, the module MUST isolate its parameter entity names through the use of unique prefixes or other, similar methods.
4. The module definition MUST have a prose definition that describes the syntactic and semantic requirements of the elements, attributes, and/or content models that it declares.
5. The module definition MUST NOT reuse any element names that are defined in other W3C-defined modules, except when the content model and semantics of those elements are either identical to the original or an extension of the original, or when the reused element names are within their own namespace (see below).
6. The module definition’s elements and attributes MUST be part of an XML namespace [XMLNAMES][p.246]. If the module is defined by an organization other than the W3C, this
namespace MUST NOT be the same as the namespace in which other W3C modules are defined.

3.4. XHTML Family Document Conformance

A conforming XHTML family document is a valid instance of an XHTML Host Language Conforming Document Type.

3.5. XHTML Family User Agent Conformance

A conforming user agent must meet all of the following criteria (as defined in XHTML1[p.246]):

1. In order to be consistent with the XML 1.0 Recommendation[XML][p.246], the user agent MUST parse and evaluate an XHTML document for well-formedness. If the user agent claims to be a validating user agent, it MUST also validate documents against their referenced schemas.
2. When the user agent claims to support facilities defined within this specification or required by this specification through normative reference, it MUST do so in ways consistent with the facilities’ definition.
3. When a user agent processes an XHTML document as generic[XML][p.246], it MUST recognize only attributes of type ID (e.g., the id attribute on most XHTML elements) as fragment identifiers.
4. If a user agent encounters an element it does not recognize, it MUST continue to process the children of that element.
5. If a user agent encounters an attribute it does not recognize, it MUST ignore the entire attribute specification (i.e., the attribute and its value).
6. If it encounters an entity reference (other than one of the predefined entities) for which the user agent has processed no declaration (which could happen if the declaration is in the external subset which the user agent hasn’t read), the entity reference SHOULD be rendered as the characters (starting with the ampersand and ending with the semi-colon) that make up the entity reference.
7. When rendering content, user agents that encounter characters or character entity references that are recognized but not renderable SHOULD display the document in such a way that it is obvious to the user that normal rendering has not taken place.
8. Whitespace is defined as in XML[p.246]. On input all whitespace is preserved. On rendering, whitespace is processed according to the rules of CSS2[p.245].

3.6. Naming Rules

XHTML Host Language document types must adhere to strict naming conventions so that it is possible for software and users to readily determine the relationship of document types to XHTML. The names for document types implemented as XML Document Type Definitions are defined through Formal Public Identifiers (FPIs). Within FPIs, fields are separated by double slash character sequences (/). The various fields must be composed as follows:
1. The leading field must be "-" to indicate a privately defined resource.
2. The second field must contain the name of the organization responsible for maintaining the named item. There is no formal registry for these organization names. Each organization should define a name that is unique. The name used by the W3C is, for example, W3C.
3. The third field contains two constructs: the public text class followed by the public text description. The first token in the third field is the public text class which should adhere to ISO 8879 Clause 10.2.2.1 Public Text Class. Only XHTML Host Language conforming documents should begin the public text description with the token XHTML. The public text description should contain the string XHTML if the document type is Integration Set conforming. The field must also contain an organization-defined unique identifier (e.g., MyML 1.0). This identifier should be composed of a unique name and a version identifier that can be updated as the document type evolves.
4. The fourth field defines the language in which the item is developed (e.g., EN).

Using these rules, the name for an XHTML Host Language conforming document type might be -//MyCompany//DTD XHTML MyML 1.0//EN. The name for an XHTML family conforming module might be -//MyCompany//ELEMENTS XHTML MyElements 1.0//EN. The name for an XHTML Integration Set conforming document type might be -//MyCompany//DTD Special Markup with XHTML//EN.

3.7. XHTML Module Evolution

Each module defined in this specification is given a unique identifier that adheres to the naming rules in the previous section. Over time, a module may evolve. A logical ramification of such evolution may be that some aspects of the module are no longer compatible with its previous definition. To help ensure that document types defined against modules defined in this specification continue to operate, the identifiers associated with a module that changes will be updated. Specifically, the Formal Public Identifier and System Identifier of the module will be changed by modifying the version identifier included in each. Document types that wish to incorporate the updated functionality will need to be similarly updated.

In addition, the earlier version(s) of the module will continue to be available via its earlier, unique identifier(s). In this way, document types developed using XHTML modules will continue to function seamlessly using their original definitions even as the collection expands and evolves. Similarly, document instances written against such document types will continue to validate using the earlier module definitions.

Other XHTML Family Module and Document Type authors are encouraged to adopt a similar strategy to ensure the continued functioning of document types based upon those modules and document instances based upon those document types.
4. Defining Abstract Modules

This section is *normative*.

An abstract module is a definition of an XHTML module using prose text and some informal markup conventions. While such a definition is not generally useful in the machine processing of document types, it is critical in helping people understand what is contained in a module. This section defines the way in which XHTML abstract modules are defined. An XHTML-conforming module is *not required* to provide an abstract module definition. However, anyone developing an XHTML module is encouraged to provide an abstraction to ease in the use of that module.

4.1. Syntactic Conventions

The abstract modules are not defined in a formal grammar. However, the definitions do adhere to the following syntactic conventions. These conventions are similar to those of XML DTDs, and should be familiar to XML DTD authors. Each discrete syntactic element can be combined with others to make more complex expressions that conform to the algebra defined here.

element name
   When an element is included in a content model, its explicit name will be listed.

content set
   Some modules define lists of explicit element names called *content sets*. When a content set is included in a content model, its name will be listed.

expr ?
   Zero or one instances of expr are permitted.

expr +
   One or more instances of expr are required.

expr *
   Zero or more instances of expr are permitted.

a , b
   Expression a is required, followed by expression b.

a | b
   Either expression a or expression b is required.

a - b
   Expression a is permitted, omitting elements in expression b.

parentheses
   When an expression is contained within parentheses, evaluation of any subexpressions within the parentheses take place before evaluation of expressions outside of the parentheses (starting at the deepest level of nesting first).

extending pre-defined elements
   In some instances, a module adds attributes to an element. In these instances, the element name is followed by an ampersand (&).

defining required attributes
   When an element requires the definition of an attribute, that attribute name is followed by an asterisk (*).
When a module defines the type of an attribute value, it does so by listing the type in parentheses after the attribute name.

When a module defines the legal values for an attribute, it does so by listing the explicit legal values (enclosed in quotation marks), separated by vertical bars (|), inside of parentheses following the attribute name. If the attribute has a default value, that value is followed by an asterisk (*). If the attribute has a fixed value, the attribute name is followed by an equals sign (=) and the fixed value enclosed in quotation marks.

4.2. Content Types

Abstract module definitions define minimal, atomic content models for each module. These minimal content models reference the elements in the module itself. They may also reference elements in other modules upon which the abstract module depends. Finally, the content model in many cases requires that text be permitted as content to one or more elements. In these cases, the symbol used for text is PCDATA (processed characted data). This is a term, defined in the XML 1.0 Recommendation, that refers to processed character data. A content type can also be defined as EMPTY, meaning the element has no content in its minimal content model.

4.3. Attribute Types

In some instances, it is necessary to define the types of attribute values or the explicit set of permitted values for attributes. The following attribute types (defined in the XML 1.0 Recommendation) are used in the definitions of the abstract modules:

<table>
<thead>
<tr>
<th>Attribute Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDATA</td>
<td>Character data</td>
</tr>
<tr>
<td>ID</td>
<td>A document-unique identifier</td>
</tr>
<tr>
<td>IDREF</td>
<td>A reference to a document-unique identifier</td>
</tr>
<tr>
<td>IDREFS</td>
<td>A space-separated list of references to document-unique identifiers</td>
</tr>
<tr>
<td>NAME</td>
<td>A name with the same character constraints as ID above</td>
</tr>
<tr>
<td>NMTOKEN</td>
<td>A name composed of only name tokens as defined in XML 1.0[XML][p.246]</td>
</tr>
<tr>
<td>NMTOKENS</td>
<td>One or more white space separated NMTOKEN values</td>
</tr>
</tbody>
</table>

In addition to these pre-defined data types, XHTML Modularization defines the following data types and their semantics (as appropriate):

<table>
<thead>
<tr>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character</td>
<td>A single character from[ISO10646][p.245] .</td>
</tr>
</tbody>
</table>
**Charset**
A character encoding, as per [RFC2045][p.245].

**Charsets**
A space-separated list of character encodings, as per [RFC2045][p.245].

**Color**
The attribute value type "Color" refers to color definitions as specified in [SRGB][p.246]. A color value may either be a hexadecimal number (prefixed by a hash mark) or one of the following sixteen color names. The color names are case-insensitive.

<table>
<thead>
<tr>
<th>Color name</th>
<th>sRGB value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>#000000</td>
</tr>
<tr>
<td>Silver</td>
<td>#C0C0C0</td>
</tr>
<tr>
<td>Gray</td>
<td>#808080</td>
</tr>
<tr>
<td>White</td>
<td>#FFFFFF</td>
</tr>
<tr>
<td>Maroon</td>
<td>#800000</td>
</tr>
<tr>
<td>Navy</td>
<td>#000080</td>
</tr>
<tr>
<td>Red</td>
<td>#FF0000</td>
</tr>
<tr>
<td>Blue</td>
<td>#0000FF</td>
</tr>
<tr>
<td>Purple</td>
<td>#800080</td>
</tr>
<tr>
<td>Teal</td>
<td>#008080</td>
</tr>
<tr>
<td>Fuchsia</td>
<td>#FF00FF</td>
</tr>
<tr>
<td>Aqua</td>
<td>#00FFFF</td>
</tr>
</tbody>
</table>

Thus, the color values "#800080" and "Purple" both refer to the color purple.

**ContentType**
A media type, as per [RFC2045][p.245].

**ContentTypes**
A comma-separated list of media types, as per [RFC2045][p.245].

**Coords**
Comma separated list of coordinates to use in defining areas.

**Datetime**
Date and time information.

**FPI**
A character string representing an SGML Formal Public Identifier.

**FrameTarget**
Frame name used as destination for results of certain actions.

**LanguageCode**
A language code, as per [RFC3066][p.245] or its successor.

**Length**
The value may be either in pixels or a percentage of the available horizontal or vertical space. Thus, the value "50%" means half of the available space.
Authors may use the following recognized link types, listed here with their conventional interpretations. A LinkTypes value refers to a space-separated list of link types. White space characters are not permitted within link types.

These link types are case-insensitive, i.e., "Alternate" has the same meaning as "alternate".

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

<table>
<thead>
<tr>
<th>LinkType</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternate</strong></td>
<td>Designates substitute versions for the document in which the link occurs. When used together with the hreflang attribute, it implies a translated version of the document. When used together with the media attribute, it implies a version designed for a different medium (or media).</td>
</tr>
<tr>
<td><strong>Stylesheet</strong></td>
<td>Refers to an external style sheet. See the <strong>Style Module</strong> [p. 46] for details. This is used together with the link type &quot;Alternate&quot; for user-selectable alternate style sheets.</td>
</tr>
<tr>
<td><strong>Start</strong></td>
<td>Refers to the first document in a collection of documents. This link type tells search engines which document is considered by the author to be the starting point of the collection.</td>
</tr>
<tr>
<td><strong>Next</strong></td>
<td>Refers to the next document in a linear sequence of documents. User agents may choose to pre-load the &quot;next&quot; document, to reduce the perceived load time.</td>
</tr>
<tr>
<td><strong>Prev</strong></td>
<td>Refers to the previous document in an ordered series of documents. Some user agents also support the synonym &quot;Previous&quot;.</td>
</tr>
<tr>
<td><strong>Contents</strong></td>
<td>Refers to a document serving as a table of contents. Some user agents also support the synonym ToC (from &quot;Table of Contents&quot;).</td>
</tr>
<tr>
<td><strong>Index</strong></td>
<td>Refers to a document providing an index for the current document.</td>
</tr>
<tr>
<td><strong>Glossary</strong></td>
<td>Refers to a document providing a glossary of terms that pertain to the current document.</td>
</tr>
<tr>
<td><strong>Copyright</strong></td>
<td>Refers to a copyright statement for the current document.</td>
</tr>
<tr>
<td><strong>Chapter</strong></td>
<td>Refers to a document serving as a chapter in a collection of documents.</td>
</tr>
<tr>
<td><strong>Section</strong></td>
<td>Refers to a document serving as a section in a collection of documents.</td>
</tr>
<tr>
<td><strong>Subsection</strong></td>
<td>Refers to a document serving as a subsection in a collection of documents.</td>
</tr>
<tr>
<td><strong>Appendix</strong></td>
<td>Refers to a document serving as an appendix in a collection of documents.</td>
</tr>
<tr>
<td><strong>Help</strong></td>
<td>Refers to a document offering help (more information, links to other sources information, etc.)</td>
</tr>
<tr>
<td><strong>Bookmark</strong></td>
<td>Refers to a bookmark. A bookmark is a link to a key entry point within an extended document. The title attribute may be used, for example, to label the bookmark. Note that several bookmarks may be defined in each document.</td>
</tr>
</tbody>
</table>

Authors may wish to define additional link types not described in this specification. If they do so, they should use a profile to cite the conventions used to define the link types. Please see the profile attribute of the head [p. 30] element for more information.

Note that in a future version of this specification, the Working Group expects to evolve this type from a simple name to a Qualified Name (QName). See [XML SCHEMA] [p. 246] for more information on QNames.
The MediaDesc attribute is a comma-separated list of media descriptors. The following is a list of recognized media descriptors:

- **screen**: Intended for non-paged computer screens.
- **tty**: Intended for media using a fixed-pitch character grid, such as teletypes, terminals, or portable devices with limited display capabilities.
- **tv**: Intended for television-type devices (low resolution, color, limited scrollability).
- **projection**: Intended for projectors.
- **handheld**: Intended for handheld devices (small screen, monochrome, bitmapped graphics, limited bandwidth).
- **print**: Intended for paged, opaque material and for documents viewed on screen in print preview mode.
- **braille**: Intended for braille tactile feedback devices.
- **aural**: Intended for speech synthesizers.
- **all**: Suitable for all devices.

Future versions of XHTML may introduce new values and may allow parameterized values. To facilitate the introduction of these extensions, conforming user agents must be able to parse the media attribute value as follows:

1. The value is a comma-separated list of entries. For example,
   
   ```html
   media="screen, 3d-glasses, print and resolution > 90dpi"
   ```

   is mapped to:
   
   ```
   "screen"
   "3d-glasses"
   "print and resolution > 90dpi"
   ```

2. Each entry is truncated just before the first character that isn’t a US ASCII letter [a-zA-Z] (ISO 10646 hex 41-5a, 61-7a), digit [0-9] (hex 30-39), or hyphen-minus (hex 2d). In the example, this gives:
   
   ```
   "screen"
   "3d-glasses"
   "print"
   ```

3. A case-insensitive match is then made with the set of media types defined above. User agents may ignore entries that don’t match. In the example we are left with `screen` and `print`.

---

**Note.** Style sheets may include media-dependent variations within them (e.g., the CSS `@media` construct). In such cases it may be appropriate to use "media=all".

---

The value may be a Length or a relative length. A relative length has the form "i\*", where "i" is an integer. When allotting space among elements competing for that space, user agents allot pixel and percentage lengths first, then divide up remaining available space among relative lengths. Each relative length receives a portion of the available space that is proportional to the integer preceding the \*. The value "1\*" is equivalent to "1". Thus, if 60 pixels of space are available after the user agent allots pixel and percentage space, and the competing relative lengths are 1*, 2*, and 3*, the 1* will be allotted 10 pixels, the 2* will be allotted 20 pixels, and the 3* will be allotted 30 pixels.

---

A comma separated list of items of type MultiLength [p.25].

One or more digits
4.4. An Example Abstract Module Definition

This section is informative

This section defines a sample abstract module as an example of how to take advantage of the syntax rules defined above. Since this example is trying to use all of the various syntactic elements defined, it is pretty complicated. Typical module definitions would be much simpler than this. Finally, note that this module references the attribute collection Common. This is a collection defined in the XHTML Modularization specification that includes all of the basic attributes that most elements need.

4.4.1. XHTML Skiing Module

The XHTML Skiing Module defines markup used when describing aspects of a ski lodge. The elements and attributes defined in this module are:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>resort</td>
<td>Common, href (CDATA)</td>
<td>description, Aspen+</td>
</tr>
<tr>
<td>lodge</td>
<td>Common</td>
<td>description, (Aspen - lift)+</td>
</tr>
<tr>
<td>lift</td>
<td>Common, href</td>
<td>description?</td>
</tr>
<tr>
<td>chalet</td>
<td>Common, href</td>
<td>description?</td>
</tr>
<tr>
<td>room</td>
<td>Common, href</td>
<td>description?</td>
</tr>
<tr>
<td>lobby</td>
<td>Common, href</td>
<td>description?</td>
</tr>
<tr>
<td>fireplace</td>
<td>Common, href</td>
<td>description?</td>
</tr>
<tr>
<td>description</td>
<td>Common</td>
<td>PCDATA*</td>
</tr>
</tbody>
</table>
This module also defines the content set Aspen with the minimal content model lodge | lift | chalet | room | lobby | fireplace.
5. XHTML Abstract Modules

This section is normative.

This section specifies the contents of the XHTML abstract modules. These modules are abstract definitions of collections of elements, attributes, and their content models. These abstract modules can be mapped onto any appropriate specification mechanism. [XHTML DTD Module Implementations][p.153], for example, maps these modules onto DTDs as described in [XML][p.246].

Content developers and device designers should view this section as a guide to the definition of the functionality provided by the various XHTML-defined modules. When developing documents or defining a profile for a class of documents, content developers can determine which of these modules are essential for conveying their message. When designing clients, device designers should develop their device profiles by choosing from among the abstract modules defined here.

Except when overridden in this document, the semantics of these elements and attributes are defined in [HTML4][p.245].

5.1. Attribute Collections

Many of the abstract modules in this section define the required attributes for elements. The table below defines some collections of attributes that are referenced throughout the modules. These expressions should in no way be considered normative or mandatory. They are an editorial convenience for this document. When used in the remainder of this section, it is the expansion of the term that is normative, not the term itself.

The following basic attribute sets are used on many elements. In each case where they are used, their use is identified via their collection name rather than enumerating the list.

Each of the attributes defined in an XHTML attribute collection is available for use when their corresponding module is included in an XHTML Host Language or an XHTML Integration Set. In such a situation, the attributes are available for use in the definition of elements that are NOT in the XHTML namespace when they are referenced using their namespace-qualified identifier (e.g., xhtml:id). The semantics of the attributes remain the same regardless of whether they are referenced using their qualified identifier or not. **On elements in the XHTML namespace, it is an error to use a namespace-qualified attribute.**
5.2. Core Modules

The core modules are modules that are required to be present in any XHTML Family Conforming Document Type [p.17].

5.2.1. Structure Module

The Structure Module defines the major structural elements for XHTML. These elements effectively act as the basis for the content model of many XHTML family document types. The elements and attributes included in this module are:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>body</td>
<td>[Common][p.30]</td>
<td>(Heading</td>
</tr>
<tr>
<td>title</td>
<td>[I18N][p.30]</td>
<td>PCDATA</td>
</tr>
</tbody>
</table>
This module is the basic structural definition for XHTML content. The html element acts as the root element for all XHTML Family Document Types.

Note that the value of the xmlns attribute is defined to be "http://www.w3.org/1999/xhtml". Also note that because the xmlns attribute is treated specially by XML namespace-aware parsers [XMLNAMES[p.246]], it is legal to have it present as an attribute of each element. However, any time the xmlns attribute is used in the context of an XHTML module, whether with a prefix or not, the value of the attribute shall be the XHTML namespace defined here. See [Defining the Namespace of a Module][p.52] for more on rules regarding namespace usage with XHTML family modules.

Implementations: [DTD][p.175], [XML Schema][p.82]

5.2.2. Text Module

This module defines all of the basic text container elements, attributes, and their content model:
<table>
<thead>
<tr>
<th>Element</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>abbr</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>acronym</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>address</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>blockquote</td>
<td>Common[p.30] , cite [URI][p.26]</td>
<td>(Heading</td>
</tr>
<tr>
<td>br</td>
<td>Core[p.30]</td>
<td>EMPTY</td>
</tr>
<tr>
<td>cite</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>code</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>dfn</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>div</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>em</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>h1</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>h2</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>h3</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>h4</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>h5</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>h6</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>kbd</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>p</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>pre</td>
<td>Common[p.30] , xml:space=&quot;preserve&quot;</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>q</td>
<td>Common[p.30] , cite [URI][p.26]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>samp</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>span</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>strong</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>var</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
</tbody>
</table>

The minimal content model for this module defines some content sets:
5.2.3. Hypertext Module

The Hypertext Module provides the element that is used to define hypertext links to other resources. This module supports the following element and attributes:

<table>
<thead>
<tr>
<th>Element</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Common[p.30], accesskey (Character[p.22]), charset (Charset[p.23]), href (URI[p.26]), hreflang (Languagecode[p.23]), rel (LinkTypes[p.24]), rev (LinkTypes[p.24]), tabindex (Number[p.25]), type (ContentType[p.23])</td>
<td>(PCDATA</td>
</tr>
</tbody>
</table>

This module adds the a element to the Inline content set of the Text Module.

Implementations: [DTD][p.178], [XML Schema][p.84]

5.2.4. List Module

As its name suggests, the List Module provides list-oriented elements. Specifically, the List Module supports the following elements and attributes:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>dl</td>
<td>Common[p.30]</td>
<td>(dt</td>
</tr>
<tr>
<td>dt</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>dd</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>ol</td>
<td>Common[p.30]</td>
<td>li+</td>
</tr>
<tr>
<td>ul</td>
<td>Common[p.30]</td>
<td>li+</td>
</tr>
<tr>
<td>li</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
</tbody>
</table>
This module also defines the content set List with the minimal content model (dl | ol | ul)+ and adds this set to the Flow content set of the Text Module.

Implementations: DTD [p.179], XML Schema [p.85]

5.3. Applet Module

This module is deprecated. Similar functionality can be found in the Object Module [p.43].

The Applet Module provides elements for referencing external applications. Specifically, the Applet Module supports the following elements and attributes:

<table>
<thead>
<tr>
<th>Element</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>applet</td>
<td>Core, alt* [Text [p.26]], archive [CDATA [p.22]], code [CDATA [p.22]],</td>
<td>(PCDATA</td>
</tr>
<tr>
<td></td>
<td>codebase [URI [p.26]], height* [Length [p.23]], object [CDATA [p.22]],</td>
<td></td>
</tr>
<tr>
<td></td>
<td>width* [Length [p.23]]</td>
<td></td>
</tr>
<tr>
<td>param</td>
<td>id [ID [p.22]], name* [CDATA [p.22]], type [ContentType [p.23]],</td>
<td>EMPTY</td>
</tr>
<tr>
<td></td>
<td>value [CDATA [p.22]], valuetype (&quot;data&quot;*</td>
<td>&quot;ref&quot;</td>
</tr>
</tbody>
</table>

When the Applet Module is used, it adds the applet element to the Inline content set of the Text Module.

Implementations: DTD [p.181], XML Schema [p.86]

5.4. Text Extension Modules

This section defines a variety of additional textual markup modules.

5.4.1. Presentation Module

This module defines elements, attributes, and a minimal content model for simple presentation-related markup:
When this module is used, the \texttt{hr} element is added to the Block content set of the Text Module. In addition, the \texttt{b}, \texttt{big}, \texttt{i}, \texttt{small}, \texttt{sub}, \texttt{sup}, and \texttt{tt} elements are added to the Inline content set of the Text Module.

Implementations: \texttt{DTD}[p.183], \texttt{XML Schema}[p.87]

### 5.4.2. Edit Module

This module defines elements and attributes for use in editing-related markup:

<table>
<thead>
<tr>
<th>Element</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>\texttt{del}</td>
<td>\texttt{Common}[p.30], cite (\texttt{URI}[p.26]), datetime (\texttt{Datetime}[p.23])</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>\texttt{ins}</td>
<td>\texttt{Common}[p.30], cite (\texttt{URI}[p.26]), datetime (\texttt{Datetime}[p.23])</td>
<td>(PCDATA</td>
</tr>
</tbody>
</table>

When this module is used, the \texttt{del} and \texttt{ins} elements are added to the Inline content set of the Text Module.

Implementations: \texttt{DTD}[p.183], \texttt{XML Schema}[p.88]

### 5.4.3. Bi-directional Text Module

The Bi-directional Text module defines an element that can be used to declare the bi-directional rules for the element’s content.
When this module is used, the `bdo` element is added to the Inline content set of the Text Module. Selecting this module also adds the attribute `dir* ("ltr" | "rtl")` to the I18N attribute collection.

Implementations: [DTD][p.185], [XML Schema][p.88]

### 5.5. Forms Modules

#### 5.5.1. Basic Forms Module

The Basic Forms Module provides the form-related elements, but only in a limited form. Specifically, the Basic Forms Module supports the following elements, attributes, and minimal content model:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>form</td>
<td><code>Common</code> [p.30], action* (URI [p.26]), method (&quot;get&quot;*</td>
<td>&quot;post&quot;), enctype (ContentType [p.23])</td>
</tr>
<tr>
<td>input</td>
<td><code>Common</code> [p.30], accesskey (Character [p.22]), checked (&quot;checked&quot;), maxlength (Number [p.25]), name (CDATA [p.22]), size (Number [p.25]), src (URI [p.26]), tabindex (Number [p.25]), type (&quot;text&quot;*</td>
<td>&quot;password&quot;</td>
</tr>
<tr>
<td>label</td>
<td><code>Common</code> [p.30], accesskey (Character [p.22]), for (IDREF [p.22])</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>select</td>
<td><code>Common</code> [p.30], multiple (&quot;multiple&quot;), name (CDATA [p.22]), size (Number [p.25]), tabindex (Number [p.25])</td>
<td>option+</td>
</tr>
<tr>
<td>option</td>
<td><code>Common</code> [p.30], selected (&quot;selected&quot;), value (CDATA [p.22])</td>
<td>PCDATA</td>
</tr>
<tr>
<td>textarea</td>
<td><code>Common</code> [p.30], accesskey (Character [p.22]), cols* (Number [p.25]), name (CDATA [p.22]), rows* (Number [p.25]), tabindex (Number [p.25])</td>
<td>PCDATA</td>
</tr>
</tbody>
</table>

This module defines two content sets:
Form
  form
Formctrl
  input | label | select | textarea

When this module is used, it adds the Form content set to the Block content set and it adds the Formctrl content set to the Inline content set as these are defined in the Text Module.

The Basic Forms Module is a subset of the Forms Module. These modules may not be used together in a single document type.

Implementations: [DTD] [p. 186], [XML Schema] [p. 89]

5.5.2. Forms Module

The Forms Module provides all of the forms features found in HTML 4.0. Specifically, the Forms Module supports:
This module defines two content sets:

Form
  form | fieldset
Formctrl
  input | select | textarea | label | button
When this module is used, it adds the Form content set to the Block content set and it adds the Formctrl content set to the Inline content set as these are defined in the Text Module.

The Forms Module is a superset of the Basic Forms Module. These modules may not be used together in a single document type.

Implementations: [DTD][p.189], [XML Schema][p.92]

5.6. Table Modules

5.6.1. Basic Tables Module

The Basic Tables Module provides table-related elements, but only in a limited form. Specifically, the Basic Tables Module supports:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>caption</td>
<td>[Common][p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>table</td>
<td>[Common][p.30], width ([Length][p.23]), summary ([Text][p.26])</td>
<td>caption?, tr+</td>
</tr>
<tr>
<td>td</td>
<td>[Common][p.30], abbr ([Text][p.26]), align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>th</td>
<td>[Common][p.30], abbr ([Text][p.26]), align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>tr</td>
<td>[Common][p.30], align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
</tbody>
</table>

When this module is used, it adds the table element to the Block content set as defined in the Text Module.

The Basic Tables Module is a subset of the Tables Module. These modules may not be used together in a single document type.

Implementations: [DTD][p.194], [XML Schema][p.95]
5.6.2. Tables Module

As its name suggests, the Tables Module provides table-related elements that are better able to be accessed by non-visual user agents. Specifically, the Tables Module supports the following elements, attributes, and content model:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>caption</td>
<td>Common[p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>table</td>
<td>Common[p.30], border [Pixels][p.26], cellpadding [Length][p.23], cellspacing [Length][p.23], frame (&quot;void&quot;</td>
<td>&quot;above&quot;</td>
</tr>
<tr>
<td>td</td>
<td>Common[p.30], abbr [Text][p.26], align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>th</td>
<td>Common[p.30], abbr [Text][p.26], align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>tr</td>
<td>Common[p.30], align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>col</td>
<td>Common[p.30], align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>colgroup</td>
<td>Common[p.30], align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
</tbody>
</table>
When this module is used, it adds the `table` element to the Block content set of the Text Module.

The Tables Module is a superset of the Basic Tables Module. These modules may not be used together in a single document type.

Implementations: [DTD](p.197), [XML Schema](p.97)

### 5.7. Image Module

The Image Module provides basic image embedding, and may be used in some implementations independently of client side image maps. The Image Module supports the following element and attributes:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>img</code></td>
<td><code>[Common](p.30)</code> , <code>alt</code> <em>(Text)</em>, <code>height</code> <em>(Length)</em>, <code>longdesc</code> <em>(URI)</em>, <code>src</code> <em>(URI)</em>, <code>width</code> <em>(Length)</em></td>
<td><code>EMPTY</code></td>
</tr>
</tbody>
</table>

When this module is used, it adds the `img` element to the Inline content set of the Text Module.

Implementations: [DTD](p.203), [XML Schema](p.100)

### 5.8. Client-side Image Map Module

The Client-side Image Map Module provides elements for client side image maps. It requires that the Image Module (or another module that supports the `img` element) be included. The Client-side Image Map Module supports the following elements:
### 5.9. Server-side Image Map Module

The Server-side Image Map Module provides support for image-selection and transmission of selection coordinates. It requires that the Image Module (or another module that supports the `img` element) be included. The Server-side Image Map Module supports the following attributes:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a&amp;</td>
<td>coords (CDATA[p.22]), shape (&quot;rect&quot;</td>
<td>&quot;circle&quot;</td>
<td>&quot;poly&quot;</td>
</tr>
<tr>
<td>area</td>
<td>Common[p.30], accesskey (Character[p.22]), alt* (Text[p.26]), coords (CDATA[p.22]), href (URI[p.26]), nohref (&quot;nohref&quot;), shape (&quot;rect&quot;</td>
<td>&quot;circle&quot;</td>
<td>&quot;poly&quot;</td>
</tr>
<tr>
<td>img&amp;</td>
<td>usemap (IDREF[p.22])</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>input&amp;</td>
<td>usemap (IDREF[p.22])</td>
<td>Note: Only when the Forms or Basic Forms module is included</td>
<td></td>
</tr>
<tr>
<td>map</td>
<td>I18N[p.30], [Events][p.30], class (NMToken[p.22]), id* [ID[p.22]], title (CDATA[p.22])</td>
<td>((Heading</td>
<td>Block)</td>
</tr>
<tr>
<td>object&amp;</td>
<td>usemap (IDREF[p.22])</td>
<td>Note: Only when the object module is included</td>
<td></td>
</tr>
</tbody>
</table>

When this module is used, the `map` element is added to the Inline content set of the Text Module.

Implementations: [DTD][p.204], [XML Schema][p.101]
5.10. Object Module

The Object Module provides elements for general-purpose object inclusion. Specifically, the Object Module supports:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>object</td>
<td>id (ID), name* (CDATA), type (ContentType), value (CDATA), valuetype (&quot;data&quot;</td>
<td>&quot;ref&quot;</td>
</tr>
<tr>
<td>param</td>
<td>id (ID), name* (CDATA), type (ContentType), value (CDATA), valuetype (&quot;data&quot;</td>
<td>&quot;ref&quot;</td>
</tr>
</tbody>
</table>

When this module is used, it adds the `object` element to the Inline content set of the Text Module.

Implementations: [DTD] [p.207], [XML Schema] [p.103]

5.11. Frames Module

As its name suggests, the Frames Module provides frame-related elements. Specifically, the Frames Module supports:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>frameset</td>
<td>Core, cols (MultiLength), rows (MultiLength)</td>
<td>(frameset</td>
</tr>
<tr>
<td>frame</td>
<td>Core, frameborder (&quot;1&quot;</td>
<td>&quot;0&quot;), longdesc (URI), marginheight (Pixels), marginwidth (Pixels), noresize (&quot;noresize&quot;), scrolling (&quot;yes&quot;</td>
</tr>
<tr>
<td>noframes</td>
<td>Common</td>
<td>body</td>
</tr>
</tbody>
</table>

When this module is selected, the minimal content model of the html element of the Structure Module is changed to (head, frameset).
5.12. Target Module

The content of a frame can specify destination targets for a selection. This module adds the target attribute to the area and link defining elements. This is defined as a separate module so it can be included in documents that will be included in frames and documents that use the target feature to open a new window.

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a&amp;</td>
<td>target (CDATA[p.23])</td>
<td></td>
</tr>
<tr>
<td>area&amp;</td>
<td>target (CDATA[p.23])</td>
<td>When the Client-side Image Map Module is selected.</td>
</tr>
<tr>
<td>base&amp;</td>
<td>target (CDATA[p.23])</td>
<td>When the Legacy Module is selected.</td>
</tr>
<tr>
<td>link&amp;</td>
<td>target (CDATA[p.23])</td>
<td>When the Link Module is selected.</td>
</tr>
<tr>
<td>form&amp;</td>
<td>target (CDATA[p.23])</td>
<td>When the Basic Forms or Forms module is selected.</td>
</tr>
</tbody>
</table>

5.13. Iframe Module

The Iframe Module defines an element for the definition of inline frames. The element and attribute included in this module are:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>iframe</td>
<td>frameborder (&quot;1&quot;</td>
<td>&quot;0&quot;), height (Length[p.23]), longdesc (URI[p.26]), marginheight (Pixels[p.26]), marginwidth (Pixels[p.26]), scrolling (&quot;yes&quot;</td>
</tr>
</tbody>
</table>

When this module is used, the iframe element is added to the Inline content set as defined by the Text Module.

Implementations: [DTD][p.211], [XML Schema][p.106]
5.14. Intrinsic Events Module

Intrinsic events are attributes that are used in conjunction with elements that can have specific events occur when certain actions are performed by the user. The attributes indicated in the following table are added to the attribute set for their respective elements only when the modules defining those elements are selected. Note also that selection of this module defines the attribute collection [Events][p.30] as described above. Attributes defined by this module are:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a&amp;</td>
<td>onblur ([Script][p.26]), onfocus ([Script][p.26])</td>
<td></td>
</tr>
<tr>
<td>area&amp;</td>
<td>onblur ([Script][p.26]), onfocus ([Script][p.26])</td>
<td>When the Client-side Image Map Module is also used</td>
</tr>
<tr>
<td>frameset&amp;</td>
<td>onload ([Script][p.26]), onunload ([Script][p.26])</td>
<td>When the Frames Module is also used.</td>
</tr>
<tr>
<td>form&amp;</td>
<td>onreset ([Script][p.26]), onsubmit ([Script][p.26])</td>
<td>When the Basic Forms or Forms Module is used</td>
</tr>
<tr>
<td>body&amp;</td>
<td>onload ([Script][p.26]), onunload ([Script][p.26])</td>
<td></td>
</tr>
<tr>
<td>label&amp;</td>
<td>onblur ([Script][p.26]), onfocus ([Script][p.26])</td>
<td>When the Forms Module is used</td>
</tr>
<tr>
<td>input&amp;</td>
<td>onblur ([Script][p.26]), onchange ([Script][p.26]), onfocus ([Script][p.26]), onselect ([Script][p.26])</td>
<td>When the Basic Forms or Forms Module is used</td>
</tr>
<tr>
<td>select&amp;</td>
<td>onblur ([Script][p.26]), onchange ([Script][p.26]), onfocus ([Script][p.26])</td>
<td>When the Basic Forms or Forms Module is used</td>
</tr>
<tr>
<td>textarea&amp;</td>
<td>onblur ([Script][p.26]), onchange ([Script][p.26]), onfocus ([Script][p.26]), onselect ([Script][p.26])</td>
<td>When the Basic Forms or Forms Module is used</td>
</tr>
<tr>
<td>button&amp;</td>
<td>onblur ([Script][p.26]), onfocus ([Script][p.26])</td>
<td>When the Forms Module is used</td>
</tr>
</tbody>
</table>

Implementations: [DTD][p.211], [XML Schema][p.107]

5.15. Metainformation Module

The Metainformation Module defines an element that describes information within the declarative portion of a document (in XHTML within the head element). This module includes the following element:
When this module is selected, the `meta` element is added to the content model of the `head` element as defined in the Structure Module.

Implementations: [DTD][p.214], [XML Schema][p.108]

### 5.16. Scripting Module

The Scripting Module defines elements that are used to contain information pertaining to executable scripts or the lack of support for executable scripts. Elements and attributes included in this module are:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>noscript</code></td>
<td><code>Common[p.30]</code></td>
<td>(Heading</td>
</tr>
<tr>
<td><code>script</code></td>
<td><code>charset [Charset[p.23]], defer (&quot;defer&quot;), src [URI[p.26]], type* [ContentType[p.23]], xml:space=&quot;preserve&quot;</code></td>
<td>PCDATA</td>
</tr>
</tbody>
</table>

When this module is used, the `script` and `noscript` elements are added to the Block and Inline content sets of the Text Module. In addition, the `script` element is added to the content model of the `head` element defined in the Structure Module.

Implementations: [DTD][p.215], [XML Schema][p.109]

### 5.17. Style Sheet Module

The Style Sheet Module defines an element to be used when declaring internal style sheets. The element and attributes defined by this module are:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>style</code></td>
<td><code>I18N[p.30], media [MediaDesc[p.25]], title [Text[p.26]], type* [ContentType[p.23]], xml:space=&quot;preserve&quot;</code></td>
<td>PCDATA</td>
</tr>
</tbody>
</table>
When this module is used, it adds the `style` element to the content model of the `head` element of the Structure Module.

Implementations: [DTD](p.216), [XML Schema](p.110)

### 5.18. Style Attribute Module

The Style Attribute Module defines the `style` attribute. When this module is selected, it activates the [Style Attribute Collection](p.30).

Implementations: [DTD](p.217), [XML Schema](p.110)

### 5.19. Link Module

The Link Module defines an element that can be used to define links to external resources. These resources are often used to augment the user agent’s ability to process the associated XHTML document. The element and attributes included in this module are:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>link</td>
<td><a href="p.30">Common</a>, charset <a href="p.23">Charset</a>, href <a href="p.26">URI</a>, hreflang <a href="p.23">LanguageCode</a>, media <a href="p.25">MediaDesc</a>, rel <a href="p.24">LinkTypes</a>, rev <a href="p.24">LinkTypes</a>, type <a href="p.23">ContentType</a></td>
<td>EMPTY</td>
</tr>
</tbody>
</table>

When this module is used, it adds the `link` element to the content model of the `head` element as defined in the Structure Module.

Implementations: [DTD](p.218), [XML Schema](p.111)

### 5.20. Base Module

The Base Module defines an element that can be used to define a base URI against which relative URIs in the document will be resolved. The element and attribute included in this module are:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>base</td>
<td>href* <a href="p.26">URI</a></td>
<td>EMPTY</td>
</tr>
</tbody>
</table>

When this module is used, it adds the `base` element to the content model of the `head` element of the Structure Module.
5.21. Name Identification Module

This module is deprecated.

The Name Identification Module defines the attribute `name` for a collection of elements. The `name` attribute was used historically to identify certain elements within HTML documents. While the `name` attribute has been supplanted by the `id` attribute in all of these elements, there may be instances where markup languages will wish to support both. Such markup languages may do so by including this module.

Note that by including this module, both the `name` and `id` attributes are defined for the elements indicated. In this situation, if the `name` attribute is defined for an element, the `id` attribute must also be defined. Further, these attributes must both have the same value. Finally, when documents that use this attribute are served as Internet Media Type "text/xml" or "application/xml", the value of the `name` attribute on these elements shall not be used as a fragment identifier.

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td><code>name [CDATA[p.22]]</code></td>
<td></td>
</tr>
<tr>
<td>applet&amp;</td>
<td><code>name [CDATA[p.22]]</code></td>
<td>When the Applet Module is selected.</td>
</tr>
<tr>
<td>form&amp;</td>
<td><code>name [CDATA[p.22]]</code></td>
<td>When the Forms or Basic Forms Module is selected.</td>
</tr>
<tr>
<td>frame&amp;</td>
<td><code>name [CDATA[p.22]]</code></td>
<td>When the Frames Module is selected.</td>
</tr>
<tr>
<td>iframe&amp;</td>
<td><code>name [CDATA[p.22]]</code></td>
<td>When the Iframe Module is selected.</td>
</tr>
<tr>
<td>img&amp;</td>
<td><code>name [CDATA[p.22]]</code></td>
<td>When the Image Module is selected.</td>
</tr>
<tr>
<td>map&amp;</td>
<td><code>name [CDATA[p.22]]</code></td>
<td>When the Client-side Image Map Module is selected.</td>
</tr>
</tbody>
</table>

5.22. Legacy Module

This module is deprecated.

The Legacy Module defines elements and attributes that were already deprecated in previous versions of HTML and XHTML, and remain deprecated in XHTML Modularization. Markup language authors should no longer use these elements and attributes.

Note: This module is not intended to reproduce all of the deprecated elements, attributes, and content models. Just those that were thought to be of maximal use at the time this specification was written.
The following table defines the elements and attributes that are defined when the Legacy Module is selected.

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Minimal Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>basefont</td>
<td>color (Color[p.23]), face (CDATA[p.22]), id (ID[p.22]), size (CDATA[p.22])</td>
<td>EMPTY</td>
</tr>
<tr>
<td>center</td>
<td>Common [p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>dir</td>
<td>Common [p.30], compact (&quot;compact&quot;)</td>
<td>(li)+</td>
</tr>
<tr>
<td>font</td>
<td>Core [p.30], [I18N][p.30], color (Color[p.23]), face (CDATA[p.22]), size (CDATA[p.22])</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>isindex</td>
<td>Core [p.30], [I18N][p.30], prompt (Text[p.26])</td>
<td>EMPTY</td>
</tr>
<tr>
<td>menu</td>
<td>Common [p.30], compact (&quot;compact&quot;)</td>
<td>(li)+</td>
</tr>
<tr>
<td>s</td>
<td>Common [p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>strike</td>
<td>Common [p.30]</td>
<td>(PCDATA</td>
</tr>
<tr>
<td>u</td>
<td>Common [p.30]</td>
<td>(PCDATA</td>
</tr>
</tbody>
</table>

The following table shows additional attributes for elements defined elsewhere when the Legacy module is selected.

<table>
<thead>
<tr>
<th>Elements</th>
<th>Attributes</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>body&amp;</td>
<td>alink (Color[p.23]), background (URI[p.26]), bgcolor (Color[p.23]), link (Color[p.23]), text (Color[p.23]), vlink (Color[p.23])</td>
<td></td>
</tr>
<tr>
<td>br&amp;</td>
<td>clear (&quot;left&quot;</td>
<td>&quot;all&quot;</td>
</tr>
<tr>
<td>caption&amp;</td>
<td>align (&quot;top&quot;</td>
<td>&quot;bottom&quot;</td>
</tr>
<tr>
<td>div&amp;</td>
<td>align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>dl&amp;</td>
<td>compact (&quot;compact&quot;), type (CDATA[p.22])</td>
<td></td>
</tr>
<tr>
<td>h1-h6&amp;</td>
<td>align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>hr&amp;</td>
<td>align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>img&amp;</td>
<td>align (&quot;top&quot;</td>
<td>&quot;middle&quot;</td>
</tr>
<tr>
<td>Elements</td>
<td>Attributes</td>
<td>Notes</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>-------</td>
</tr>
<tr>
<td>input&amp;</td>
<td>align (&quot;top&quot;</td>
<td>&quot;middle&quot;</td>
</tr>
<tr>
<td>legend&amp;</td>
<td>align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>li&amp;</td>
<td>type [CDATA][p.22], value [Number][p.25]</td>
<td></td>
</tr>
<tr>
<td>ol&amp;</td>
<td>compact (&quot;compact&quot;), start [Number][p.25], type [CDATA][p.22]</td>
<td></td>
</tr>
<tr>
<td>p&amp;</td>
<td>align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>pre&amp;</td>
<td>width [Number][p.25]</td>
<td></td>
</tr>
<tr>
<td>script&amp;</td>
<td>language [CDATA][p.22]</td>
<td>When the Scripting module is selected.</td>
</tr>
<tr>
<td>table&amp;</td>
<td>align (&quot;left&quot;</td>
<td>&quot;center&quot;</td>
</tr>
<tr>
<td>tr&amp;</td>
<td>bgcolor [Color][p.23]</td>
<td>When the Tables module is selected.</td>
</tr>
<tr>
<td>th&amp;</td>
<td>bgcolor [Color][p.23], height [Length][p.23] nowrap (&quot;nowrap&quot;), width [Length][p.23]</td>
<td>When the Tables module is selected.</td>
</tr>
<tr>
<td>td&amp;</td>
<td>bgcolor [Color][p.23], height [Length][p.23] nowrap (&quot;nowrap&quot;), width [Length][p.23]</td>
<td>When the Tables module is selected.</td>
</tr>
<tr>
<td>ul&amp;</td>
<td>compact (&quot;compact&quot;), type [CDATA][p.22]</td>
<td></td>
</tr>
</tbody>
</table>

Implementations: [DTD][p.221], [XML Schema][p.113]
A. Building Schema Modules

This appendix is normative.

XHTML modules are implemented as XML Schemas. When these XML Schemas are assembled in a specific manner (described in Developing Schemas with defined and extended modules [p.55]), the resulting Schema is a representation of a complete document type. This representation can then be used for validation of instances of the document type.

The key to combining these schema components into a meaningful, cohesive schema is the rules used to define the individual XML Schemas. This section defines those rules. When these rules are followed, markup language authors can be confident that their modules will interface cleanly with other XHTML-compatible modules.

Modules conforming to these rules also need to satisfy the conformance requirements defined in XHTML Family Module Conformance in order to be called XHTML Family Modules.

A.1. Named Content Models

This specification classifies named content model into categories and names them consistently using the following suffixes

.content
  model group definitions use the suffix .content when they are used to represent the content model of an element type.

.class
  model group definitions use the suffix .class when they are used to represent elements of the same class.

.mix
  model group definitions use the suffix .mix when they are used to represent a collection of element types from different classes.

.extra
  model group definitions use the suffix .extra when they are used to extend other groups above.

.export
  model group definitions add the suffix .export when they are to be used by a host language as the basis for extending the related content model (e.g., xhtml.Flow.mix could have an xhtml.Flow.mix.export that defines a collection of elements that must be included in a redefinition of the xhtml.Flow.mix by a host language.

.type
  named complex type definitions use the suffix .type when they are used to represent type of an element. Types usually include the .attlist and .content components.

.attlist
  attribute groups use the suffix .attlist when they are used to represent the attributes for a specific element.
attribute groups use the suffix .attrib when they are used to represent a group of tokens representing one or more complete attribute specifications within an .attlist declaration.

For example, in HTML 4, the %block; parameter entity is defined to represent the heterogeneous collection of element types that are block-level elements. In this specification, the corollary named content model is xhtml.Block.mix.

When defining named content model in the classes defined here, modules should scope the names of the model group definitions and attribute groups by using unique prefixes (this recommendation uses the prefix xhtml.. For example, the content model for the element myelement in the module mymodule could be named mymodule.myelement.content. Other schemes are possible. Regardless of the scheme used, module authors should strive to ensure that named content model they define are named uniquely so that they do not collide with other named content model and so that the interface methods for the module are obvious to its users.

A.2. Defining the Namespace of a Module

XHTML requires that the elements and attributes declared in a module be within a defined XML namespace[XMLNAMES][p.246]. The identification of this namespace is an arbitrary URI. XHTML does not require that a module declare its target namespace using the targetnamespace attribute. XHTML Modularization using XML Schema has adopted a "late binding" approach to associating with a namespace. This permits the development of so-called "chameleon" modules, where the elements and attributes of a module can be in more than one namespace.

A.2.1. Global and Local Element Declarations

While XML Schema allows an the definition of global and local element declarations, to be compatible with DTD definitions of XHTML Modularization module implementations must not declare local elements.

A.2.2. Global and Local Attribute Declarations

While the approach defined here permits the definition of global as well as local attribute declarations, schema authors should consider the consequences of such definitions on an document instance. Global attributes must always be explicitly prefixed in a instance document by declaring a namespace prefix xmlns:prefix, while local attributes depending on the schema implementation may be explicitly prefixed.
A.3. Importing External Namespace Schema Components

A XML Schema provides definitions that belong to a given target namespace. A schema must use import element to include components from a XML Schema that uses a different target namespace. import element in XML Schema requires an namespace attribute and a optional schemaLocation attribute. Multiple modules (included in a document type) importing components from the same external namespace but providing different schema location URI values will result in invalid driver schema. To avoid such issues modularization requires that modules importing external schemas must not provide a schemaLocation attribute so that a document type’s driver file may import these schemas with the schemaLocation attribute.

A.4. Datatype Definitions and Namespaces

While the elements and attributes of a module should NOT be in a namespace until they are used by a markup language, the datatypes that a module relies upon may need to be. This is especially important if the datatypes are to be shared with other markup languages. If your module has datatypes that you want to share with other modules, you should define a namespace for those datatypes, place the datatype definitions in a separate "module" and bind that module to the namespace. In XHTML Modularization, for example, we use the namespace http://www.w3.org/1999/xhtml/datatypes/.

A.5. Content Model Redefinitions

Quite often modules change the content model of elements defined by other modules. For example, the XHTML Events module adds event attributes to elements defined by the forms module. It is also possible that multiple modules may change the content model of a single element defined by a third module, for example both XHTML Events Module and XHTML Image Map module add attributes to elements in form module.

XML Schemas allows for changes to a declared content model using the redefine element. While XML Schema supports redefine element that redefines the named content model and type definition, XML Schema does not directly support redefinition of an element or attribute declaration.

To support element content model redefinitions, all content models are defined with a .content identifier. This identifier can be easily redefined when creating a driver module.

- Schema module implementations must define the content model of an element using named complex types schema component .type. Further the named schema types must be defined in terms of named content model .content and .attlist.
- redefine in XML Schema by default includes the referenced schema. Since the instantiation of a module is decided by document type’s driver file, the module implementations must not directly redefine the content model of other modules in its implementation.
- Modules that expect to have their content model defined or extended by the host language must define a special .export group for each element or content class that needs to have...
its content model extended. Host languages will use this .export group as the basis for the content model of an element, extending it with whatever additional content is appropriate. Elements that
B. Developing Schema with defined and extended modules

This appendix is informative.

The primary purpose of defining XHTML modules and a general modularization methodology is to ease the development of document types that are based upon XHTML using XML Schemas. These document types may extend XHTML by integrating additional capabilities (e.g., [SMIL][p.246]), or they may define a subset of XHTML for use in a specialized device. This section describes the techniques that document type designers must use in order to take advantage of the XML Schema implementation of this modularization architecture. It does this by applying the XHTML Modularization techniques in progressively more complex ways, culminating in the creation of a complete document type from disparate modules.

Note that in no case do these examples require the modification of the XHTML-provided module file entities themselves. The XHTML module file entities are completely parameterized, so that it is possible through separate module definitions and driver files to customize the definition and the content model of each element and each element’s hierarchy.

Finally, remember that most users of XHTML are not expected to be XML Schema authors. XML Schema authors are generally people who are defining specialized markup that will improve the readability, simplify the rendering of a document, or ease machine-processing of documents, or they are client designers that need to define the specialized markup language for their specific client. Consider these cases:

- An organization is providing subscriber’s information via a Web interface. The organization stores its subscriber information in an XML-based database. One way to report that information out from the database to the Web is to embed the XML records from the database directly in the XHTML document. While it is possible to merely embed the records, the organization could define a module that describes the records, attach that module to an XHTML implementation, and thereby create a complete markup language for the pages. The organization can then access the data within the new elements via the Document Object Model [DOM][p.245], validate the documents, provide style definitions for the elements that cascade using Cascading Style Sheets [CSS2][p.245], etc. By taking the time to define the structure of their data and create a markup language using the processes defined in this section, the organization can realize the full benefits of XML.

- An Internet client developer is designing a specialized device. That device will only support a subset of XHTML, and the devices will always access the Internet via a proxy server that validates content before passing it on to the client (to minimize error handling on the client). In order to ensure that the content is valid, the developer creates a markup language that is a subset of XHTML using the processes defined in this section. They then use the new language definition in their proxy server and in their devices, and also make the language definition available to content developers so that developers can validate their content before making it available. By performing a few simple steps, the client developer can use the architecture defined in this document to greatly ease their language development cost...
and ensure that they are fully supporting the subset of XHTML that they choose to include.

B.1. Defining additional attributes

In some cases, an extension to XHTML can be as simple as additional attributes. Schema authors should provide the attribute definitions for each attribute, for example:

```xml
<xs:attributeGroup name="myattrs.attrib">
  <xs:attribute name="myattribute" type="xs:string"/>
</xs:attributeGroup>
```

would declare an attribute "myattr" and attribute group "myattrs.attrib" in the target namespace of the schema ('xs' is the prefix for XML Schema Namespace). Authors should note that the attribute is created as local attribute (as part attribute group). Alternatively, declaring an attribute by placing the attribute declaration as direct child of schema element would create a Global attribute (and document instances would have to use qualified attribute name such as xlink:show). For a discussion of qualified names and Namespace prefixes, see Defining the Namespace of a Module [p.52].

To add this attribute to the content model of an element, the attribute group (that makes the content model of the element) would need to be redefined (by the document type’s driver file) to include the new attribute. for example:

```xml
<xs:redefine schemaLocation="xhtml-basic10.xsd">
  <xs:attributeGroup name="a.attlist">
    <xs:attributeGroup ref="a.attlist"/>
    <xs:attributeGroup ref="myml:myattrs.attrib"/>
  </xs:attributeGroup>
</xs:redefine>
```

The target namespace of the attribute group definition is not XHTML namespace and must be contained in a separate XML schema.

Naturally, adding an attribute to a schema does not mean that any new behavior is defined for arbitrary clients. However, a content developer could use an extra attribute to store information that is accessed by associated scripts via the Document Object Model (for example).

B.2. Defining additional elements

Defining additional elements is similar to attributes, but a typical XHTML module would define the element as a global element (as a direct child of schema element). Schema authors should first provide the element declaration for each element:

```
<!-- In the myml-module-1.xsd -->
<xs:group name="myelement.content">
  <xs:choice>
    <xs:element name="otherelement"/>
  </xs:choice>
</xs:group>
```
The target namespace of "myelement" declared is not XHTML namespace, hence must be contained in a separate XML Schema. "xs" is the prefix for XML Schema Namespace. After the elements are defined, they need to be integrated into the content model. Strategies for integrating new elements or sets of elements into the content model are addressed in the next section.

**B.3. Defining the content model for a collection of modules**

Since the content model of XHTML modules is fully parameterized using named content models, Schema authors may modify the content model for every element in every module. The details of the schema module interface are defined in [Building Schema Modules](#)[p.51]. Basically there are two ways to approach this modification:

1. Re-define the named content model, .content, for each element.
2. Define one or more of the global named content model entities to include the element in those named model definitions (normally via the named content model, .extras).

The strategy taken will depend upon the nature of the modules being combined and the nature of the elements being integrated. The remainder of this section describes techniques for integrating two different classes of modules.

**B.3.1. Integrating a stand-alone module into XHTML**

When a module (and remember, a module can be a collection of other modules) contains elements that only reference each other in their content model, it is said to be "internally complete". As such, the module can be used on its own; (for example, you could define a schema that was just that module, and use one of its elements as the root element). Integrating such a module into XHTML is a three step process:

1. Decide what element(s) can be thought of as the root(s) of the new module.
2. Decide where these elements need to attach in the XHTML content tree.
3. Then, for each attachment point in the content tree, add the root element(s) to the content definition for the XHTML elements.
Consider attaching the elements defined above. In that example, the element myelement is the root. To attach this element under the img element, and only the img element, of XHTML, the following redefinition would work:

```xml
<xs:redefine schemaLocation="xhtml-basic10.xsd">
  <xs:group name="img.content">
    <xs:choice>
      <xs:group ref="img.content"/>
      <xs:element ref="myml:myelement"/>
    </xs:choice>
  </xs:group>
</xs:redefine>
```

Such redefinition must not be included in the module implementation, but instead provided as part of the document type’s driver implementation. A schema defined with this content model would allow a document like the following fragment:

```xml
<img src="http://examples.com/image" alt="alt-text">
  <myml:myelement>This is content of a locally defined element</myml:myelement>
</img>
```

It is important to note that normally the img element has a content model of EMPTY. By adding myelement to that content model, we are really just replacing EMPTY with myelement. In the case of other elements that already have content models defined, the addition of an element would require the restating of the existing content model in addition to myelement.

### B.3.2. Mixing a new module throughout the modules in XHTML

Extending the example above, to attach this module everywhere that the %Flow.mix content model group is permitted, would require something like the following in the schema that defines the document model of the document type:

```xml
<xs:redefine schemaLocation="xhtml11.xsd">
  <xs:group name="Misc.extra">
    <xs:choice>
      <xs:group ref="Misc.extra"/>
      <xs:element ref="myml:myelement"/>
    </xs:choice>
  </xs:group>
</xs:redefine>
```

Since the Misc.extra content model class is used in the content model the named model Misc.class, and that named model is used throughout the XHTML modules, the new module would become available throughout an extended XHTML document type.

### B.4. Creating a new Document Type

So far the examples in this section have described the methods of extending XHTML and XHTML’s content model. Once this is done, the next step is to collect the modules that comprise the Document Type into a schema driver and schema file that provides the content model
redefinitions of included modules, incorporating the new definitions so that they override and augment the basic XHTML definitions as appropriate.

B.4.1. Creating a simple Document Type

Using the trivial example above, it is possible to define a new schema that uses and extends the XHTML modules pretty easily. First, define the new elements and their content model in a module:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
          targetNamespace="http://www.example.com/xmlns/simpleml1"
          xmlns="http://www.example.com/xmlns/simpleml1">
  <xs:annotation>
    <xs:documentation>
      This is the XML Schema module for module SimpleML
      $Id: simpleml-module-1.xsd,v 1.4 2005/04/25 18:53:05 ahby Exp $
    </xs:documentation>
    <xs:documentation source="http://www.w3.org/MarkUp/SCHEMA/xhtml-copyright-1.xsd"/>
  </xs:annotation>
  <xs:attributeGroup name="Common.attrib">
    <xs:attribute name="id" type="xs:ID"/>
  </xs:attributeGroup>
  <xs:group name="otherelement.content">
    <xs:sequence/>
  </xs:group>
  <xs:attributeGroup name="otherelement.attlist">
    <xs:attributeGroup ref="Common.attrib"/>
  </xs:attributeGroup>
  <xs:complexType name="otherelement.type">
    <xs:group ref="otherelement.content"/>
    <xs:attributeGroup ref="otherelement.attlist"/>
  </xs:complexType>
  <xs:element name="otherelement" type="otherelement.type"/>
  <xs:group name="element.content">
    <xs:choice>
      <xs:element ref="otherelement" minOccurs="0" maxOccurs="unbounded"/>
    </xs:choice>
  </xs:group>
  <xs:attributeGroup name="element.attlist">
    <xs:attributeGroup ref="Common.attrib"/>
  </xs:attributeGroup>
  <xs:complexType name="element.type" mixed="true">
    <xs:group ref="element.content"/>
    <xs:attributeGroup ref="element.attlist"/>
  </xs:complexType>
</xs:schema>
```

B.4.1. Creating a simple Document Type
Now, define the schema driver for the new language:

```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:simpleml="http://www.example.com/xmlns/simpleml1"
  xmlns="http://www.w3.org/1999/xhtml"
  blockDefault="#all">
  <xs:annotation>
    <xs:documentation>
      This is the XML Schema Driver for new Document Type XHTML Basic 1.0 + SimpleML
    </xs:documentation>
    <xs:documentation source="http://www.w3.org/MarkUp/SCHEMA/xhtml-copyright-1.xsd"/>
  </xs:annotation>
  <xs:import namespace="http://www.example.com/xmlns/simpleml1"
              schemaLocation="simpleml-module-1.xsd"/>
  <xs:redefine schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml-basic10.xsd">
    <xs:group name="Misc.class">
      <xs:choice>
        <xs:group ref="Misc.class"/>
        <xs:element ref="simpleml:element"/>
      </xs:choice>
    </xs:group>
    <xs:attributeGroup name="img.attlist">
      <xs:attributeGroup ref="img.attlist"/>
      <xs:attribute ref="simpleml:myattr"/>
    </xs:attributeGroup>
  </xs:redefine>
</xs:schema>
```

A schema defined with this content model would allow a document like the following:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<html xmlns="http://www.w3.org/1999/xhtml"
  xmlns:simpleml="http://www.example.com/xmlns/simpleml1"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.w3.org/1999/xhtml simpleml-1_0.xsd">
  <head>
    <title>An example using defaults</title>
  </head>
  <body>
    <p>This is content in the XHTML namespace</p>
    <simpleml:element>
```

- 60 -
B.4.2. Creating a Language by extending XHTML

Next, there is the situation where a complete, additional, and complex module is added to XHTML (or to a subset of XHTML). In essence, this is the same as in the example above, the only difference being that the module being added is incorporated in the schema by creating an new document model schema.

One such complex module is the Schema for [MathML] (p. 246). In order to combine MathML and XHTML into a single Schema, an author would just decide where MathML content should be legal in the document, and add the MathML root element to the content model at that point. First, define a new document model that instantiates the MathML Schema and connects it to the content XHTML content model by redefining the XHTML content model. Providing a redefinition of the XHTML content model by implication includes the XHTML content model in the new document content model:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema targetNamespace="http://www.w3.org/1999/xhtml"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns="http://www.w3.org/1999/xhtml"
    xmlns:math="http://www.w3.org/1998/Math/MathML">
    <xs:import namespace="http://www.w3.org/1998/Math/MathML"/>
    <xs:redefine schemaLocation="http://www.w3.org/MarkUp/SCHEMA/xhtml11-model-1.xsd">
        <xs:group name="xhtml.InlSpecial.class">
            <xs:choice>
                <xs:group ref="xhtml.InlSpecial.class"/>
                <xs:element ref="math:math"/>
            </xs:choice>
        </xs:group>
    </xs:redefine>
</xs:schema>
```

Next, define a Schema driver that includes our new document content model with XHTML1.1 modules and MathML module (for example):

```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:simpleml="http://www.example.com/xmlns/simpleml1"
    xmlns="http://www.w3.org/1999/xhtml"
    blockDefault="#all">
```

This is content in the SimpleML namespace.

```xml
<p>
    <img src="missing" alt="Missing image" simpleml:myattr="value"/>
</p>
</body>
</html>
```
B.4.3. Creating a Language by removing and replacing XHTML modules

Another way in which Schema authors may use XHTML modules is to define a Schema that is a subset of an XHTML family document type (because, for example, they are building devices or software that only supports a subset of XHTML). To do this simple create a Schema driver that does not include the relevant modules. Schema author should note that redefine in schema by default includes all the content model of the referenced schema, authors should also not include any redefinitions of modules that they do not wish to include. The basic steps to follow are:

1. Take an XHTML family Schema as the basis of the new document type (e.g. XHTML 1.1).
2. Select the modules to remove from that Schema.
3. Physically, remove include and redefine schema elements that include any non-relevant modules from the driver file. Also references to schema components from such modules used in redefinitions of other modules must be deleted.
4. Introduce some new modules

B.4.4. Creating a the new Document Type

Finally, some Schema authors may wish to start from scratch, using the XHTML Modularization framework as a toolkit for building a new markup language. This language must be made up of the minimal, required modules from XHTML. It may also contain other XHTML-defined modules or any other module that the author wishes to employ. In this example, we will take the XHTML required modules, add some XHTML-defined modules, and also add in the module we defined above.

The first step is to define a module that defines the elements and attributes using the provided template.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    targetNamespace="http://www.example.com/xmlns/myml"
    xmlns:xhtml="http://www.w3.org/1999/xhtml"
    xmlns="http://www.example.com/xmlns/myml">

    <xs:annotation>
        <xs:documentation>

        - 62 -

```
This is XML Schema template for MLML module

This module has no purpose other than to provide structure for some PCDATA content.

My Elements Module
+ myelement
+ myotherelement

<!-- Note: Global attribute -->
<xs:attribute name="myattr" type="xs:string"/>

</xs:schema>
Now, build a content model description that hooks the new elements and attributes into the other XHTML elements. The following example is patterned after the XHTML Basic content model, but is a complete, free-standing content model module:

```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="http://www.w3.org/1999/xhtml"
    xmlns:myml="http://www.example.com/xmlns/myml">
  <xs:annotation>
    <xs:documentation>
      This is the XML Schema module of common content models for MyML
      $Id: myml-model-1.xsd,v 1.6 2005/10/20 14:14:40 ahby Exp $ 
    </xs:documentation>
    <xs:documentation source="http://www.w3.org/MarkUp/SCHEMA/xhtml-copyright-1.xsd"/>
  </xs:annotation>

  <xs:import namespace="http://www.example.com/xmlns/myml"/>

  <xs:attributeGroup name="xhtml.I18n.extra.attrib">
    <xs:annotation>
      <xs:documentation>
        Extended I18n attribute
      </xs:documentation>
    </xs:annotation>
  </xs:attributeGroup>
</xs:schema>
```

XHTML™ Modularization 1.1B.4.4. Creating a the new Document Type
<xs:attributeGroup name="xhtml.Core.extra.attrib">
  <xs:annotation>
    <xs:documentation>
      Extended Core Attributes
    </xs:documentation>
  </xs:annotation>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.Common.extra">
  <xs:annotation>
    <xs:documentation>
      Extended Common 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.HeadOpts.mix">
  <xs:choice>
    <xs:element ref="meta"/>
    <xs:element ref="link"/>
    <xs:element ref="object"/>
  </xs:choice>
</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:element ref="myml:myelement"/>
  </xs:choice>
</xs:group>
<!-- Inline Elements -->
<xs:group name="xhtml.InlStruct.class">
  <xs:choice>
    <xs:element ref="br"/>
    <xs:element ref="span"/>
  </xs:choice>
</xs:group>

<xs:group name="xhtml.InlPhras.class">
  <xs:choice>
    <xs:element ref="em"/>
    <xs:element ref="strong"/>
    <xs:element ref="dfn"/>
    <xs:element ref="code"/>
    <xs:element ref="samp"/>
    <xs:element ref="kbd"/>
    <xs:element ref="var"/>
    <xs:element ref="cite"/>
    <xs:element ref="abbr"/>
    <xs:element ref="acronym"/>
    <xs:element ref="q"/>
  </xs:choice>
</xs:group>

<xs:group name="xhtml.InlPres.class">
  <xs:choice/>
</xs:group>

<xs:group name="xhtml.I18n.class">
  <xs:sequence/>
</xs:group>

<xs:group name="xhtml.Anchor.class">
  <xs:sequence>
    <xs:element ref="a"/>
  </xs:sequence>
</xs:group>

<xs:group name="xhtml.InlSpecial.class">
  <xs:choice>
    <xs:element ref="img"/>
    <xs:element ref="object"/>
  </xs:choice>
</xs:group>

<xs:group name="xhtml.InlForm.class">
  <xs:choice>
    <xs:element ref="input"/>
    <xs:element ref="select"/>
    <xs:element ref="textarea"/>
    <xs:element ref="label"/>
  </xs:choice>
</xs:group>

<xs:group name="xhtml.Inline.extra">
  <xs:choice/>
</xs:group>
<!--xs:group name="Ruby.class"-->
<!--
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.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.class
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: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>  
<!!--
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.InlSpecial.class"/>  
  <!xs:group ref="xhtml.InlForm.class"/>  
  <!xs:group ref="xhtml.Inline.extra"/>  
</xs:choice>  
<!xs:group>  
<!!--
InlNoAnchor.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

<!--
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.
-->

<xsl:group name="xhtml.Heading.class">
  <xsl:choice>
    <xsl:element ref="h1"/>
    <xsl:element ref="h2"/>
    <xsl:element ref="h3"/>
    <xsl:element ref="h4"/>
    <xsl:element ref="h5"/>
    <xsl:element ref="h6"/>
  </xsl:choice>
</xsl:group>

<xsl:group name="xhtml.List.class">
  <xsl:choice>
    <xsl:element ref="ul"/>
    <xsl:element ref="ol"/>
    <xsl:element ref="dl"/>
  </xsl:choice>
</xsl:group>

<xsl:group name="xhtml.Table.class">
  <xsl:choice>
    <xsl:element ref="table"/>
  </xsl:choice>
</xsl:group>

<xsl:group name="xhtml.Form.class">
  <xsl:choice>
    <xsl:element ref="form"/>
  </xsl:choice>
</xsl:group>

<xsl:group name="xhtml.BlkStruct.class">
  <xsl:choice>
    <xsl:element ref="p"/>
    <xsl:element ref="div"/>
  </xsl:choice>
</xsl:group>

<xsl:group name="xhtml.BlkPhras.class">
  <xsl:choice>
    <xsl:element ref="pre"/>
    <xsl:element ref="blockquote"/>
    <xsl:element ref="address"/>
  </xsl:choice>
</xsl:group>
</xs:choice></xs:group>

<xsl:group name="xhtml.BlkPres.class">
  <xs:choice/>
</xs:group>

<xsl:group name="xhtml.BlkSpecial.class">
  <xs:choice>
    <xs:group ref="xhtml.Table.class"/>
    <xs:group ref="xhtml.Form.class"/>
  </xs:choice>
</xs:group>

<xsl:group name="xhtml.Block.extra">
  <xs:choice/>
</xs:group>

<!--
Block.class includes all block elements, used as an component in mixes
-->  
<xsl:group name="xhtml.Block.class">
  <xs:choice>
    <xs:group ref="xhtml.BlkStruct.class"/>
    <xs:group ref="xhtml.BlkPhras.class"/>
    <xs:group ref="xhtml.BlkSpecial.class"/>
    <xs:group ref="xhtml.Block.extra"/>
  </xs:choice>
</xs:group>

<!--
Block.mix includes all block elements plus %Misc.class;
-->  
<xsl:group name="xhtml.Block.mix">
  <xs:choice>
    <xs:group ref="xhtml.Heading.class"/>
    <xs:group ref="xhtml.List.class"/>
    <xs:group ref="xhtml.Block.class"/>
    <xs:group ref="xhtml.Misc.class"/>
  </xs:choice>
</xs:group>

<!--
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.
-->  
<xsl:group name="xhtml.Flow.mix">
  <xs:choice>
    <xs:group ref="xhtml.Heading.class"/>
  </xs:choice>
</xs:group>
Finally, build a driver schema. For ease of extensibility this driver schema is split into two XML Schema files. The first file of driver schema collects (includes) all the modules needed for the new document type. This schema also provides the required redefinitions of schema components in included modules. (Note: in XML Schema redefine includes the schema referenced.)
This schema includes (with component redefinitions as required) all modules for XHTML Basic 1.0 + MyML Document Type

This Document Type includes the following Modules

XHTML Core modules (Required for XHTML Family Conformance)
- text
- hypertext
- lists
- structure

Other XHTML modules
- Link
- Meta
- Base
- Image
- Object
- Param
- Basic forms
- Basic tables

Other Modules
- MyML Module

Other Modules
- MyML Module

This schema includes (with component redefinitions as required) all modules for XHTML Basic 1.0 + MyML Document Type

This Document Type includes the following Modules

XHTML Core modules (Required for XHTML Family Conformance)
- text
- hypertext
- lists
- structure

Other XHTML modules
- Link
- Meta
- Base
- Image
- Object
- Param
- Basic forms
- Basic tables

Other Modules
- MyML Module

other Modules
- MyML Module

other Modules
- MyML Module
Lists module

Elements defined here:
* dt, dd, dl, ol, ul, li

Structural module

Elements defined here:
* title, head, body, html

Link module

Elements defined here:
* link

Meta module

Elements defined here:
* meta
Note that this module is not used in XHTML. It is designed for use with XHTML Basic.

Elements defined here:
* table, caption, tr, th, td

The second file of the driver schema builds new document type based on the content model and modules. Also, this schema provides the schemaLocation for all imported namespaces (namespaces imported by the included modules).

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema targetNamespace="http://www.w3.org/1999/xhtml"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns="http://www.w3.org/1999/xhtml"
  blockDefault="#all">

<xs:annotation>
  <xs:documentation>
  This is the XML Schema driver for XHTML Basic 1.0.
  Please use this namespace for XHTML elements:
  "http://www.w3.org/1999/xhtml"

  $Id: myml-1_0.xsd,v 1.5 2005/04/25 18:53:05 ahby Exp $
  </xs:documentation>
</xs:annotation>

<xs:annotation>
  <xs:documentation>
  This is XHTML, a reformulation of HTML as a modular XML application
  The Extensible HyperText Markup Language (XHTML)
  Copyright ©1998-2004 World Wide Web Consortium
  (Massachusetts Institute of Technology, Institut National de
  Recherche en Informatique et en Automatique, 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:schema>
This is the Schema Driver file for XHTML Basic 1.0 + MyML Document Type

This schema includes
+ imports external schemas (xml.xsd)
+ refedines (and include)s schema modules for XHTML Basic 1.0 + MyML Document Type.
+ includes Schema for Named content model for the XHTML Basic 1.0 + MyML Document Type

This Document Type includes the following Modules

XHTML Core modules (Required for XHTML Family Conformance)
+ text
+ hypertext
+ lists
+ structure

Other XHTML modules
+ Link
+ Meta
+ Base
+ Image
+ Object
+ Param
+ Basic forms
+ Basic tables

Other Modules
+ MyML Module

This import brings in the XML namespace attributes
The XML attributes are used by various modules

Document Model module for the XHTML Basic 1.0 Document Type
This schema file defines all named models used by XHTML Modularization Framework for XHTML Basic 1.0 Document Type
Once a new SCHEMA has been developed, it can be used in any document. Using the Schema is as simple as just referencing it in the schemaLocation attribute of a document root element:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<html xmlns="http://www.w3.org/1999/xhtml"
     xmlns:xhtml="http://www.w3.org/1999/xhtml"
     xmlns:myml="http://www.example.com/xmlns/myml"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.w3.org/1999/xhtml myml-1_0.xsd">
  <head>
    <title>An example using defaults</title>
  </head>
  <body>
    <p>This is content in the XHTML namespace</p>
    <myml:myelement xhtml:id="myid" xhtml:class="localElement">
      This is content in the myml namespace.
    </myml:myelement>
    <p>
      <img src="missing" alt="Missing image" myml:myattr="value"/>
    </p>
  </body>
</html>
```
This appendix contains implementations of the modules defined in XHTML Abstract Modules via XML Schemas. These module implementations can be used by XHTML Family Document Types.

**C.1. Character Entities**

XML Schema uses DTDs to support character entities. The DTD implementation of XHTML Modularization [XHTMLMOD] defines the required character entities for XHTML. The schema implementation includes the set of character entities for XHTML, including the Latin 1, Symbol and Special character collections defined as part the DTD implementation of XHTML Modularization [XHTMLMOD].

Even though the named character entities are defined using DTDs and included in the Schema Modularization Framework, schema processors typically do not expand the named character entities in an XML document instance. The html DOCTYPE declaration must still be present if one wishes to use named entities defined by this Framework module.

**C.2. XHTML Schema Modular Framework**

The Framework modules instantiates a set of support model that define the common Datatypes, Notations, Common attribute definitions and character entities. These are defined in a set of support modules, instantiated by a main Framework module:

```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:annotation>
<xs:documentation>
This is the XML Schema Modular Framework support module for XHTML
$Id: xhtml-framework-1.xsd,v 1.5 2005/09/26 23:37:47 ahby Exp $
</xs:documentation>
<xs:documentation source="xhtml-copyright-1.xsd"/>
</xs:annotation>
<xs:include schemaLocation="xhtml-notations-1.xsd">
<xs:annotation>
<xs:documentation>
Notations module
Declares XHTML notations for Attribute data types
</xs:documentation>
</xs:annotation>
</xs:include>
<xs:import namespace="http://www.w3.org/1999/xhtml/datatypes/" schemaLocation="xhtml-datatypes-1.xsd">
<xs:annotation>
<xs:documentation source="http://www.w3.org/TR/xhtml-modularization/abstract_modules.html#s_commonatts"/>
</xs:annotation>
</xs:import>
</xs:schema>
```
The Modular Schema framework also relies upon the following component modules:

C.2.1. XHTML Notations

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema

The document is a part of the XHTML Modularization 1.1 specification, focusing on the element definitions and notations for the XHTML language. It includes specific attributes and notations that are defined within the XML Schema, such as character notations, language codes, and content types. The structure is methodical, defining various attributes and entities crucial for the implementation of XHTML.
C.2.2. XHTML Datatypes

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema version="1.0"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns="http://www.w3.org/1999/xhtml/datatypes/"
  xmlns:xh11d="http://www.w3.org/1999/xhtml/datatypes/"
  targetNamespace="http://www.w3.org/1999/xhtml/datatypes/"
  elementFormDefault="qualified">
  <xs:annotation>
    <xs:documentation>
      XHTML Datatypes
      This is the XML Schema datatypes module for XHTML
      Defines containers for the XHTML datatypes, many of
      these imported from other specifications and standards.
    </xs:documentation>
    <xs:documentation source="xhtml-copyright-1.xsd"/>
    <xs:documentation source="http://www.w3.org/TR/2001/REC-xhtml-modularization-20010410/abstraction.html#a_common_atttypes"/>
  </xs:annotation>
  <!-- nn for pixels or nn% for percentage length -->
  <xs:simpleType name="Length">
    <xs:union memberTypes="xh11d:Length">
      <xs:simpleType>
        <xs:restriction base="xs:nonNegativeInteger">
          <xs:pattern value="[\d]+\[%\] | \d*\.[\d]*/">
        </xs:restriction>
      </xs:simpleType>
    </xs:union>
  </xs:simpleType>
  <!-- space-separated list of link types -->
  <xs:simpleType name="LinkTypes">
    <xs:list itemType="xs:NMTOKEN"/>
  </xs:simpleType>
  <!-- single or comma-separated list of media descriptors -->
  <xs:simpleType name="MediaDesc">
    <xs:restriction base="xs:string"/>
  </xs:simpleType>
  <!-- pixel, percentage, or relative -->
  <xs:simpleType name="MultiLength">
    <xs:union memberTypes="pixel;percentage;relative">
      <xs:simpleType>
        <xs:restriction base="xs:token">
          <xs:pattern value="[\d]+\[%\] | \d*\.[\d]*/">
        </xs:restriction>
      </xs:simpleType>
    </xs:union>
  </xs:simpleType>
  <!-- one or more digits (NUMBER) -->
  <xs:simpleType name="Number">
    <xs:restriction base="xs:nonNegativeInteger"/>
  </xs:simpleType>
  <!-- integer representing length in pixels -->
  <xs:simpleType name="Pixels">
    <xs:restriction base="xs:nonNegativeInteger"/>
  </xs:simpleType>
  <!-- script expression -->
  <xs:simpleType name="Script">
    <xs:restriction base="xs:string"/>
  </xs:simpleType>
  <!-- sixteen color names or RGB color expression -->
  <xs:simpleType name="Color">
    <xs:union memberTypes="xs:NMTOKEN">
      <xs:simpleType>
        <xs:restriction base="xs:token">
          <xs:pattern value="#[0-9a-fA-F]{6}\"/">
        </xs:restriction>
      </xs:simpleType>
    </xs:union>
  </xs:simpleType>
</xs:schema>
C.2.3. XHTML Common Attribute Definitions

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema

xmlns:ssc="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 common attributes module for XHTML

$Id: xhtml-attrs-1.xsd,v 1.6 2005/09/26 23:37:47 ahby Exp $
</xs:documentation>
</xs:annotation>
schemaLocation="http://www.w3.org/2001/xml.xsd" />
<xs:annotation>

<xs:documentation>

</xs:documentation>
</xs:annotation>
<xs:import namespace="http://www.w3.org/1999/xhtml/namespace"

schemaLocation="http://www.w3.org/2001/xhtml.xsd" />
<xs:annotation>

<xs:documentation>

</xs:documentation>
</xs:annotation>
This import brings in the XML namespace attributes
The module itself does not provide the schemaLocation
and expects the driver schema to provide the actual SchemaLocation.

C.2.4. XHTML Character Entities

<?xml version="1.0" encoding="UTF-8"?>
<!--
This schema module includes three named character entity files. -->
<!DOCTYPE xs:schema [
<!-- These are the entity sets for ISO Latin 1 characters for the XHTML -->
<!ENTITY % HTMLlat1 PUBLIC "-/W3C//ENTITIES Latin 1 for XHTML//EN"
"http://www.w3.org/MarkUp/DTD/xhtml-lat1.ent"> %HTMLlat1;
<!-- These are the entity sets for special characters for the XHTML -->
<!ENTITY % HTMLsymbol PUBLIC "-/W3C//ENTITIES Symbols for XHTML//EN"
"http://www.w3.org/MarkUp/DTD/xhtml-symbol.ent"> %HTMLsymbol;
<!-- These are the entity sets for symbol characters for the XHTML -->
C.3. XHTML Module Implementations

This section contains the formal definition of each of the XHTML Abstract Modules as a Schema module.

C.3.1. XHTML Core Modules

C.3.1.1. Structure

```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/"
xmlns="http://www.w3.org/1999/xhtml"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
namespace="http://www.w3.org/1999/xhtml"
schemaLocation="xhtml-native-1.xsd"

elementFormDefault="qualified"
attributeFormDefault="unqualified"

<xs:import
schemaLocation="xhtml-native-1.xsd"

<xs:annotation>
<xs:documentation>
This is the XML Schema Document Structure module for XHTML

The Structure Module defines the major structural elements and their attributes.

$id: xhtml-struct-1.xsd,v 1.6 2005/10/20 14:14:39 ahby Exp $
</xs:documentation>
</xs:annotation>
</xs:schema>
```
C.3.1.2. Text

<?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"
xmlns:xh11i="http://www.w3.org/1999/xhtml"
>
<xs:import namespace="http://www.w3.org/1999/xhtml/datatypes/"
schemaLocation="xhtml-datatypes-1.xsd" />
<xs:annotation>
<xs:documentation>
Textual Content
This is the XML Schema Text module for XHTML
</xs:documentation>
</xs:annotation>
</xs:schema>
The Text module includes declarations for all core text container elements and their attributes.

+ block phrasal
+ block structural
+ inline phrasal
+ inline structural

C.3.1.3. Hypertext

<?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/xmldatatypes/"
   >
   <xs:import namespace="http://www.w3.org/1999/xmldatatypes/"
     schemaLocation="xhtml-datatypes-1.xsd" />
   <xs:annotation>
     <xs:documentation>
     Hypertext Module
     This is the XML Schema Hypertext module for XHTML
     </xs:documentation>
   </xs:annotation>

   <xs:attributeGroup name="xhtml.a.attlist">
     <xs:attributeGroup ref="xhtml.Common.attrib"/>
     <xs:attribute name="href" type="xh11d:URI"/>
     <xs:attribute name="charset" type="xh11d:Charset"/>
   </xs:attributeGroup>
</xs:schema>
C.3.1.4. Lists

<?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/
>
<xs:import namespace=http://www.w3.org/1999/xhtml/datatypes/
schemaLocation="xhtml-datatypes-1.xsd"/>
<xs:annotation>
<xs:documentation>
List Module
This is the XML Schema Lists module for XHTML
List Module Elements
* dl, dt, dd, ol, ul, li
This module declares the list-oriented element types
and their attributes.
</xs:documentation>
<xs:documentation source="xhtml-copyright-1.xsd"/>
<xs:documentation source="http://www.w3.org/TR/2001/REC-xhtml-modularization-20010410/abstract_modules.html#s_listmodule"/>
</xs:annotation>
<xs:attributeGroup name="xhtml.dt.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.dt.content">
<xs:sequence>
<xs:group ref="xhtml.Inline.mix" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.dt.type" mixed="true">
<xs:group ref="xhtml.dt.content"/>
<xs:attributeGroup ref="xhtml.dt.attlist"/>
</xs:complexType>
<xs:attributeGroup name="xhtml.dd.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.dd.content">
<xs:sequence>
<xs:group ref="xhtml.Flow.mix" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.dd.type" mixed="true">
<xs:group ref="xhtml.dd.content"/>
<xs:attributeGroup ref="xhtml.dd.attlist"/>
</xs:complexType>
<xs:attributeGroup name="xhtml.dl.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.dl.content">
<xs:sequence>
<xs:choice maxOccurs="unbounded">
<xs:element name="dt" type="xhtml.dt.type"/>
<xs:element name="dd" type="xhtml.dd.type"/>
</xs:choice>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.dl.type">
<xs:group ref="xhtml.dl.content"/>
<xs:attributeGroup ref="xhtml.dl.attlist"/>
</xs:complexType>
<xs:attributeGroup name="xhtml.li.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.li.content">
<xs:sequence>
<xs:group ref="xhtml.Flow.mix" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.li.type">
<xs:group ref="xhtml.li.content"/>
<xs:attributeGroup ref="xhtml.li.attlist"/>
</xs:complexType>
C.3.2. Applet

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
    xmlns:xh11d="http://www.w3.org/1999/xhtml/datatypes/"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    elementFormDefault="qualified"
    xmlns:xhtml="http://www.w3.org/1999/xhtml"
    xmlns:xhtml-param="http://www.w3.org/1999/xhtml/datatypes/"
    xmlns:xhtml-applet="http://www.w3.org/1999/xhtml/applets/"
    xmlns:xhtml-ui="http://www.w3.org/1999/xhtml/unknown/"
    xmlns:xhtml-internal="http://www.w3.org/1999/xhtml/unknown/"
    xmlns:xhtml="http://www.w3.org/1999/xhtml"
    xmlns:xhtml-param="http://www.w3.org/1999/xhtml/unknown/">
  <xs:annotation>
    <xs:documentation>
      Java Applets
      This is the XML Schema module for Java Applets in XHTML
      *
      applet (param)
      This module declares the applet element type and its attributes,
      used to provide support for Java applets. The 'alt' attribute
      is now required (as it is on images). One of either code or
      object attributes must be present. In the document, place param
      elements before the object elements that require their content.
      Note that use of this module also instantiates of the
      Param Element Module.
      $Id: xhtml-applet-1.xsd,v 1.3 2005/09/26 22:54:52 ahby Exp $
    </xs:documentation>
  </xs:annotation>
  <xs:include
    location="xhtml-param-1.xsd"
    schemalocation="xhtml-param-1.xsd"/>
  <xs:include
    location="xhtml-ui-1.xsd"
    schemalocation="xhtml-ui-1.xsd"/>
  <xs:element name="applet" type="applet" maxOccurs="unbounded"/>
  <xs:complexType name="applet" mixed="true">
    <xs:group ref="xhtml.ui.content"/>
    <xs:attributeGroup ref="xhtml.applet.attlist"/>
  </xs:complexType>
  <xs:attributeGroup name="applet.attlist">
    <xs:attributeGroup ref="xhtml.Core.attrib"/>
    <xs:attribute name="alt" type="xh11d:Text" use="required"/>
    <xs:attribute name="archive" type="xh11d:CDATA"/>
    <xs:attribute name="code" type="xh11d:CDATA"/>
    <xs:attribute name="codebase" type="xh11d:URI"/>
    <xs:attributeGroup ref="xhtml.param.attrib"/>
  </xs:attributeGroup>
</xs:schema>
C.3.3. Text Modules

C.3.3.1. Presentation

<?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 Presentation module for XHTML
      This is a REQUIRED module.
    </xs:documentation>
  </xs:annotation>

  <xs:annotation>
    <xs:documentation>
      Presentational Elements
      This module defines elements and their attributes for
      simple presentation-related markup.
      Elements defined here:
      * hr
      * b, big, i, small, sub, sup, tt
    </xs:documentation>
  </xs:annotation>

  <xs:include schemaLocation="xhtml-blkpres-1.xsd">
    <xs:annotation>
      <xs:documentation>
        Block Presentational module
        Elements defined here:
      </xs:documentation>
    </xs:annotation>
  </xs:include>

  <xs:include schemaLocation="xhtml-inlpres-1.xsd">
    <xs:annotation>
      <xs:documentation>
        Inline Presentational module
        Elements defined here:
      </xs:documentation>
    </xs:annotation>
  </xs:include>

</xs:schema>
C.3.3.2. Edit

```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>
      Editing Elements
      This is the XML Schema Editing Markup module for XHTML
    </xs:documentation>
  </xs:annotation>

  <xs:attributeGroup name="xhtml.edit.attlist">
    <xs:attributeGroup ref="xhtml.Common.attrib"/>
    <xs:attribute name="cite" type="xh11d:URI"/>
    <xs:attribute name="datetime" type="xh11d:Datetime"/>
  </xs:attributeGroup>

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

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

C.3.3.3. Bi-directional Text

```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>
      Bidirectional Override (bdo) Element
      This is the XML Schema BDO Element module for XHTML
      This module declares the element 'bdo' and 'dir' attributes,
      Used to override the Unicode bidirectional algorithm for selected
      fragments of text.
    </xs:documentation>
  </xs:annotation>

  <xs:attributeGroup name="xhtml.bdo.attlist">
    <xs:attributeGroup ref="xhtml.Core.attrib"/>
    <xs:attribute name="dir" use="required">
      <xs:simpleType>
        <xs:restriction base="xs:NMTOKEN">
          <xs:enumeration value="ltr"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:attribute>
  </xs:attributeGroup>
</xs:schema>
```
C.3.4. Forms

C.3.4.1. Basic Forms

```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/"
xmlns:xhld="http://www.w3.org/1999/xhtml/datatypes-1.xsd" />
<xs:import namespace="http://www.w3.org/1999/xhtml/datatypes/"
schemaLocation="xhtml-datatypes-1.xsd" />
<xs:annotation>
<xs:documentation>
This is the XML Schema Basic Forms module for XHTML
$Id: xhtml-basic-form-1.xsd,v 1.2 2005/09/26 22:54:53 ahby Exp $
</xs:documentation>
</xs:annotation>
<xs:annotation>
<xs:documentation source="xhtml-copyright-1.xsd"/>
</xs:annotation>
<xs:documentation>
Basic Forms
This forms module is based on the HTML 3.2 forms model, with
the WAI-requested addition of the label element. While this
module essentially mimics the content model and attributes of
HTML 3.2 forms, the element types declared herein also include
all HTML 4 common attributes.
Elements defined here:
- form, label, input, select, option, textarea
</xs:documentation>
</xs:annotation>
<xs:attributeGroup name="xhtml.form.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
<xs:attribute name="action" type="xh11d:URI" use="required"/>
</xs:attributeGroup>
```
<xs:complexType name="xhtml.form.type">
  <xs:group ref="xhtml.form.content"/>  
  <xs:attributeGroup ref="xhtml.form.attlist"/>  
</xs:complexType>  

<xs:group name="xhtml.label.content">  
  <xs:sequence>  
    <xs:choice minOccurs="0" maxOccurs="unbounded">  
      <xs:element type="xhtml.input.type" name="input"/>  
      <xs:element type="xhtml.select.type" name="select"/>  
      <xs:element type="xhtml.textarea.type" name="textarea"/>  
      <xs:group ref="xhtml.InlStruct.class"/>  
      <xs:group ref="xhtml.InlPhras.class"/>  
      <xs:group ref="xhtml.I18n.class"/>  
      <xs:group ref="xhtml.InlPres.class"/>  
      <xs:group ref="xhtml.InlSpecial.class"/>  
      <xs:group ref="xhtml.Misc.class"/>  
    </xs:choice>  
  </xs:sequence>  
</xs:group>  

<xs:attributeGroup name="xhtml.label.attlist">  
  <xs:attributeGroup ref="xhtml.Common.attrib"/>  
  <xs:attribute name="for" type="xs:IDREF"/>  
  <xs:attribute name="accesskey" type="xh11d:Character"/>  
</xs:attributeGroup>  

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

<xs:simpleType name="xhtml.InputType.class">  
  <xs:restriction base="xs:NMTOKEN">  
    <xs:enumeration value="text"/>  
    <xs:enumeration value="password"/>  
    <xs:enumeration value="checkbox"/>  
    <xs:enumeration value="radio"/>  
    <xs:enumeration value="submit"/>  
    <xs:enumeration value="reset"/>  
    <xs:enumeration value="hidden"/>  
  </xs:restriction>  
</xs:simpleType>  

<xs:attributeGroup name="xhtml.input.attlist">  
  <xs:attributeGroup ref="xhtml.Common.attrib"/>  
  <xs:attribute name="type" type="xhtml.InputType.class" default="text"/>  
  <xs:attribute name="name" type="xh11d:CDATA"/>  
  <xs:attribute name="value" type="xh11d:CDATA"/>  
  <xs:attribute name="checked">  
    <xs:simpleType>  
      <xs:restriction base="xs:NMTOKEN">  
        <xs:enumeration value="checked"/>  
      </xs:restriction>  
    </xs:simpleType>  
  </xs:attribute>  
  <xs:attribute name="size" type="xh11d:Number"/>  
  <xs:attribute name="maxlength" type="xh11d:Number"/>  
  <xs:attribute name="src" type="xh11d:URI"/>  
</xs:attributeGroup>  

!!--  
Basic Forms removes button, 'image' and 'file' input types.  
-->  
<xs:simpleType name="xhtml.InputType.class">  
  <xs:restriction base="xs:NMTOKEN">  
    <xs:enumeration value="text"/>  
    <xs:enumeration value="password"/>  
    <xs:enumeration value="checkbox"/>  
    <xs:enumeration value="radio"/>  
    <xs:enumeration value="submit"/>  
    <xs:enumeration value="reset"/>  
    <xs:enumeration value="hidden"/>  
  </xs:restriction>  
</xs:simpleType>  

<xs:attributeGroup name="xhtml.input.attlist">  
  <xs:attributeGroup ref="xhtml.Common.attrib"/>  
  <xs:attribute name="type" type="xhtml.InputType.class" default="text"/>  
  <xs:attribute name="name" type="xh11d:CDATA"/>  
  <xs:attribute name="value" type="xh11d:CDATA"/>  
  <xs:attribute name="checked">  
    <xs:simpleType>  
      <xs:restriction base="xs:NMTOKEN">  
        <xs:enumeration value="checked"/>  
      </xs:restriction>  
    </xs:simpleType>  
  </xs:attribute>  
  <xs:attribute name="size" type="xh11d:Number"/>  
  <xs:attribute name="maxlength" type="xh11d:Number"/>  
</xs:attributeGroup>  

<!--  
Basic Forms removes button, 'image' and 'file' input types.  
-->
C.3.4. Forms

XHTML™ Modularization 1.1
C.3.4.2. Forms

This is the XML Schema for XHTML forms.

This module declares markup to provide support for online forms, based on the features found in HTML 4.0 forms.

C.3.5. Tables

C.3.5.1. Basic Tables

This is the XML Schema Basic Tables module for XHTML

```
<?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:xs:xh11d="http://www.w3.org/1999/xhtml/datatypes/"
    schemaLocation="xhtml-datatypes-1.xsd"/>
<xs:annotation>
    <xs:documentation>
        Basic Tables

        This table module declares elements and attributes defining
        a table model based fundamentally on features found in the
        widely-deployed HTML 3.2 table model. While this module
    </xs:documentation>
</xs:annotation>
```
mimics the content model and table attributes of HTML 3.2
tables, the element types declared herein also includes all
HTML 4 common and most of the HTML 4 table attributes.
</xs:documentation>
<xs:documentation
source="http://www.w3.org/TR/2001/REC-xhtml-modularization-20010410/abstract_modules.html#s_simpletablemodule"/>
</xs:annotation>

<xs:attributeGroup name="xhtml.CellHAlign.attrib">
  <xs:attribute name="align">
    <xs:simpleType>
      <xs:restriction base="xs:NMTOKEN">
        <xs:enumeration value="left"/>
        <xs:enumeration value="center"/>
        <xs:enumeration value="right"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.CellVAlign.attrib">
  <xs:attribute name="valign">
    <xs:simpleType>
      <xs:restriction base="xs:NMTOKEN">
        <xs:enumeration value="top"/>
        <xs:enumeration value="middle"/>
        <xs:enumeration value="bottom"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.scope.attrib">
  <xs:attribute name="scope">
    <xs:simpleType>
      <xs:restriction base="xs:NMTOKEN">
        <xs:enumeration value="row"/>
        <xs:enumeration value="col"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.table.attlist">
  <xs:attributeGroup ref="xhtml.Common.attrib"/>
  <xs:attribute name="summary" type="xh11d:Text"/>
</xs:attributeGroup>

<xs:group name="xhtml.table.content">
  <xs:sequence>
    <xs:element name="caption" type="xhtml.caption.type" minOccurs="0" maxOccurs="1"/>
    <xs:element name="tr" type="xhtml.tr.type" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:group>

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

<xs:attributeGroup name="xhtml.caption.attlist">
  <xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>

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

<xs:complexType name="xhtml.caption.type" mixed="true">
  <xs:group ref="xhtml.Inline.mix" minOccurs="0" maxOccurs="unbounded"/>
  <xs:attributeGroup ref="xhtml.caption.attlist"/>
</xs:complexType>

<xs:complexType name="xhtml.tr.type">
  <xs:attributeGroup ref="xhtml.Common.attrib"/>
  <xs:attributeGroup ref="xhtml.CellHAlign.attrib"/>
  <xs:attributeGroup ref="xhtml.CellVAlign.attrib"/>
</xs:attributeGroup>
C.3.5. Tables
This module declares element types and attributes used to provide
table markup similar to HTML 4.0, including features that enable
better accessibility for non-visual user agents.
C.3.5. Tables

XHTML™ Modularization 1.1
C.3.6. Image

<?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:complexType name="xhtml.tfoot.type">
<xs:group ref="xhtml.tfoot.content" />
</xs:complexType>
<xs:complexType name="xhtml.thead.type">
<xs:group ref="xhtml.thead.content" />
</xs:complexType>
<xs:complexType name="xhtml.caption.type" mixed="true">
<xs:group ref="xhtml.caption.content" />
</xs:complexType>
<xs:complexType name="xhtml.table.type">
<xs:group ref="xhtml.table.content" />
</xs:complexType>
</xs:schema>
C.3.7. Client-side Image Map

<?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>
      Client-side Image Maps
      This is the XML Schema Client-side Image Maps module for XHTML
      * area, map
    </xs:documentation>
  </xs:annotation>

  <xs:complexType name="xhtml.csimap.type">
    <xs:restriction base="xhtml.csim.datatype">
      <xs:attribute name="shape" type="xhtml.Shape.Datatype" default="rect"/>
      <xs:attribute name="coords" type="xhtml.Coords.Datatype"/>
    </xs:restriction>
  </xs:complexType>

  <xs:simpleType name="xhtml.csimap.datatype">
    <xs:restriction base="xs:NMTOKEN">
      <xs:enumeration value="rect"/>
      <xs:enumeration value="circle"/>
      <xs:enumeration value="poly"/>
      <xs:enumeration value="default"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:simpleType name="xhtml.csim.coords.datatype">
    <xs:restriction base="xh11d:Text"/>
  </xs:simpleType>

  <xs:attributeGroup name="xhtml.a.csim.attlist">
    <xs:attribute name="shape" type="xhtml.Shape.Datatype" default="rect"/>
    <xs:attribute name="coords" type="xhtml.Coords.Datatype"/>
  </xs:attributeGroup>

  <xs:attributeGroup name="xhtml.img.csim.attlist">
    <xs:attribute name="usemap" type="xs:IDREF"/>
  </xs:attributeGroup>

  <xs:attributeGroup name="xhtml.input.csim.attlist">
    <xs:attribute name="usemap" type="xs:IDREF"/>
  </xs:attributeGroup>
</xs:schema>
C.3.8. Server-side Image Map

<!-- modify object attribute definition list -->
<xs:attributeGroup name="xhtml.object.csim.attlist">
  <xs:attribute name="usemap" type="xs:IDREF"/>
</xs:attributeGroup>
<xs:attributeGroup name="xhtml.area.attlist">
  <xs:attribute ref="xhtml.Common.attrib"/>
  <xs:attribute name="href" type="xh11d:URI"/>
  <xs:attribute name="shape" type="xhtml.Shape.Datatype" default="rect"/>
  <xs:attribute name="coords" type="xhtml.Coords.Datatype"/>
  <xs:attribute name="nohref">
    <xs:simpleType>
      <xs:restriction base="xs:NMTOKEN">
        <xs:enumeration value="nohref"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:attribute>
  <xs:attribute name="alt" type="xh11d:Text" use="required"/>
  <xs:attribute name="tabindex" type="xh11d:Number"/>
  <xs:attribute name="accesskey" type="xh11d:Character"/>
</xs:attributeGroup>
<xs:group name="xhtml.area.content">
  <xs:sequence/>
</xs:group>
<xs:complexType name="xhtml.area.type">
  <xs:group ref="xhtml.area.content"/>
  <xs:attributeGroup ref="xhtml.area.attlist"/>
</xs:complexType>

<!-- map -->
<xs:attributeGroup name="xhtml.map.attlist">
  <xs:attribute name="id" type="xs:ID" use="required"/>
  <xs:attributeGroup ref="xhtml.class"/>
  <xs:attributeGroup ref="xhtml.title"/>
  <xs:attributeGroup ref="xhtml.Core.extra.attrib"/>
  <xs:attributeGroup ref="xhtml.I18n.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.map.content">
  <xs:sequence>
    <xs:choice maxOccurs="unbounded">
      <xs:group ref="xhtml.Block.mix"/>
      <xs:element name="area" type="xhtml.area.type"/>
    </xs:choice>
  </xs:sequence>
</xs:group>
<xs:complexType name="xhtml.map.type">
  <xs:group ref="xhtml.map.content"/>
  <xs:attributeGroup ref="xhtml.map.attlist"/>
</xs:complexType>
</xs:schema>

C.3.8. Server-side Image Map

<?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 Server-side Image Maps module for XHTML
      5: http://www.w3.org/1999/xhtml-ssimap-1.xsd, r 1.3 2005/09/06 22:54:53 alph Exp $
    </xs:documentation>
  </xs:annotation>
  <xs:annotation>
    <xs:documentation>Server-side Image Maps

This adds the 'ismap' attribute to the img element to support server-side processing of a user selection.
</xs:documentation>
  </xs:annotation>
  <xs:attributeGroup name="xhtml.img.sslimap.attlist">
    <xs:attribute name="ismap">
      <xs:simpleType>
        <xs:restriction base="xs:NMTOKEN">
          <xs:enumeration value="ismap"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:attribute>
  </xs:attributeGroup>
  <xs:attributeGroup name="xhtml.input.sslimap.attlist">
    <xs:attribute name="ismap">
      <xs:simpleType>
        <xs:restriction base="xs:NMTOKEN">
          <xs:enumeration value="ismap"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:attribute>
  </xs:attributeGroup>
</xs:schema>
C.3.9. Object

<?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 Embedded Object module for XHTML
  </xs:annotation>
  <xs:include schemaLocation="xhtml-param-1.xsd">
    <xs:annotation>
      <xs:documentation>
Param module
Elements defined here:
  " param
</xs:documentation>
    </xs:annotation>
  </xs:include>
  <xs:attributeGroup name="xhtml.object.attlist">
    <xs:attributeGroup ref="xhtml.Common.attrib"/>
    <xs:attribute name="declare">
      <xs:simpleType>
        <xs:restriction base="xs:NMTOKEN">
          <xs:enumeration value="declare"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:attribute>
    <xs:attribute name="classid" type="xh11d:URI"/>
    <xs:attribute name="codebase" type="xh11d:URI"/>
    <xs:attribute name="data" type="xh11d:URI"/>
    <xs:attribute name="type" type="xh11d:ContentType"/>
    <xs:attribute name="codetype" type="xh11d:ContentType"/>
    <xs:attribute name="archive" type="xh11d:URIs"/>
    <xs:attribute name="standby" type="xh11d:Text"/>
    <xs:attribute name="height" type="xh11d:Length"/>
    <xs:attribute name="width" type="xh11d:Length"/>
    <xs:attribute name="name" type="sh11d:CDATA"/>
    <xs:attribute name="tabindex" type="xh11d:Number"/>
  </xs:attributeGroup>
  <xs:group name="xhtml.object.content">
    <xs:sequence>
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="param" type="xhtml.param.type"/>
      </xs:choice>
    </xs:sequence>
  </xs:group>
  <xs:complexType name="xhtml.object.type" mixed="true">
    <xs:group ref="xhtml.object.content"/>
    <xs:attributeGroup ref="xhtml.object.attlist"/>
  </xs:complexType>
</xs:schema>
C.3.10. Frames

<?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 Frames module for XHTML
</xs:documentation>
<xs:documentation source="xhtml-copyright-1.xsd"/>
</xs:annotation>
<xs:annotation>
<xs:documentation>
Frames
* frameset, frame, noframes
This module declares frame-related element types and attributes.
</xs:documentation>
<xs:documentation source="http://www.w3.org/TR/2001/REC-xhtml-modularization-20010410/abstract_modules.html#s_framesmodule"/>
</xs:annotation>
<xs:attributeGroup name="xhtml.frameset.attlist">
<xs:attributeGroup ref="xhtml.Core.attrib"/>
<xs:attribute name="rows" type="xh11d:MultiLengths"/>
<xs:attribute name="cols" type="xh11d:MultiLengths"/>
</xs:attributeGroup>
<xs:group name="xhtml.frameset.content">
<xs:sequence>
<xs:choice minOccurs="1" maxOccurs="unbounded">
<xs:element ref="frameset"/>
<xs:element ref="frame"/>
</xs:choice>
<xs:element ref="noframes" minOccurs="0" maxOccurs="1"/>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.frameset.type" mixed="true">
<xs:group ref="xhtml.frameset.content"/>
<xs:attributeGroup ref="xhtml.frameset.attlist"/>
</xs:complexType>
<!--
reserved frame names start with "_"
otherwise starts with letter
-->
C.3.11. Target

<?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/"
xmlns:xhtml="http://www.w3.org/1999/xhtml"

</xs:schema>

C.3.11. Target

This module declares the 'target' attribute used for opening windows.
C.3.12. Iframe

<?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 Inline Frame Element module for XHTML

</xs:documentation>
</xs:annotation>
<xs:annotation>
<xs:documentation source="xhtml-copyright-1.xsd"/>
</xs:annotation>

<xs:attributeGroup name="xhtml.iframe.attlist">
<xs:attributeGroup ref="xhtml.Core.attrib"/>
<xs:attribute name="longdesc" type="xh11d:URI"/>
<xs:attribute name="src" type="xh11d:URI"/>
<xs:simpleType>
<xs:restriction base="xs:nonNegativeInteger">
<xs:enumeration value="1"/>
<xs:enumeration value="0"/>
</xs:restriction>
</xs:simpleType>
<xs:attribute name="frameborder" default="1"/>
<xs:attribute name="marginwidth" type="xh11d:Pixels"/>
<xs:attribute name="marginheight" type="xh11d:Pixels"/>
<xs:simpleType>
<xs:restriction base="xs:NMTOKEN">
<xs:enumeration value="yes"/>
<xs:enumeration value="no"/>
<xs:enumeration value="auto"/>
</xs:restriction>
</xs:simpleType>
<xs:attribute name="scrolling" default="auto"/>
<xs:attribute name="height" type="xh11d:Length"/>
<xs:attribute name="width" type="xh11d:Length"/>
</xs:attributeGroup>
<xs:group name="xhtml.iframe.content">
<xs:sequence>
</xs:sequence>
C.3.13. Intrinsic Events

C.3.13. Intrinsic Events

<?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 Intrinsic Events module for XHTML
 </xs:documentation>
 <xs:documentation source="xhtml-copyright-1.xsd"/>
</xs:annotation>
<xs:annotation>
 <xs:documentation>
 Intrinsic Event Attributes
 These are the event attributes defined in HTML 4,
 Section 18.2.3 "Intrinsic Events".
 </xs:documentation>
 <xs:documentation source="http://www.w3.org/TR/2001/REC-xhtml-modularization-20010410/abstract_modules.html#s_intrinsiceventsmodule"/>
</xs:annotation>
<xs:attributeGroup name="xhtml.Events.attrib">
 <xs:attribute name="onclick" type="xh11d:Script"/>  
 <xs:attribute name="ondblclick" type="xh11d:Script"/>  
 <xs:attribute name="onmousedown" type="xh11d:Script"/>  
 <xs:attribute name="onmouseup" type="xh11d:Script"/>  
 <xs:attribute name="onmouseover" type="xh11d:Script"/>  
 <xs:attribute name="onmousemove" type="xh11d:Script"/>  
 <xs:attribute name="onmouseout" type="xh11d:Script"/>  
 <xs:attribute name="onkeypress" type="xh11d:Script"/>  
 <xs:attribute name="onkeydown" type="xh11d:Script"/>  
 <xs:attribute name="onkeyup" type="xh11d:Script"/>  
</xs:attributeGroup>
<!-- additional attributes on anchor element -->
<xs:attributeGroup name="xhtml.a.events.attlist">
  <xs:attribute name="onfocus" type="xh11d:Script"/>  
  <xs:attribute name="onblur" type="xh11d:Script"/>  
</xs:attributeGroup>
<!-- additional attributes on form element -->
<xs:attributeGroup name="xhtml.form.events.attlist">
  <xs:attribute name="onsubmit" type="xh11d:Script"/>  
  <xs:attribute name="onreset" type="xh11d:Script"/>  
</xs:attributeGroup>
<!-- additional attributes on label element -->
<xs:attributeGroup name="xhtml.label.events.attlist">
  <xs:attribute name="onfocus" type="xh11d:Script"/>  
  <xs:attribute name="onblur" type="xh11d:Script"/>  
</xs:attributeGroup>
<!-- additional attributes on input element -->
<xs:attributeGroup name="xhtml.input.events.attlist">
  <xs:attribute name="onfocus" type="xh11d:Script"/>  
  <xs:attribute name="onblur" type="xh11d:Script"/>  
  <xs:attribute name="onselect" type="xh11d:Script"/>  
  <xs:attribute name="onchange" type="xh11d:Script"/>  
</xs:attributeGroup>
<!-- additional attributes on select element -->
<xs:attributeGroup name="xhtml.select.events.attlist">
  <xs:attribute name="onfocus" type="xh11d:Script"/>  
  <xs:attribute name="onblur" type="xh11d:Script"/>  
  <xs:attribute name="onselect" type="xh11d:Script"/>  
  <xs:attribute name="onchange" type="xh11d:Script"/>  
</xs:attributeGroup>
<!-- additional attributes on textarea element -->
<xs:attributeGroup name="xhtml.textarea.events.attlist">
  <xs:attribute name="onfocus" type="xh11d:Script"/>  
</xs:attributeGroup>
C.3.14. Metainformation

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

<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
</xs:annotation>
<xs:annotation/>

<xs:attributeGroup name="xhtml.meta.attlist">
<xs:attributeGroup ref="xhtml.I18n.attrib"/>
<xs:attribute name="http-equiv" type="xs:NMTOKEN"/>
<xs:attribute name="name" type="xs:NMTOKEN"/>
<xs:attribute name="content" type="xh11d:CDATA" use="required"/>
<xs:attribute name="scheme" type="xh11d:CDATA"/>
</xs:attributeGroup>
<xs:group name="xhtml.meta.content">
<xs:sequence/>
</xs:group>
</xs:attributeGroup>
</xs:schema>

C.3.14. Metainformation

This module declares the meta element type and its attributes, used to provide declarative document metainformation.

<xs:documentation source="xhtml-copyright-1.xsd"/>
<xs:annotation/>
<xs:documentation>
Meta Information

This module declares the meta element type and its attributes, used to provide declarative document metainformation.
</xs:documentation>
<xs:documentation source="http://www.w3.org/TR/2001/REC-xhtml-modularization-20010410/abstract_modules.html#a_metamodule"/>
<xs:annotation/>
<xs:attributeGroup name="xhtml.meta.attlist">
<xs:attributeGroup ref="xhtml.I18n.attrib"/>
<xs:attribute name="http-equiv" type="xs:NMTOKEN"/>
<xs:attribute name="name" type="xs:NMTOKEN"/>
<xs:attribute name="content" type="xh11d:CDATA" use="required"/>
<xs:attribute name="scheme" type="xh11d:CDATA"/>
</xs:attributeGroup>
<xs:attributeGroup name="xhtml.meta.content">
<xs:sequence/>
</xs:attributeGroup>
</xs:schema>
C.3.15. Scripting

This module declares element types and attributes used to provide support for executable scripts as well as an alternate content container where scripts are not supported.
C.3.16. Style Sheet

```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 XML Schema Stylesheets module for XHTML
   $Id: xhtml-style-1.xsd,v 1.4 2005/09/26 23:37:47 ahby Exp $
   </xs:documentation>
</xs:annotation>
<xs:annotation>
   <xs:documentation source="xhtml-copyright-1.xsd"/>
</xs:annotation>
<xs:annotation>
   <xs:documentation>
   Stylesheets
   * style
   This module declares the style element type and its attributes,
   used to embed stylesheet information in the document head element.
   $Id: xhtml-style-1.xsd,v 1.4 2005/09/26 23:37:47 ahby Exp $
   </xs:documentation>
</xs:annotation>
   schemaLocation="http://www.w3.org/2001/xml.xsd">
<xs:annotation>
   <xs:documentation>
   This import brings in the XML namespace attributes
   The module itself does not provide the schemaLocation
   and expects the driver schema to provide the actual SchemaLocation.
   </xs:documentation>
</xs:annotation>
</xs:import>
<xs:attributeGroup name="xhtml.style.attlist">
   <xs:attributeGroup ref="xhtml.title"/>
   <xs:attributeGroup ref="xhtml.I18n.attrib"/>
   <xs:attribute name="type" type="xh11d:ContentType" use="required"/>
   <xs:attribute name="media" type="xh11d:MediaDesc"/>
</xs:attributeGroup>
<xs:group name="xhtml.style.content">
</xs:group>
<xs:complexType name="xhtml.style.type" mixed="true">
   <xs:group ref="xhtml.style.content"/>
   <xs:attributeGroup ref="xhtml.style.attlist"/>
</xs:complexType>
</xs:schema>
```

C.3.17. Style Attribute

```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 XML Schema Inline Style module for XHTML
   </xs:documentation>
</xs:annotation>
<xs:attributeGroup name="xhtml.style.attrib">
   <xs:attribute name="style" type="xh11d:CDATA"/>
</xs:attributeGroup>
</xs:schema>
```
C.3.18. Link

<?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 Link Element module for XHTML
      $Id: xhtml-link-1.xsd,v 1.2 2005/09/26 22:54:53 ahby Exp $
    </xs:documentation>
  </xs:annotation>
  <xs:Documentation source="xhtml-copyright-1.xsd"/>
  <xs:annotation>
    <xs:documentation>
      Link element
    </xs:documentation>
  </xs:annotation>
  <xs:complexType name="xhtml.link.type">
    <xs:group ref="xhtml.link.content"/>
    <xs:attributeGroup ref="xhtml.link.attlist"/>
  </xs:complexType>
</xs:schema>

C.3.19. Base

<?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>
      Base element
    </xs:documentation>
  </xs:annotation>
  <xs:complexType name="xhtml.base.type">
    <xs:group ref="xhtml.base.content"/>
    <xs:attributeGroup ref="xhtml.base.attlist"/>
  </xs:complexType>
</xs:schema>
C.3.20. Name Identification

<?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/"
>
<xs:import namespace="http://www.w3.org/1999/xhtml/datatypes/
schemaLocation="xhtml-datatypes-1.xsd"/>
<xs:annotation>
<xs:documentation>
This is the XML Schema Name Identifier module for XHTML
</xs:documentation>
<xs:documentation source="xhtml-copyright-1.xsd"/>
</xs:annotation>
<xs:annotation>
<xs:documentation>
Name Identifier

  * 'name' attribute on form, img, a, map, applet, frame, iframe

This module declares the 'name' attribute on element types when
it is used as a node identifier for legacy linking and scripting
support. This does not include those instances when 'name' is used
as a container for form control, property or metainformation names.

This module should be instantiated following all modules it modifies.
</xs:documentation>
<xs:documentation
source="http://www.w3.org/TR/2001/REC-xhtml-modularization-20010410/abstract_modules.html#s_nameidentmodule"/>
</xs:annotation>

<xs:attributeGroup name="xhtml.form.name.attlist">
  <xs:attribute name="name" type="xh11d:CDATA"/>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.img.name.attlist">
  <xs:attribute name="name" type="xh11d:CDATA"/>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.a.name.attlist">
  <xs:attribute name="name" type="xh11d:CDATA"/>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.map.name.attlist">
  <xs:attribute name="name" type="xh11d:CDATA"/>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.applet.name.attlist">
  <xs:attribute name="name" type="xh11d:CDATA"/>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.frame.name.attlist">
  <xs:attribute name="name" type="xh11d:CDATA"/>
</xs:attributeGroup>

<xs:attributeGroup name="xhtml.iframe.name.attlist">
  <xs:attribute name="name" type="xh11d:CDATA"/>
</xs:attributeGroup>
</xs:schema>
C.3.21. Legacy

This is the XML Schema Module for HTML Legacy Markup

font, basefont, center, s, strike, u, dir, menu, isindex

This optional module declares additional markup for simple presentation-related markup based on features found in the HTML 4 Transitional and Frameset DTDs.

The legacy module also include frames module, iframe module and target module. (Note: This module expects find the schema files of that declare these module)

Elements/Attributes defined in frame, iframe and targeter modules are

* frameset, frame, noframes, att:target, iframe

Miscellaneous module

Attributes defined here:

* font, basefont, center, s, strike, u, dir, menu, isindex

(plus additional datatypes and attributes)
C.3.22. Ruby

<?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:schema>

This is the Ruby module for XHTML

"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/

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

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

Simple or Basic Ruby are defined in a separate module.

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
<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 ref="rt" 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="xh11d: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:complexType name="xhtml.rt.type" mixed="true">
  <!--
  rt (ruby text) element
  -->
  <xs:attributeGroup name="xhtml.rt.attlist">
    <xs:attributeGroup ref="xhtml.ruby.common.attrib"/>
    <xs:attribute name="rbspan" type="xh11d: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:complexType>
C.4. XHTML Schema Support Modules

The modules in this section are elements of the XHTML Schema implementation that, while hidden from casual users, are important to understand when creating derivative markup languages using the Modularization architecture.

C.4.1. Block Phrasal

```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:include schemaLocation="xhtml-attribs-1.xsd" />
  <xs:annotation>
    <xs:documentation>
      This is the XML Schema Block Phrasal support module for XHTML
      $Id: xhtml-blkphras-1.xsd,v 1.5 2005/09/26 23:37:47 ahby Exp $
    </xs:documentation>
    <xs:documentation source="xhtml-copyright-1.xsd"/>
  </xs:annotation>
schemaLocation="http://www.w3.org/2001/xml.xsd" />
  <xs:annotation>
    <xs:documentation>
      This import brings in the XML namespace attributes
      The module itself does not provide the schemaloaction
      and expects the driver schema to provide the
    </xs:documentation>
  </xs:annotation>
</xs:schema>
```
actual SchemaLocation.
</xs:documentation>
</xs:annotation>
<!-- address -->
<xs:attributeGroup name="xhtml.address.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.address.content">
<xs:sequence>
<xs:group ref="xhtml.Inline.mix" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.address.type" mixed="true">
<xs:group ref="xhtml.address.content"/>
<xs:attributeGroup ref="xhtml.address.attlist"/>
</xs:complexType>
<!-- blockquote -->
<xs:attributeGroup name="xhtml.blockquote.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
<xs:attribute name="cite" type="xh11d:URI"/>
</xs:attributeGroup>
<xs:group name="xhtml.blockquote.content">
<xs:sequence>
<xs:group ref="xhtml.Block.mix" maxOccurs="unbounded"/>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.blockquote.type">
<xs:group ref="xhtml.blockquote.content"/>
<xs:attributeGroup ref="xhtml.blockquote.attlist"/>
</xs:complexType>
<!-- pre -->
<xs:attributeGroup name="xhtml.pre.attlist">
<xs:attribute ref="xml:space"/>
<xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.pre.content">
<xs:sequence>
<xs:group ref="xhtml.InlinePre.mix" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.pre.type" mixed="true">
<xs:group ref="xhtml.pre.content"/>
<xs:attributeGroup ref="xhtml.pre.attlist"/>
</xs:complexType>
<!-- Heading Elements -->
<xs:attributeGroup name="xhtml.heading.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:complexType name="xhtml.heading.type" mixed="true">
<xs:group ref="xhtml.Inline.mix" minOccurs="0" maxOccurs="unbounded"/>
<xs:attributeGroup ref="xhtml.heading.attlist"/>
</xs:complexType>
<xs:attributeGroup name="xhtml.h1.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.h1.content">
<xs:sequence>
<xs:group ref="xhtml.Inline.mix" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.h1.type" mixed="true">
<xs:group ref="xhtml.h1.content"/>
<xs:attributeGroup ref="xhtml.h1.attlist"/>
</xs:complexType>
<xs:attributeGroup name="xhtml.h2.attlist">
<xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.h2.content">
<xs:sequence>
<xs:group ref="xhtml.Inline.mix" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:group>
<xs:complexType name="xhtml.h2.type" mixed="true">
<xs:group ref="xhtml.h2.content"/>
<xs:attributeGroup ref="xhtml.h2.attlist"/>
</xs:complexType>
C.4.2. Block Presentational

<?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:xhtml="http://www.w3.org/1999/xhtml"/>
<xs:import namespace="http://www.w3.org/1999/xhtml/datatypes/"
  schemaLocation="xhtml-datatypes-1.xsd" />
<xs:annotation>
  <xs:documentation>
  This is the XML Schema Block presentation element module for XHTML
  1.0.
  </xs:documentation>
</xs:annotation>
<xs:annotation>
  <xs:documentation>
  Block Presentational Elements
  * hr
  
  This module declares the elements and their attributes used to
  support block-level presentational markup.
  </xs:documentation>
</xs:annotation>
C.4.3. Block Structural

This module declares the elements and their attributes used to support block-level structural markup.

This is the XML Schema Block Structural module for XHTML.

C.4.4. Inline Phrasal

<?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 Inline Phrasal support module for XHTML
    </xs:documentation>
</xs:annotation>
<xs:annotation>
    <xs:documentation source="xhtml-copyright-1.xsd"/>
</xs:annotation>
<xs:annotation>
    <xs:documentation>
        Inline Phrasal.
        This module declares the elements and their attributes used to
        support inline-level phrasal markup.
        This is the XML Schema Inline Phrasal module for XHTML
        * abbr, acronym, cite, code, dfn, em, kbd, q, samp, strong, var
    </xs:documentation>
</xs:annotation>
<xs:annotation>
    <xs:documentation source="http://www.w3.org/TR/xhtml-modularization/abstract_modules.html#s_textmodule"/>
</xs:annotation>
<xs:attributeGroup name="xhtml.abbr.attlist">
    <xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.abbr.content">
    <xs:sequence>
        <xs:group ref="xhtml.Inline.mix" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:group>
<xs:complexType name="xhtml.abbr.type" mixed="true">
    <xs:group ref="xhtml.abbr.content"/>
    <xs:attributeGroup ref="xhtml.abbr.attlist"/>
</xs:complexType>
<xs:attributeGroup name="xhtml.acronym.attlist">
    <xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.acronym.content">
    <xs:sequence>
        <xs:group ref="xhtml.Inline.mix" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:group>
<xs:complexType name="xhtml.acronym.type" mixed="true">
    <xs:group ref="xhtml.acronym.content"/>
    <xs:attributeGroup ref="xhtml.acronym.attlist"/>
</xs:complexType>
<xs:attributeGroup name="xhtml.cite.attlist">
    <xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
<xs:group name="xhtml.cite.content">
    <xs:sequence>
        <xs:group ref="xhtml.Inline.mix" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:group>
<xs:complexType name="xhtml.cite.type" mixed="true">
    <xs:group ref="xhtml.cite.content"/>
    <xs:attributeGroup ref="xhtml.cite.attlist"/>
</xs:complexType>
<xs:attributeGroup name="xhtml.code.attlist">
    <xs:attributeGroup ref="xhtml.Common.attrib"/>
</xs:attributeGroup>
C.4.5. Inline Presentational

This module declares the elements and their attributes used to support inline-level presentational markup.

C.4.6. Inline Structural

This module Inline Structural support module for XHTML.
Inline Structural
This module declares the elements and their attributes used to support inline-level structural markup.
This is the XML Schema Inline Structural element module for XHTML

* br, span

This is the XML Schema Inline Structural element module for XHTML

* param

This module provides declarations for the param element, used to provide named property values for the applet and object elements.
C.4.8. Legacy - Miscellaneous

XHTML™ Modularization 1.1

C.4.8. Legacy - Miscellaneous

<?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/"
>
  <xs:import namespace="http://www.w3.org/1999/xhtml/datatypes/"
schemaLocation="xhtml-datatypes-1.xsd"/>
  <xs:annotation>
    <xs:documentation>
    This is the XML Schema Miscellaneous Legacy Markup module for XHTML
    </xs:documentation>
  </xs:annotation>

  <xs:attributeGroup name="xhtml.font.attlist">
    <xs:attributeGroup ref="xhtml.Core.attrib"/>
    <xs:attributeGroup ref="xhtml.I18n.attrib"/>
    <xs:attribute name="size" type="xh11d:CDATA"/>
    <xs:attribute name="color" type="xh11d:Color"/>
    <xs:attribute name="face" type="xh11d:CDATA"/>
    </xs:attributeGroup>

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

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

  <xs:attributeGroup name="xhtml.basefont.attlist">
    <xs:attributeGroup ref="xhtml.id"/>
    <xs:attribute name="size" type="xh11d:CDATA" use="required"/>
    <xs:attribute name="color" type="xh11d:Color"/>
    <xs:attribute name="face" type="xh11d:CDATA"/>
    </xs:attributeGroup>

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

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

</xs:schema>
D. Building DTD Modules

This section is normative.

XHTML modules are implemented as DTD fragments. When these fragments are assembled in a specific manner (described in Developing DTDs with defined and extended modules[p. 139]), the resulting DTD is a representation of a complete document type. This representation can then be used for validation of instances of the document type.

The key to combining these fragments into a meaningful DTD is the rules used to define the fragments. This section defines those rules. When these rules are followed, DTD authors can be confident that their modules will interface cleanly with other XHTML-compatible modules.

Modules conforming to these rules also need to satisfy the conformance requirements defined in XHTML Family Module Conformance[p. 18] in order to be called XHTML Family Modules.

D.1. Parameter Entity Naming

This specification classifies parameter entities into seven categories and names them consistently using the following suffixes:

- **.mod**
  - parameter entities use the suffix `.mod` when they are used to represent a DTD module (a collection of elements, attributes, parameter entities, etc). In this specification, each module is an atomic unit and may be represented as a separate file entity.

- **.module**
  - parameter entities use the suffix `.module` when they are used to control the inclusion of a DTD module by containing either of the conditional section keywords INCLUDE or IGNORE.

- **.qname**
  - parameter entities use the suffix `.qname` when they are used to represent the qualified name of an element. See Defining the Namespace of a Module[p. 52] for more information on qualified names.

- **.content**
  - parameter entities use the suffix `.content` when they are used to represent the content model of an element type.

- **.class**
  - parameter entities use the suffix `.class` when they are used to represent elements of the same class.

- **.mix**
  - parameter entities use the suffix `.mix` when they are used to represent a collection of element types from different classes.

- **.attrib**
  - parameter entities use the suffix `.attrib` when they are used to represent a group of tokens representing one or more complete attribute specifications within an ATTLIST declaration.
For example, in HTML 4, the %block; parameter entity is defined to represent the heterogeneous collection of element types that are block-level elements. In this specification, the corollary parameter entity is %Block.mix;.

When defining parameter entities in the classes defined here, modules should scope the names of the entities by using unique prefixes. For example, the content model for the element myelement in the module mymodule could be named MYMODULE.myelement.content. Other schemes are possible. Regardless of the scheme used, module authors should strive to ensure that parameter entities they define are named uniquely so that they do not collide with other parameter entities and so that the interface methods for the module are obvious to its users.

D.2. Defining the Namespace of a Module

XHTML requires that the elements and attributes declared in a module be within a defined XML namespace [XMLNAMES][p.246]. The identification of this namespace is an arbitrary URI. XHTML requires that when a module is implemented using an XML DTD, the module declares the namespace in a special manner. The purpose of this is to permit the selection, at document parse/validation time, of the use of namespace prefixes and of the prefix that is used to identify elements and attributes from the module.

Content developers who wish to develop documents based upon hybrid document types may choose to use XML namespace prefixes on elements from the XHTML namespace, on elements from other namespaces, or on both. In order to ensure that such documents are XHTML conforming and backward compatible with non-namepsace aware tools, the W3C recommends that content developers do not use XML namespace prefixes on elements from the XHTML namespace. When content developers are interested in having their content processed by namespace-aware processors, the W3C further recommends that elements in non-XHTML namespaces be specified using an XML namespace prefix rather than relying upon XML namespace defaulting mechanisms.

Each XHTML-conforming module implemented as an XML DTD is required to define a default XML namespace prefix, a method for changing this prefix within a document instance, and a marked section that turns on the processing of the prefix.

*Note that it is legal and expected for multiple modules to be part of the same namespace when they are related. All of the XHTML modules, for example, are part of the same namespace.*

D.2.1. Qualified Names sub-module

First, you need to define a qualified names sub-module (a sub-module is just a file entity that is separated so that it can be incorporated into the ultimate DTD at the appropriate point). The qualified names sub-module is built using the following steps (where the string MODULE is replaced with an appropriate string for the new module):
1. Define a parameter entity MODULE.prefixed that announces whether the elements in the module are being used with XML namespace prefixed names or not. This parameter entity's default value should be "%NS.prefixed;". The NS.prefixed parameter entity is defined by the XHTML framework to be IGNORE by default, and can be used in a document instance to switch on prefixing for all included namespaces (including that of the XHTML modules).

2. Define a parameter entity MODULE.xmlns that contains the namespace identifier for this module.

3. Define a parameter entity MODULE.prefix that contains the default prefix string to use when prefixing is enabled.

4. Define a parameter entity MODULE.pfx that is "%MODULE.prefix;;" when prefixing is enabled, and "" when it is not.

5. Define a parameter entity MODULE.xmlns.extra.attrib that contains the declaration of any XML namespace attributes for namespaces referenced by this module (e.g., xmlns:xlink). When %MODULE.prefixed is set to INCLUDE, this attribute should include the xmlns:%MODULE.pfx; declaration as well.

6. Define a parameter entity XHTML.xmlns.extra.attrib as MODULE.xmlns.extra.attrib. This is usually overridden by the document type's driver file, but if not this definition will take over as the default.

7. For each of the elements defined by the module, create a parameter entity of the form "MODULE.NAME.qname" to hold its qualified name. The value for this parameter entity must be "%MODULE.pfx;NAME". In this way, the parsed value will be "PREFIX:NAME" when prefixes are enabled, and "NAME" otherwise.

If the module adds attributes to elements defined in modules that do not share the namespace of this module, declare those attributes so that they use the %MODULE.pfx prefix. For example:

```
<ENTITY % MODULE.img.myattr.qname "%MODULE.pfx;myattr" >
```

An example of a qname sub-module for a hypothetical Inventory Module is included below:

```xml
<!-- .................................................. -->
<!-- Inventory Qname Module ................................................... -->
<!-- file: inventory-qname-1.mod
PUBLIC "--//MY COMPANY//ELEMENTS XHTML Inventory Qnames 1.0//EN"
SYSTEM "http://www.example.com/DTDs/inventory-qname-1.mod"
xmlns:inventory="http://www.example.com/xmlns/inventory"
.................................................. -->

<!-- Declare the default value for prefixing of this module’s elements -->
<!-- Note that the NS.prefixed will get overridden by the XHTML Framework or by a document instance. -->
<!ENTITY % NS.prefixed "IGNORE" >
<!ENTITY % Inventory.prefixed "%NS.prefixed;" >

<!-- Declare the actual namespace of this module -->
<!--ENTITY % Inventory.xmlns "http://www.example.com/xmlns/inventory" >

<!-- Declare the default prefix for this module -->
```
D.2.2. Declaration sub-module(s)

Next, you need to define one or more "declaration sub-modules". The purpose of these file entities is to declare the XML DTD elements and attribute lists. An XHTML declaration module should be constructed using the following process:

1. Define a parameter entity to use within the ATTLIST of each declared element. This parameter entity should contain %NS.decl.attrib; when %MODULE.prefixed; is set to INCLUDE, and %NS.decl.attrib; plus "xmlns %URI.datatype; #FIXED '%MODULE.xmlns;'" when %MODULE.prefixed; is set to IGNORE.

2. Declare all of the elements and attributes for the module. Within each ATTLIST for an element, include the parameter entity defined above so that all of the required xmlns attributes are available on each element in the module.

3. If the module adds attributes to elements defined in modules that do not share the namespace of this module, declare those attributes so that they use the %MODULE.pfx prefix. For example:

```xml
<ENTITY % MODULE.img.myattr.qname "%MODULE.pfx;myattr" >
<!ATTLIST %img.qname;
  %MODULE.img.myattr.qname;    CDATA          #IMPLIED
>
```
This would add an attribute to the img element of the Image Module, but the attribute’s name will be the qualified name, including prefix, when prefixes are selected for a document instance. It also adds the xmlns:MODULE_PREFIX attribute to the img element’s attribute list so that an XML Namespace-aware parser would know how to resolve the namespace based upon its prefix.

The following example shows a declaration sub-module for a hypothetical Inventory module.

```xml
<!-- Inventory Elements Module ................................................... -->
<!-- file: inventory-1.mod
PUBLIC "-//MY COMPANY//ELEMENTS XHTML Inventory Elements 1.0//EN"
SYSTEM "http://www.example.com/DTDs/inventory-1.mod"
xmlns:inventory="http://www.example.com/xmlns/inventory"
...................................................................... -->

<!-- Inventory Module
shelf
item
sku
desc
price

This module defines a simple inventory item structure -->

<!ENTITY % Inventory.prefixed;
<![<!ENTITY % Inventory.xmlns.attrib
"%NS.decl.attrib;"
>]]>
<!ENTITY % Inventory.xmlns.attrib
"xmlns %URI.datatype;  #FIXED '%Inventory.xmlns;''
>
<!ENTITY % Inventory.Common.attrib
"%Inventory.xmlns.attrib;
    id               ID                   #IMPLIED"
>
<!ELEMENT %Inventory.shelf.qname;
    ( %Inventory.item.qname; )* >
<!ATTLIST %Inventory.shelf.qname;
    location   CDATA   #IMPLIED
    %Inventory.Common.attrib;
>
<!ELEMENT %Inventory.item.qname;
    ( %Inventory.desc.qname;, %Inventory.sku.qname;, %Inventory.price.qname;) >
<!ATTLIST %Inventory.item.qname;
    location   CDATA   #IMPLIED
    %Inventory.Common.attrib;
```
D.2.3. Using the module as a stand-alone DTD

It is sometimes desirable to have an XHTML module also usable as a stand alone DTD. A good example of this is our Inventory module above. These items need to be embeddable in an XHTML document, and also need to be available as free-standing documents extracted from a database (for example). The easiest way to accomplish this is to define a DTD file that instantiates the components of your module. Such a DTD would have this structure:

1. Include the XHTML Datatypes Module (your qnames module likely uses some of these datatypes - it certainly uses the URI datatype for the xmlns attribute).
2. Include the Qnames Module for your module.
3. Define the parameter entity NS.decl.attrib to be %MODULE.xmlns.extra.attrib;
4. Include the Declaration Module(s) for your module.

An example of this for our Inventory module is included below:

```xml
<!DOCTYPE %Inventory.desc.qname; ( #PCDATA ) >
<!ATTLIST %Inventory.desc.qname;
   %Inventory.Common.attrib;
>
<!ELEMENT %Inventory.sku.qname; ( #PCDATA ) >
<!ATTLIST %Inventory.sku.qname;
   %Inventory.Common.attrib;
>
<!ELEMENT %Inventory.price.qname; ( #PCDATA ) >
<!ATTLIST %Inventory.price.qname;
   %Inventory.Common.attrib;
>
<!-- end of inventory-1.mod -->
```

```
D.2.3. Using the module as a stand-alone DTD

It is sometimes desirable to have an XHTML module also usable as a stand alone DTD. A good example of this is our Inventory module above. These items need to be embeddable in an XHTML document, and also need to be available as free-standing documents extracted from a database (for example). The easiest way to accomplish this is to define a DTD file that instantiates the components of your module. Such a DTD would have this structure:

1. Include the XHTML Datatypes Module (your qnames module likely uses some of these datatypes - it certainly uses the URI datatype for the xmlns attribute).
2. Include the Qnames Module for your module.
3. Define the parameter entity NS.decl.attrib to be %MODULE.xmlns.extra.attrib;
4. Include the Declaration Module(s) for your module.

An example of this for our Inventory module is included below:

```xml
<!DOCTYPE %Inventory.desc.qname; ( #PCDATA ) >
<!ATTLIST %Inventory.desc.qname;
   %Inventory.Common.attrib;
>
<!ELEMENT %Inventory.sku.qname; ( #PCDATA ) >
<!ATTLIST %Inventory.sku.qname;
   %Inventory.Common.attrib;
>
<!ELEMENT %Inventory.price.qname; ( #PCDATA ) >
<!ATTLIST %Inventory.price.qname;
   %Inventory.Common.attrib;
>
<!-- end of inventory-1.mod -->
```
This DTD can then be referenced by documents that use only the elements from your module:

```xml
<!DOCTYPE shelf SYSTEM "inventory-1.dtd">
<shelf xmlns="http://www.example.com/xmlns/inventory">
  <item>
    <desc>
      this is a description.
    </desc>
    <sku>
      this is the price.
    </sku>
    <price>
      this is the price.
    </price>
  </item>
</shelf>
```

This method permits the definition of elements and attributes that are scoped within their own namespace. It also permits content developers to use the default prefix for the elements and attributes:

```xml
<!DOCTYPE inventory:shelf SYSTEM "inventory-1.dtd" [ 
      <!ENTITY % Inventory.prefixed "INCLUDE"> ]>
<inventory:shelf xmlns:inventory="http://www.example.com/xmlns/inventory">
  <inventory:item>
    <inventory:desc>
      this is a description.
    </inventory:desc>
    <inventory:sku>
      this is the sku.
    </inventory:sku>
    <inventory:price>
      this is the price.
    </inventory:price>
  </inventory:item>
</inventory:shelf>
```
Finally, a document instance can use a different XML namespace prefix by redeclaring it in the DOCTYPE header and its internal subset:

```
<!DOCTYPE i:shelf SYSTEM "inventory-1.dtd" [
  <!ENTITY % Inventory.prefixed "INCLUDE">
  <!ENTITY % Inventory.prefix "i">
]>
<i:shelf xmlns:i="http://www.example.com/xmlns/inventory">
  <i:item>
    <i:desc>
      this is a description.
    </i:desc>
    <i:sku>
      this is the price.
    </i:sku>
    <i:price>
      this is the price.
    </i:price>
  </i:item>
</i:shelf>
```

### D.2.4. Namespace Idiosyncrasies

While the approach defined here permits the definition of markup languages that are XML and XML namespaces conforming, some behaviors defined by the XML namespaces specification are not supported:

1. XML namespaces permit the redeclaration of the xmlns attribute for a namespace at any point in the tree. It further permits this redeclaration to switch between namespace defaulting and prefixed usage, and permits the changing of the prefix. The method defined in this document does not permit this. Throughout a document instance a given namespace must continue to use the same namespace prefix (when prefixing is used), or must continue to be used in the default scope.

2. When using XML namespace defaulting, it is legal to rely upon the DTD of the document to inform parsers of the namespace of elements. However, since namespace aware processors are not required to include the DTD when evaluating a document, content developers should declare the XML namespace of an element whenever the namespace changes:

```
... 
<p>
  <myelement xmlns="..." />
</p>
```
E. Developing DTDs with defined and extended modules

This section is informative.

The primary purpose of defining XHTML modules and a general modularization methodology is to ease the development of document types that are based upon XHTML. These document types may extend XHTML by integrating additional capabilities (e.g., SMIL, p. 246), or they may define a subset of XHTML for use in a specialized device. This section describes the techniques that document type designers must use in order to take advantage of the XML DTD implementation of this modularization architecture. It does this by applying the XHTML Modularization techniques in progressively more complex ways, culminating in the creation of a complete document type from disparate modules.

Note that in no case do these examples require the modification of the XHTML-provided module file entities themselves. The XHTML module file entities are completely parameterized, so that it is possible through separate module definitions and driver files to customize the definition and the content model of each element and each element’s hierarchy.

Finally, remember that most users of XHTML are not expected to be DTD authors. DTD authors are generally people who are defining specialized markup that will improve the readability, simplify the rendering of a document, or ease machine-processing of documents, or they are client designers that need to define the specialized DTD for their specific client. Consider these cases:

- An organization is providing subscriber’s information via a Web interface. The organization stores its subscriber information in an XML-based database. One way to report that information out from the database to the Web is to embed the XML records from the database directly in the XHTML document. While it is possible to merely embed the records, the organization could define a DTD module that describes the records, attach that module to an XHTML DTD, and thereby create a complete DTD for the pages. The organization can then access the data within the new elements via the Document Object Model (DOM), validate the documents, provide style definitions for the elements that cascade using Cascading Style Sheets (CSS2), etc. By taking the time to define the structure of their data and create a DTD using the processes defined in this section, the organization can realize the full benefits of XML.

- An Internet client developer is designing a specialized device. That device will only support a subset of XHTML, and the devices will always access the Internet via a proxy server that validates content before passing it on to the client (to minimize error handling on the client). In order to ensure that the content is valid, the developer creates a DTD that is a subset of XHTML using the processes defined in this section. They then use the new DTD in their proxy server and in their devices, and also make the DTD available to content developers so that developers can validate their content before making it available. By performing a few simple steps, the client developer can use the architecture defined in this document to greatly ease their DTD development cost and ensure that they are fully supporting the
subset of XHTML that they choose to include.

E.1. Defining additional attributes

In some cases, an extension to XHTML can be as simple as additional attributes. Attributes can be added to an element just by specifying an additional ATTLIST for the element, for example:

```xml
<!ATTLIST %a.qname;
  %MyModule.pfx;myattr CDATA    #IMPLIED
  %MyModule.xmlns.extras.attrib;
>
```

would add the "myattr" attribute, with an optional prefix defined by "%MyModule.pfx", with a value type of CDATA, to the "a" element. This works because XML permits the definition or extension of the attribute list for an element at any point in a DTD. *For a discussion of qualified names and namespace prefixes, see [Defining the Namespace of a Module](p.52).*

Naturally, adding an attribute to a DTD does not mean that any new behavior is defined for arbitrary clients. However, a content developer could use an extra attribute to store information that is accessed by associated scripts via the Document Object Model (for example).

E.2. Defining additional elements

Defining additional elements is only slightly more complicated than defining additional attributes. Basically, DTD authors should write the element declaration for each element:

```xml
<!-- In the qname sub-module -->
<!ENTITY % MyModule.myelement.qname  "%MyModule.pfx;myelement" >
<!ENTITY % MyModule.myotherelement.qname  "%MyModule.pfx;myotherelement" >

<!-- In the declaration sub-module -->
<!ELEMENT %MyModule.myelement.qname; ( #PCDATA | %MyModule.myotherelement.qname; )* >
<!ATTLIST %MyModule.myelement.qname;
  myattribute    CDATA    #IMPLIED
>
<!ELEMENT %MyModule.myotherelement.qname; EMPTY >
```

After the elements are defined, they need to be integrated into the content model. Strategies for integrating new elements or sets of elements into the content model are addressed in the next section.

E.3. Defining the content model for a collection of modules

Since the content model of XHTML modules is fully parameterized, DTD authors may modify the content model for every element in every module. The details of the DTD module interface are defined in [Building DTD Modules](p.131). Basically there are two ways to approach this modification:
1. Re-define the ".content" parameter entity for each element.
2. Re-define one or more of the global content model entities (normally via the ".extras" parameter entity).

The strategy taken will depend upon the nature of the modules being combined and the nature of the elements being integrated. The remainder of this section describes techniques for integrating two different classes of modules.

E.3.1. Integrating a stand-alone module into XHTML

When a module (and remember, a module can be a collection of other modules) contains elements that only reference each other in their content model, it is said to be "internally complete". As such, the module can be used on its own; (for example, you could define a DTD that was just that module, and use one of its elements as the root element). Integrating such a module into XHTML is a three step process:

1. Decide what element(s) can be thought of as the root(s) of the new module.
2. Decide where these elements need to attach in the XHTML content tree.
3. Then, for each attachment point in the content tree, add the root element(s) to the content definition for the XHTML elements.

Consider attaching the elements defined above. In that example, the element myelement is the root. To attach this element under the img element, and only the img element, of XHTML, the following would work:

```xml
<!ENTITY % img.content "( %MyModule.myelement.qname; )*">
```

A DTD defined with this content model would allow a document like the following fragment:

```xml
<img src="...">
<myml:myelement>This is content of a locally defined element</myml:myelement>
</img>
```

It is important to note that normally the img element has a content model of EMPTY. By adding myelement to that content model, we are really just replacing EMPTY with myelement. In the case of other elements that already have content models defined, the addition of an element would require the restating of the existing content model in addition to myelement.

E.3.2. Mixing a new module throughout the modules in XHTML

Extending the example above, to attach this module everywhere that the %Flow.mix content model group is permitted, would require something like the following:

```xml
<!ENTITY % Misc.extra "| %MyModule.myelement.qname; " >
```
Since the %Misc.extra content model class is used in the %Misc.class parameter entity, and that parameter entity is used throughout the XHTML modules, the new module would become available throughout an extended XHTML document type.

E.4. Creating a new DTD

So far the examples in this section have described the methods of extending XHTML and XHTML’s content model. Once this is done, the next step is to collect the modules that comprise the DTD into a single DTD driver, incorporating the new definitions so that they override and augment the basic XHTML definitions as appropriate.

E.4.1. Creating a simple DTD

Using the trivial example above, it is possible to define a new DTD that uses and extends the XHTML modules pretty easily. First, define the new elements and their content model in a module:

```xml
<!-- File: simpleml-model-1.mod -->
<!-- Declare a Parameter Entity (PE) that defines any external namespaces that are used by this module -->
<!-- Set the PE that is used in every ATTLIST in this module
NS.prefixed.attrib is initialized in the xhtml-qname module, and
SimpleML.ns.noprefix.attrib is initialized in the SimpleML DTD driver file.-->
<!ENTITY % SimpleML.xmlns.attrib "%NS.decl.attrib;" >
<!ENTITY % SimpleML.Common.attrib "%SimpleML.xmlns.attrib;
id           ID           #IMPLIED" >
<!ENTITY % SimpleML.element.qname "%SimpleML.pfx;element" >
<!ENTITY % SimpleML.otherelement.qname "%SimpleML.pfx;otherelement" >

<!ELEMENT %SimpleML.element.qname; ( #PCDATA | %SimpleML.otherelement.qname; )* >
<!ATTLIST %SimpleML.element.qname; myattribute  CDATA  #IMPLIED
%SimpleML.Common.attrib; >
<!ELEMENT %SimpleML.otherelement.qname; EMPTY >
<!ATTLIST %SimpleML.otherelement.qname; %SimpleML.Common.attrib; >

<!ENTITY % SimpleML.img.myattr.qname "%SimpleML.pfx;myattr" >
<!ATTLIST %img.qname; %SimpleML.img.myattr.qname; CDATA  #IMPLIED >
```

- 142 -
Next, define the DTD driver for the new language:

<!-- file: simpleml-1_0.dtd -->

<!-- Bring in the XHTML datatypes -->
<!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;

<!-- Declare the actual namespace of this module -->
<!ENTITY % SimpleML.xmlns "http://www.example.com/xmlns/simpleml1" >

<!-- By default, disable prefixing of new module -->
<!ENTITY % NS.prefixed "IGNORE" >
<!ENTITY % SimpleML.prefixed "%NS.prefixed;" >

<!-- Default prefix for module elements and attributes -->
<!ENTITY % SimpleML.prefix "simpleml" >

<!-- If this module’s namespace is prefixed -->
<![%SimpleML.prefixed;[
  <!ENTITY % SimpleML.pfx "%SimpleML.prefix;:" >
]]>
<!ENTITY % SimpleML.pfx "" >
<![%SimpleML.prefixed;[
  <!ENTITY % SimpleML.xmlns.extra.attrib
"xmlns:%SimpleML.prefix; %URI.datatype; #FIXED '%SimpleML.xmlns;'' >
]]>
<!ENTITY % SimpleML.xmlns.extra.attrib "" >

<!ENTITY % XHTML.xmlns.extra.attrib
"%SimpleML.xmlns.extra.attrib;" >

<!-- Set the content model for our language -->
<!ENTITY % xhtml-model.mod
SYSTEM "simpleml-model-1.mod" >

<!-- Instantiate xhtml basic’s DTD to do all the work -->
<!ENTITY % xhtml-basic.dtd
PUBLIC "-//W3C//DTD XHTML Basic 1.0//EN"
"http://www.w3.org/TR/xhtml-basic/xhtml-basic10.dtd" >
%xhtml-basic.dtd;
When using this DTD, it is possible to enable the use of XML namespace prefixes. When so doing, the start of a document using this new DTD might look like:

```xml
<!DOCTYPE html SYSTEM "simpleml-1_0.dtd" [
  <!ENTITY % SimpleML.prefixed "INCLUDE">
]>
<html xmlns="http://www.w3.org/1999/xhtml"
     xmlns:simpleml="http://www.example.com/xmlns/simpleml1" >
<head>
<title>An example using defaults</title>
</head>
<body>
<p>This is content in the XHTML namespace</p>
<simpleml:element>
  This is content in the SimpleML namespace.
  <simpleml:otherelement />
</simpleml:element>
<p><img src="missing" alt="Missing image" simpleml:myattr="value"/></p>
</body>
</html>
```

E.4.2. Creating a DTD by extending XHTML

Next, there is the situation where a complete, additional, and complex module is added to XHTML (or to a subset of XHTML). In essence, this is the same as in the trivial example above, the only difference being that the module being added is incorporated in the DTD by reference rather than explicitly including the new definitions in the DTD.

One such complex module is the DTD for [MATHML] [p.246]. In order to combine MathML and XHTML into a single DTD, an author would just decide where MathML content should be legal in the document, and add the MathML root element to the content model at that point. First, define a content model module that instantiates the MathML DTD and connects it to the content model:

```
<!-- File: mathml-model.mod -->
<!ENTITY % XHTML1-math
  PUBLIC "-//W3C//DTD MathML 2.0//EN"
  "http://www.w3.org/TR/MathML2/dtd/mathml2.dtd" >
%XHTML1-math;
<!ENTITY % Inlspecial.extra
  "%a.qname; | %img.qname; | %object.qname; | %map.qname;
  | %Mathml.Math.qname;" >
```

Next, define a DTD driver that identifies our new content model module as the content model for the DTD, and hands off processing to the XHTML 1.1 driver (for example):

```
<!-- File: xhtml-mathml.dtd -->
<!ENTITY % xhtml-model.mod
  SYSTEM "mathml-model.mod" >
<!ENTITY % xhtml11.dtd
  PUBLIC "-//W3C//DTD XHTML 1.1//EN"
  "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd" >
%xhtml11.dtd;
```
E.4.3. Creating a DTD by removing and replacing XHTML modules

Another way in which DTD authors may use XHTML modules is to define a DTD that is a subset of an XHTML family document type (because, for example, they are building devices or software that only supports a subset of XHTML). Doing this is only slightly more complex than the previous example. The basic steps to follow are:

1. Take an XHTML family DTD as the basis of the new document type (we will use XHTML 1.1).
2. Select the modules to remove from that DTD.
3. Define a new DTD that "IGNOREs" the modules.
4. Introduce some new modules.

For example, consider a device that uses XHTML modules, but without forms or tables. The DTD for such a device would look like this:

```xml
<!-- File: xhtml-simple.dtd -->
<!ENTITY % xhtml-form.module "IGNORE" >
<!ENTITY % xhtml-table.module "IGNORE" >
<!ENTITY % xhtml-table.module "IGNORE" >
<!-- Bring in the basic tables module -->
<!ENTITY % xhtml-basic-table.mod
  PUBLIC "--W3C//ELEMENTS XHTML Basic Tables 1.0//EN"
  "http://www.w3.org/MarkUp/DTD/xhtml-basic-table-1.mod"
>
%xhtml-basic-table.mod;
<!ENTITY % xhtml11.mod
  PUBLIC "--W3C//DTD XHTML 1.1//EN"
  "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd" >
%xhtml11.mod;
```

Note that this does not actually modify the content model for the XHTML 1.1 DTD. However, since XML ignores elements in content models that are not defined, the form and table elements are dropped from the model automatically.

E.4.4. Creating a new DTD

Finally, some DTD authors may wish to start from scratch, using the XHTML Modularization framework as a toolkit for building a new markup language. This language must be made up of the minimal, required modules from XHTML. It may also contain other XHTML-defined modules or any other module that the author wishes to employ. In this example, we will take the XHTML required modules, add some XHTML-defined modules, and also add in the module we defined above.

The first step is to use the XHTML-provided template for a new qualified names module, modified to define the qualified names and namespace for our new elements.
<!-- file: myml-qname-1.mod -->

<!-- Bring in the datatypes - we use the URI.datatype PE for declaring the xmlns attributes. -->
<!ENTITY % MyML-datatypes.mod
PUBLIC "//W3C/ENTITIES XHTML Datatypes 1.0//EN"
"http://www.w3.org/MarkUp/DTD/xhtml-datatypes-1.mod" >
%MyML-datatypes.mod;

<!-- By default, disable prefixing of this module -->
<!ENTITY % NS.prefixed "IGNORE" >
<!ENTITY % MyML.prefixed "%NS.prefixed;" >

<!-- Declare the actual namespace of this module -->
<!ENTITY % MyML.xmlns "http://www.example.com/xmlns/myml" >

<!-- Declare the default prefix for this module -->
<!ENTITY % MyML.prefix "myml" >

<!-- If this module’s namespace is prefixed -->
<![%MyML.prefixed;[
  <!ENTITY % MyML.pfx "%MyML.prefix;:" >
]>
<!ENTITY % MyML.pfx "" >

<!-- This entity is ALWAYS prefixed, for use when adding our attributes to an element in another namespace -->
<!ENTITY % MyML.xmlns.attrib.prefixed
  "xmlns:%MyML.prefix; %URI.datatype; #FIXED '%MyML.xmlns;'' >

<!-- Declare a Parameter Entity (PE) that defines any external namespaces that are used by this module -->
<!ENTITY % MyML.xmlns.extra.attrib "" >

<!-- Declare a PE that defines the xmlns attributes for use by MyML. -->
<![%MyML.prefixed;[
  <!ENTITY % MyML.xmlns.attrib
    "%MyML.xmlns.attrib.prefixed;
    %MyML.xmlns.extra.attrib;" >
  ]>

<!-- Make sure that the MyML namespace attributes are included on the XHTML attribute set -->
<!ENTITY % XHTML.xmlns.extra.attrib
  "%MyML.xmlns.attrib;" ]>

<!-- if we are not prefixed, then our elements should have the default namespace AND the prefixed namespace is added to the XHTML set because our attributes can be referenced on those elements -->
<!ENTITY % MyML.xmlns.attrib
  "xmlns %URI.datatype; #FIXED '%MyML.xmlns;'
  %MyML.xmlns.extra.attrib;" >
<!ENTITY % XHTML.xmlns.extra.attrib
  "%MyML.xmlns.attrib.prefixed;" >
<!-- Now declare the element names -->

<!ENTITY % MyML.myelement.qname "%MyML.pfx;myelement" >
<!ENTITY % MyML.myotherelement.qname "%MyML.pfx;myotherelement" >

Next, define a module that defines the elements and attributes using the XHTML provided template.

<!-- ................................................................. -->
<!-- My Elements Module .............................................. -->
<!-- file: myml-elements-1_0.mod -->
PUBLIC "-//MY COMPANY//ELEMENTS XHTML MyML Elements 1.0//EN"
SYSTEM "http://example.com/DTDs/myml-elements-1_0.mod"
xmlns:myml="http://example.com/DTDs/myml-1_0.dtd"
...................................................................... -->

<!-- My Elements Module -->

myelement
myotherelement

This module has no purpose other than to provide structure for some
PCDATA content.
-->

<!ELEMENT %MyML.myelement.qname; ( #PCDATA | %MyML.myotherelement.qname; )* >
<!ATTLIST %MyML.myelement.qname;
myattribute CDATA #IMPLIED
%MyML.xmlns.attrib;
%XHTML.global.common.attrib;
>

<!ELEMENT %MyML.myotherelement.qname; EMPTY >
<!ATTLIST %MyML.myotherelement.qname;
%MyML.xmlns.attrib;
%XHTML.global.common.attrib;
>

<!ENTITY % MyML.img.myattr.qname "%MyML.prefix;:myattr" >
<!ATTLIST %img.qname;
%MyML.img.myattr.qname; CDATA #IMPLIED
%MyML.xmlns.attrib.prefixed;
>

<!-- end of myml-elements-1_0.mod -->

Now, build a content model description that hooks the new elements and attributes into the other
XHTML elements. The following example is patterned after the XHTML Basic content model, but
is a complete, free-standing content model module:
<!-- MyML Model Module ................................................... -->
<!-- file: myml-model-1.mod
PUBLIC "-//MY COMPANY//ELEMENTS XHTML MyML Model 1.0//EN"
SYSTEM "http://example.com/DTDs/myml-model-1_0.mod"
xmlns:myml="http://www.example.com/xmlns/myml"
...................................................................... -->

<!-- Define the content model for Misc.extra -->
<!ENTITY % Misc.class "| %MyML.myelement.qname; ">

<!-- .................... Inline Elements ...................... -->
<!ENTITY % HeadOpts.mix "( %meta.qname; )" >
<!ENTITY % I18n.class "" >
<!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 "" >
<!ENTITY % Anchor.class "| %a.qname;" >
<!ENTITY % InlSpecial.class "| %img.qname; " >
<!ENTITY % Inline.extra "" >

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

<!-- %InlNoAnchor.class; includes all non-anchor inlines, used as a component in mixes -->
<!ENTITY % InlNoAnchor.class "%InlStruct.class;
%InlPhras.class;
%InlPres.class;
%InlSpecial.class;" >
<!-- %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 ................. -->
<!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 % BlkStruct.class "%p.qname; | %div.qname;"
>
<!ENTITY % BlkPhras.class
"
| %pre.qname; | %blockquote.qname; | %address.qname;"
>
<!ENTITY % BlkPres.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;
%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;
Finally, use the XHTML-provided template for a new DTD, modified as appropriate for our new markup language:

```xml
<!-- ----------------------------- -->
<!-- MYML DTD  ............................................................. -->
<!-- file: myml-1_0.dtd -->

<!-- This is the DTD driver for myml 1.0. -->
Please use this formal public identifier to identify it:

"-//MY COMPANY//DTD XHTML MYML 1.0//EN"

And this namespace for myml-unique elements:

xmlns:myml="http://www.example.com/xmlns/myml"

<!ENTITY % XHTML.version "-//MY COMPANY//DTD XHTML MYML 1.0//EN" >
<!ENTITY % XHTML.profile "" >
<!ENTITY % xhtml-qname-extra.mod SYSTEM "myml-qname-1.mod" >
<!ENTITY % xhtml-model.mod SYSTEM "myml-model-1.mod" >
<!ENTITY % XHTML.bidi "IGNORE" >
<!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;
<!ENTITY % XHTML.version "-//MY COMPANY//DTD XHTML MYML 1.0//EN" >
<!ENTITY % XHTML.profile "" >
<!ENTITY % xhtml-model.mod SYSTEM "myml-model-1.mod" >
<!ENTITY % XHTML.bidi "IGNORE" >
<!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;
```

- 150 -
E.5. Using the new DTD

Once a new DTD has been developed, it can be used in any document. Using the DTD is as simple as just referencing it in the DOCTYPE declaration of a document:

```xml
<!DOCTYPE html SYSTEM "myml-1_0.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"
     xmlns:myml="http://www.example.com/xmlns/myml" >
  <head>
    <title>An example using defaults</title>
  </head>
  <body>
    <p>This is content in the XHTML namespace</p>
    <myelement xhtml:id="myid" xhtml:class="localElement">
      This is content in the SimpleML namespace.
    </myelement>
  </body>
</html>
```
The document can also use the elements outside of the XHTML namespace by prefixing them:

```xml
<!DOCTYPE html SYSTEM "myml-1_0.dtd" [ 
  <!ENTITY % MyML.prefixed "INCLUDE" > ]>
<html xmlns="http://www.w3.org/1999/xhtml"
     xmlns:myml="http://www.example.com/xmns/myml" >
<head>
<title>An example using defaults</title>
</head>
<body>
<p>This is content in the XHTML namespace</p>
<myml:myelement xhtml:id="myid" xhtml:class="localElement">
  This is content in the myml namespace.
</myml:myelement>
<p><img src="missing" alt="Missing image" myml:myattr="value" /></p>
</body>
</html>
```
F. XHTML DTD Module Implementations

This appendix is normative.

This appendix will contain implementations of the modules defined in [XHTML Abstract Modules] [p.29] via XML DTDs. These module implementations can be used by XHTML Family Document Types.

F.1. XHTML Character Entities

XHTML DTDs make available a standard collection of named character entities. Those entities are defined in this section.

F.1.1. XHTML Latin 1 Character Entities

<!--  XML-compatible ISO Latin 1 Character Entity Set for XHTML --------
<!--  file: xhtml-lat1.ent
Typical invocation:
<!ENTITY % xhtml-lat1
PUBLIC "-//W3C//ENTITIES Latin 1 for XHTML//EN"
"xhtml-lat1.ent" >
%xhtml-lat1;
This DTD module is identified by the PUBLIC and SYSTEM identifiers:
PUBLIC "-//W3C//ENTITIES Latin 1 for XHTML//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-lat1.ent"
Revision: $Id: xhtml-lat1.ent,v 4.1 2001/04/10 09:34:14 altheim Exp $ SMI
Portions (C) International Organization for Standardization 1986:
Permission to copy in any form is granted for use with conforming
SGML systems and applications as defined in ISO 8879, provided
this notice is included in all copies.
-->

<!-- ................................................................. -->
<!-- XML-compatible ISO Latin 1 Character Entity Set for XHTML ............ -->
<!-- file: xhtml-lat1.ent
Typical invocation:
<!ENTITY % xhtml-lat1
PUBLIC "-//W3C//ENTITIES Latin 1 for XHTML//EN"
"xhtml-lat1.ent" >
%xhtml-lat1;
This DTD module is identified by the PUBLIC and SYSTEM identifiers:
PUBLIC "-//W3C//ENTITIES Latin 1 for XHTML//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-lat1.ent"
Revision: $Id: xhtml-lat1.ent,v 4.1 2001/04/10 09:34:14 altheim Exp $ SMI
Portions (C) International Organization for Standardization 1986:
Permission to copy in any form is granted for use with conforming
SGML systems and applications as defined in ISO 8879, provided
this notice is included in all copies.
-->

<!ENTITY nbsp   "&#160;" ><!-- no-break space = non-breaking space, U+00A0 ISOnum -->
<!ENTITY iexcl  "&#161;" ><!-- inverted exclamation mark, U+00A1 ISOnum -->
<!ENTITY cent   "&#162;" ><!-- cent sign, U+00A2 ISOnum -->
<!ENTITY pound  "&#163;" ><!-- pound sign, U+00A3 ISOnum -->
<!ENTITY curren "&#164;" ><!-- currency sign, U+00A4 ISOnum -->
<!ENTITY yen    "&#165;" ><!-- yen sign = yuan sign, U+00A5 ISOnum -->
<!ENTITY brvbar "&#166;" ><!-- broken bar = broken vertical bar, U+00A6 ISOnum -->
<!ENTITY sect   "&#167;" ><!-- section sign, U+00A7 ISOnum -->
<!ENTITY uml    "&#168;" ><!-- diaeresis = spacing diaeresis, U+00A8 ISOdia -->
<!ENTITY copy   "&#169;" ><!-- copyright sign, U+00A9 ISOnum -->
<!ENTITY ordf   "&#170;" ><!-- feminine ordinal indicator, U+00AA ISOnum -->
<!ENTITY laquo  "&#171;" ><!-- left-pointing double angle quotation mark = left pointing guillemet, U+00AB ISOnum -->
<!ENTITY not    "&#172;" ><!-- not sign, U+00AC ISOnum -->
<!ENTITY shy    "&#173;" ><!-- soft hyphen = discretionary hyphen, U+00AD ISOnum -->
<!ENTITY reg    "&#174;" ><!-- registered sign = registered trade mark sign, U+00AE ISOnum -->
<!ENTITY macr   "&#175;" ><!-- macron = spacing macron = overline = APL overbar, U+00AF ISOdia -->
<!ENTITY deg    "&#176;" ><!-- degree sign, U+00B0 ISOnum -->
<!ENTITY plusmn "&#177;" ><!-- plus-minus sign = plus-or-minus sign, U+00B1 ISOnum -->
<!ENTITY sup2   "&#178;" ><!-- superscript two = superscript digit two = squared, U+00B2 ISOnum -->
<!ENTITY sup3   "&#179;" ><!-- superscript three = superscript digit three = cubed, U+00B3 ISOnum -->
<!ENTITY acute  "&#180;" ><!-- acute accent = spacing acute, U+00B4 ISOdia -->
<!ENTITY micro  "&#181;" ><!-- micro sign, U+00B5 ISOnum -->
<!ENTITY para   "&#182;" ><!-- pilcrow sign = paragraph sign, U+00B6 ISOnum -->
<!ENTITY middot "&#183;" ><!-- middle dot = Georgian comma = Greek middle dot, U+00B7 ISOnum -->
<!ENTITY cedil  "&#184;" ><!-- cedilla = spacing cedilla, U+00B8 ISOdia -->
<!ENTITY sup1   "&#185;" ><!-- superscript one = superscript digit one, U+00B9 ISOnum -->
<!ENTITY ordm   "&#186;" ><!-- masculine ordinal indicator, U+00BA ISOnum -->
<!ENTITYraquo "&#187;" ><!-- right-pointing double angle quotation mark = right pointing guillemet, U+00BB ISOnum -->
<!ENTITY frac12 "&#188;" ><!-- vulgar fraction one quarter = fraction one quarter, U+00BC ISOnum -->
<!ENTITY frac14 "&#189;" ><!-- vulgar fraction one half = fraction one half, U+00BD ISOnum -->

- 153 -
This DTD module is identified by the PUBLIC and SYSTEM identifiers:

PUBLIC "-//W3C//ENTITIES Special for XHTML//EN"
"xhtml-special.ent" >
\xhtml-special;
F.1.3. XHTML Mathematical, Greek, and Symbolic Characters

Typical invocation:

```xml
<!ENTITY % xhtml-symbol
PUBLIC "//W3C//ENTITIES Symbols for XHTML//EN"
"xhtml-symbol.ent" >

%xhtml-symbol;
```

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

```xml
PUBLIC "//W3C//ENTITIES Symbols for XHTML//EN"
SYSTEM "http://www.w3.org/TR/MarkUp/DTD/xhtml-symbol.ent"
```

Revision: $Id: xhtml-symbol.ent,v 4.1 2001/04/10 09:34:14 altheim Exp $ SMI

Portions (C) International Organization for Standardization 1986:
Permission to copy in any form is granted for use with conforming
SGML systems and applications as defined in ISO 8879, provided
this notice is included in all copies.

Relevant ISO entity set is given unless names are newly introduced.
New names (i.e., not in ISO 8879 [SGML] list) do not clash with
any existing ISO 8879 entity names. ISO 10646 [ISO10646] character
numbers are given for each character, in hex. Entity values are
decimal conversions of the ISO 10646 values and refer to the

Latin Extended-B

Greek

--- Greek ---

Alpha "#913;">!-- greek capital letter alpha, U+0391 -->
Beta "#914;">!-- greek capital letter beta, U+0392 -->
Gamma "#915;">!-- greek capital letter gamma, U+0393 ISOgrk3 -->
Delta "#916;">!-- greek capital letter delta, U+0394 ISOgrk3 -->
Epsilon "#917;">!-- greek capital letter epsilon, U+0395 -->
Zeta "#918;">!-- greek capital letter zeta, U+0396 -->
Eta "#919;">!-- greek capital letter eta, U+0397 -->
Theta "#920;">!-- greek capital letter theta, U+0398 ISOgrk3 -->
Iota "#921;">!-- greek capital letter iota, U+0399 -->
Kappa "#922;">!-- greek capital letter kappa, U+039A -->
Lambda "#923;">!-- greek capital letter lambda, U+039B ISOgrk3 -->
Mu "#924;">!-- greek capital letter mu, U+039C -->
Nu "#925;">!-- greek capital letter nu, U+039D -->
Xi "#926;">!-- greek capital letter xi, U+039E ISOgrk3 -->
Omicron "#927;">!-- greek capital letter omicron, U+039F -->
Pi "#928;">!-- greek capital letter pi, U+03A0 ISOgrk3 -->
Rho "#929;">!-- greek capital letter rho, U+03A1 -->
Sigma "#931;">!-- greek capital letter sigma, U+03A3 ISOgrk3 -->
```
Mathematical Operators -->
<ENTITY forall "&#8704;" <!-- for all, U+2200 ISOtech -->
<ENTITY part "&#8706;" <!-- partial differential, U+2202 ISOtech -->
<ENTITY exist "&#8707;" <!-- there exists, U+2203 ISOtech -->
<ENTITY empty "&#8709;" <!-- empty set = null set, U+2205 ISOamso -->
<ENTITY nabla "&#8711;" <!-- nabla = backward difference, U+2207 ISOtech -->
<ENTITY isin "&#8712;" <!-- element of, U+2208 ISOtech -->
<ENTITY notin "&#8713;" <!-- not an element of, U+2209 ISOtech -->
<ENTITY ni "&#8715;" <!-- contains as member, U+220B ISOtech -->
 should there be a more memorable name than ‘ni’? -->
<ENTITY prod "&#8719;" <!-- n-ary product = product sign, U+220F ISOamsb -->
<ENTITY sum "&#8721;" <!-- n-ary summation, U+2211 ISOtech -->
 sum is NOT the same character as U+03A3 'greek capital letter pi' though
 the same glyph might be used for both -->
<ENTITY minus "&#8722;" <!-- minus sign, U+2212 ISOtech -->
<ENTITY lowast "&#8727;" <!-- asterisk operator, U+2217 ISOtech -->
<ENTITY radic "&#8730;" <!-- square root = radical sign, U+221A ISOtech -->
<ENTITY prop "&#8733;" <!-- proportional to, U+221D ISOtech -->
<ENTITY infinity "&#8734;" <!-- infinity, U+221E ISOtech -->
<ENTITY ang "&#8736;" <!-- angle, U+2220 ISOamso -->
<ENTITY and "&#8743;" <!-- logical and = wedge, U+2227 ISOtech -->
<ENTITY or "&#8744;" <!-- logical or = vee, U+2228 ISOtech -->
<ENTITY cap "&#8745;" <!-- intersection = cap, U+2229 ISOtech -->
<ENTITY cup "&#8746;" <!-- union = cup, U+222A ISOtech -->
<ENTITY int "&#8747;" <!-- integral, U+222B ISOtech -->
<ENTITY therefore "&#8756;" <!-- therefore, U+2234 ISOtech -->
<ENTITY cong "&#8773;" <!-- approximately equal to, U+2245 ISOtech -->
<ENTITY asymp "&#8776;" <!-- almost equal to = asymptotic to, U+2248 ISOamsr -->
<ENTITY ne "&#8800;" <!-- not equal to, U+2260 ISOtech -->
<ENTITY equiv "&#8801;" <!-- identical to, U+2261 ISOtech -->
<ENTITY less-than-equal "&#8804;" <!-- less-than or equal to, U+2264 ISOtech -->
<ENTITY ge "&#8805;" <!-- greater-than or equal to, U+2265 ISOtech -->
<ENTITY subset "&#8834;" <!-- subset of, U+2286 ISOtech -->
<ENTITY superset "&#8835;" <!-- superset of, U+2287 ISOtech -->
<ENTITY in "&#8836;" <!-- not a subset of, U+2288 ISOamssn -->
<ENTITY subset "&#8838;" <!-- subset of or equal to, U+2286 ISOtech -->
<ENTITY superset "&#8839;" <!-- superset of or equal to, U+2287 ISOtech -->
<ENTITY circledplus "&#8853;" <!-- circled plus = direct sum, U+2295 ISOamssn -->
<ENTITY times "&#8855;" <!-- circled times = vector product, U+2297 ISOamssn -->
<ENTITY up tack "&#8869;" <!-- up tack = orthogonal to = perpendicular, U+22A5 ISOtech -->
<ENTITY dot operator "&#8901;" <!-- dot operator, U+22C5 ISOamssn -->
<ENTITY left pointing angle bracket = bra, U+2329 ISOtech -->
<ENTITY right pointing angle bracket = ket, U+232A ISOtech -->
<ENTITY left pointing angle bracket = bra, U+2329 ISOtech -->
<ENTITY right pointing angle bracket = ket, U+232A ISOtech -->

F.2. XHTML Modular Framework

In order to take advantage of the XHTML DTD Modules, DTD authors need to define the content model for their DTD. XHTML provides a variety of tools to ease this effort. They are defined in a set of support modules, instantiated by a main Framework module:

```
<-- ...................................................................... -->
<-- XHTML Modular Framework Module ...................................... -->
<-- file: xhtml-framework-1.mod

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-framework-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

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

Revisions:
(non)
...................................................................... -->
<-- Modular Framework

This required module instantiates the modules needed to support the XHTML modularization model, including:

+ notations
+ datatypes
+ namespace-qualified names
+ common attributes
+ document model
+ character entities

The Intrinsic Events module is ignored by default but occurs in this module because it must be instantiated prior to Attributes but after Datatypes.

-->
Note that the module above references a content model module. This module is defined on a per-document type basis in addition to the document type driver file. The Modular framework also relies upon the following component modules:

F.2.1. XHTML Base Architecture

This is XHTML™, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-arch-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Base Architecture 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-arch-1.mod"

Revisions:
(no)

This optional module includes declarations that enable XHTML to be used as a base architecture according to the ‘Architectural Forms Definition Requirements’ (Annex A.3, ISO/IEC 10744, 2nd edition). For more information on use of architectural forms, see the HyTime web site at:

http://www.hytime.org/

<?IS10744 ArcBase xhtml ?>

<?NOTATION xhtml PUBLIC "-//W3C//NOTATION AFDR ARCBASE XHTML 1.1//EN" >

<?ENTITY xhtml-arch.dtd
   PUBLIC "-//W3C//DTD XHTML Architecture 1.1//EN"
   "xhtml11-arch.dtd" >

<?IS10744:arch xhtml
   public-id    = "-//W3C//NOTATION AFDR ARCBASE XHTML 1.1//EN"
dtd-public-id = "-//W3C//DTD XHTML 1.1//EN"
dtd-system-id = "xhtml11.dtd"
doc-elem-form = "html"
form-att      = "html"
renamer-att   = "htnames"
suppressor-att = "htsupp"
data-ignore-att = "htign"
auto          = "ArcAuto"
F.2.2. XHTML Notations

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-notations-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp$

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

PUBLIC "-//W3C//NOTATIONS XHTML Notations 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-notations-1.mod"

Revisions:
(none)

Notations

defines the following notations, many of these imported from
other specifications and standards. When an existing FPI is
known, it is incorporated here.

XML Notations ........................................
SGML and XML Notations .............................
W3C XML 1.0 Recommendation -->
NOTATION w3c-xml
PUBLIC "ISO 8879//NOTATION Extensible Markup Language (XML) 1.0//EN"

XML 1.0 CDATA -->
NOTATION cdata
PUBLIC "-//W3C//NOTATION XML 1.0: CDATA//EN"

SGML Formal Public Identifiers -->
NOTATION fpi
PUBLIC "ISO 8879:1986//NOTATION Formal Public Identifier//EN"

XHTML Notations ....................................

Length defined for cellpadding/cellspacing -->
nn for pixels or nn% for percentage length -->
NOTATION length
PUBLIC "-//W3C//NOTATION XHTML Datatype: Length//EN"
<!-- space-separated list of link types -->
<!NOTATION linkTypes
PUBLIC "//W3C//NOTATION XHTML Datatype: LinkTypes//EN" >

<!-- single or comma-separated list of media descriptors -->
<!NOTATION mediaDesc
PUBLIC "//W3C//NOTATION XHTML Datatype: MediaDesc//EN" >

<!-- pixel, percentage, or relative -->
<!NOTATION multiLength
PUBLIC "//W3C//NOTATION XHTML Datatype: MultiLength//EN" >

<!-- one or more digits (NUMBER) -->
<!NOTATION number
PUBLIC "//W3C//NOTATION XHTML Datatype: Number//EN" >

<!-- integer representing length in pixels -->
<!NOTATION pixels
PUBLIC "//W3C//NOTATION XHTML Datatype: Pixels//EN" >

<!-- script expression -->
<!NOTATION script
PUBLIC "//W3C//NOTATION XHTML Datatype: Script//EN" >

<!-- textual content -->
<!NOTATION text
PUBLIC "//W3C//NOTATION XHTML Datatype: Text//EN" >

<!-- Imported Notations ......................... -->

<!-- a single character from [ISO10646] -->
<!NOTATION character
PUBLIC "//W3C//NOTATION XHTML Datatype: Character//EN" >

<!-- a character encoding, as per [RFC2045] -->
<!NOTATION charset
PUBLIC "//W3C//NOTATION XHTML Datatype: Charset//EN" >

<!-- a space separated list of character encodings, as per [RFC2045] -->
<!NOTATION charsets
PUBLIC "//W3C//NOTATION XHTML Datatype: Charsets//EN" >

<!-- media type, as per [RFC2045] -->
<!NOTATION contentType
PUBLIC "//W3C//NOTATION XHTML Datatype: ContentType//EN" >

<!-- comma-separated list of media types, as per [RFC2045] -->
<!NOTATION contentTypes
PUBLIC "//W3C//NOTATION XHTML Datatype: ContentTypes//EN" >

<!-- date and time information. ISO date format -->
<!NOTATION datetime
PUBLIC "//W3C//NOTATION XHTML Datatype: Datetime//EN" >

<!-- a language code, as per [RFC3066] -->
<!NOTATION languageCode
PUBLIC "//W3C//NOTATION XHTML Datatype: LanguageCode//EN" >
F.2.3. XHTML Datatypes

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-datatypes-1.mod,v 4.1 2001/04/06 19:23:32 altheim Exp $ SMI

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

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

Revisions:
(none)

Datatypes

defines containers for the following datatypes, many of these imported from other specifications and standards.

Length defined for cellpadding/cellspacing

nn for pixels or nn% for percentage length

Length.datatype "CDATA" >

space-separated list of link types

LinkTypes.datatype "NMTOKENS" >

single or comma-separated list of media descriptors

MediaDesc.datatype "CDATA" >

pixel, percentage, or relative

MultiLength.datatype "CDATA" >

one or more digits (NUMBER)

Number.datatype "CDATA" >

integer representing length in pixels

Pixels.datatype "CDATA" >

script expression
F.2.4. XHTML Common Attribute Definitions

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-attribs-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ENTITIES XHTML Common Attributes 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-attribs-1.mod"
Revisions:
(none)
................................................................................. -->

<!-- Common Attributes

This module declares many of the common attributes for the XHTML DTD. %NS.decl.attrib; is declared in the XHTML QName module.

Note that this file was extended in XHTML Modularization Second Edition to include declarations of "global" versions of the attribute collections. The global versions of the attributes are for use on elements in other namespaces. The global version of "common" includes the xmlns declaration for the prefixed version of the xhtml namespace. If you are only using a specific attribute or an individual attribute collection, you must also include the XHTMLxmlns.attrib.prefixed PE on your elements.

-->

<!--ENTITY % id.attrib
    "id              ID                       #IMPLIED"
 -->

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

<!--ENTITY % class.attrib
    "class            NMTOKENS                 #IMPLIED"
 -->

<!ENTITY % XHTML.global.class.attrib
    "%XHTML.prefix;:class            NMTOKENS                 #IMPLIED"
 ]]>

<!--ENTITY % title.attrib
    "title          %Text.datatype;           #IMPLIED"
 -->

<!ENTITY % XHTML.global.title.attrib
    "%XHTML.prefix;:title          %Text.datatype;           #IMPLIED"
 ]]>

<!--ENTITY % Core.extra.attrib "" -->

<!--ENTITY % Core.attrib
    "%XHTML.xmlns.attrib;
    %id.attrib;
    %class.attrib;
    %title.attrib;
    xml:space ( preserve )             #FIXED 'preserve'
    %Core.extra.attrib;"

- 166 -
F.2.4. XHTML Common Attribute Definitions

>  

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

<![%XHTML.globalattrs.prefixd;[

<!ENTITY % XHTML.global.core.attrib
"%XHTML.global.id.attrib;
%XHTML.global.class.attrib;
%XHTML.global.title.attrib;
%XHTML.global.core.extra.attrib;"
>]]>

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

<!ENTITY % lang.attrib
"xml:lang [LanguageCode.datatype]; #IMPLIED"
>

<![%XHTML.bidi;[
<!ENTITY % dir.attrib
"dir ( ltr | rtl ) #IMPLIED"
>

<!ENTITY % I18n.attrib
"%dir.attrib;
%lang.attrib;"
>

<![%XHTML.globalattrs.prefixd;[
<!ENTITY XHTML.global.i18n.attrib
"%XHTML.prefix;:dir ( ltr | rtl ) #IMPLIED
%lang.attrib;"
>]]>

<!ENTITY XHTML.global.i18n.attrib "" >

]]>

<!ENTITY % I18n.attrib
"%lang.attrib;"
>

<!ENTITY % XHTML.global.i18n.attrib
"%lang.attrib;"
>

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

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

<!-- intrinsic event attributes declared previously -->

<!ENTITY % Events.attrib "" >

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

<!ENTITY % Common.attrib
"" >
This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.

Revision: $Id: xhtml-qname-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

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

Revisions:
#2000-10-22: added qname declarations for ruby elements

-->

-- Section A: XHTML XML Namespace Framework

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

Section B declares parameter entities used to provide namespace-qualified names for all XHTML element types:

%applet.qname; the xmlns-qualified name for <applet>
%base.qname; the xmlns-qualified name for <base>
...

XHTML extensions would create a module similar to this one. Included in the XHTML distribution is a template module (‘template-qname-1.mod’) suitable for this purpose.

-->
<!-- 1. Declare a %XHTML.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 behaviour follows the overall DTD prefixing scheme.
-->
<!ENTITY % NS.prefixed "IGNORE" >
<!ENTITY % XHTML.prefixed "%NS.prefixed;" >

<!-- By default, we always permit XHTML attribute collections to have namespace-qualified prefixes as well.
-->
<!ENTITY % XHTML.global.attrs.prefixed "INCLUDE" >

<!-- By default, we allow the XML Schema attributes on the root element.
-->
<!ENTITY % XHTML.xsi.attrs "INCLUDE" >

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

<!-- 3. Declare parameter entities (eg., %XHTML.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.prefix "xhtml" >

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

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

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

<!-- The remainder of Section A is only followed in XHTML, not extensions. -->

<!-- Declare a parameter entity %NS.decl.attrib; containing all XML Namespace declarations used in the DTD, plus the xmlns declaration for XHTML, its form dependent on whether prefixing is active. -->
<!ENTITY % XHML.xmlns.attrib.prefixed
  "xmlns:%XHTML.prefix; %URI.datatype; #FIXED '%XHML.xmlns;'
>
<![XHML.prefixed;[
<!ENTITY % NS.decl.attrib
  "%XHML.xmlns.attrib.prefixed;
  %XHML.xmlns.extra.attrib;"
>
]]>
<!ENTITY % NS.decl.attrib
  "%XHML.xmlns.extra.attrib;"
>
<!-- Declare a parameter entity %XSI.prefix as a prefix to use for XML Schema Instance attributes. -->
<!ENTITY % XSI.prefix "xsi" >
<!ENTITY % XSI.xmlns "http://www.w3.org/2001/XMLSchema-instance" >
<!-- Declare a parameter entity %XSI.xmlns.attrib as support for the schemaLocation attribute, since this is legal throughout the DTD. -->
<!ENTITY % XSI.xmlns.attrib
  "xmlns:%XSI.prefix; %URI.datatype; #FIXED '%XSI.xmlns;'
>
<!-- This is a placeholder for future XLink support. -->
<!ENTITY % XLINK.xmlns.attrib "" >
<!-- This is the attribute for the XML Schema namespace - XHTML Modularization is also expressed in XML Schema, and it needs to be legal to declare the XML Schema namespace and the schemaLocation attribute on the root element of XHTML family documents. -->
<![XHML.xsi.attrs;[
<!ENTITY % XSI.prefix "xsi" >
<!ENTITY % XSI.pfx "%XSI.prefix;:" >
<!ENTITY % XSI.xmlns "http://www.w3.org/2001/XMLSchema-instance" >
<!ENTITY % XSI.xmlns.attrib
  "xmlns:%XSI.prefix; %URI.datatype; #FIXED '%XSI.xmlns;'
>
]]>
<!ENTITY % XSI.prefix "" >
<!ENTITY % XSI.pfx "" >
<!ENTITY % XSI.xmlns.attrib "" >

<!-- Declare a parameter entity %NS.decl.attrib; containing all
XML namespace declaration attributes used by XHTML, including a default xmlns attribute when prefixing is inactive.

<!--
<![%XHTML.prefixed;[
<!ENTITY % XHTML.xmlns.attrib
"%NS.decl.attrib;
%XSI.xmlns.attrib;
%XLINK.xmlns.attrib;"
>]]>
<!ENTITY % XHTML.xmlns.attrib
"xmlns        %URI.datatype;            #FIXED '%XHTML xmlns;'
%NS.decl.attrib;
%XSI.xmlns.attrib;
%XLINK.xmlns.attrib;"
>
<!-- placeholder for qualified name redeclarations -->
<!ENTITY % xhtml-qname.redecl "" >
%xhtml-qname.redecl;

<!-- 6. This section declares parameter entities used to provide namespace-qualified names for all XHTML element types. -->

<!-- module:  xhtml-applet-1.mod -->
<!ENTITY % applet.qname "%XHTML.pfx;applet" >

<!-- module:  xhtml-base-1.mod -->
<!ENTITY % base.qname "%XHTML.pfx;base" >

<!-- module:  xhtml-bdo-1.mod -->
<!ENTITY % bdo.qname "%XHTML.pfx;bdo" >

<!-- module:  xhtml-blkphras-1.mod -->
<!ENTITY % address.qname "%XHTML.pfx;address" >
<!ENTITY % blockquote.qname "%XHTML.pfx;blockquote" >
<!ENTITY % pre.qname "%XHTML.pfx;pre" >
<!ENTITY % h1.qname "%XHTML.pfx;h1" >
<!ENTITY % h2.qname "%XHTML.pfx;h2" >
<!ENTITY % h3.qname "%XHTML.pfx;h3" >
<!ENTITY % h4.qname "%XHTML.pfx;h4" >
<!ENTITY % h5.qname "%XHTML.pfx;h5" >
<!ENTITY % h6.qname "%XHTML.pfx;h6" >

<!-- module:  xhtml-blkpres-1.mod -->
<!ENTITY % hr.qname "%XHTML.pfx;hr" >

<!-- module:  xhtml-bkstruct-1.mod -->
<!ENTITY % div.qname "%XHTML.pfx;div" >
<!ENTITY % p.qname "%XHTML.pfx;p" >

<!-- module:  xhtml-edit-1.mod -->
<!ENTITY % ins.qname "%XHTML.pfx;ins" >
<!ENTITY % del.qname "%XHTML.pfx;del" >
F.2.6. XHTML Character Entities

<!-- .......................................................... -->
<!-- XHTML Character Entities Module ........................ -->
<!-- file: xhtml-charent-1.mod -->
This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-charent-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

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

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

<!-- Character Entities for XHTML
This module declares the set of character entities for XHTML,
including the Latin 1, Symbol and Special character collections. -->

<!ENTITY % xhtml-lat1
PUBLIC "-//W3C//ENTITIES Latin 1 for XHTML//EN"
  "xhtml-lat1.ent" >
%xhtml-lat1;

<!ENTITY % xhtml-symbol
PUBLIC "-//W3C//ENTITIES Symbols for XHTML//EN"
  "xhtml-symbol.ent" >
%xhtml-symbol;

<!ENTITY % xhtml-special
PUBLIC "-//W3C//ENTITIES Special for XHTML//EN"
  "xhtml-special.ent" >
%xhtml-special;

<!-- end of xhtml-charent-1.mod -->

F.3. XHTML Module Implementations

This section contains the formal definition of each of the XHTML Abstract Modules as a DTD module.

F.3.1. XHTML Core Modules
F.3.1.1. Structure

<!-- ...................................................... -->
<!-- XHTML Structure Module .......................... -->
<!-- file: xhtml-struct-1.mod
This is XHTML, a reformulation of HTML as a modular XML application.  
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.  
Revision: $Id: xhtml-struct-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI
This DTD module is identified by the PUBLIC and SYSTEM identifiers:
  PUBLIC "-//W3C//ELEMENTS XHTML Document Structure 1.0//EN"
  SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-struct-1.mod"
Revisions:
  (none)
  ...................................................... -->

<!-- Document Structure
  title, head, body, html
The Structure Module defines the major structural elements and
their attributes.
Note that the content model of the head element type is redeclared
when the Base Module is included in the DTD.
The parameter entity containing the XML namespace URI value used
for XHTML is '%XHTML.xmlns;', defined in the Qualified Names module.
-->

<!-- title: Document Title ...........................
It should be displayed, for example as the page header or
window title. Exactly one title is required per document.
-->

<!ENTITY % title.element "INCLUDE" >
<![%title.element;[
<!ENTITY % title.content "(( #PCDATA )" >
<!ENTITY % title.qname "title" >
<!ELEMENT %title.qname; %title.content; >
<!-- end of title.element -->>]

<!ENTITY % title.attlist "INCLUDE" >
<![%title.attlist;[
<!ATTLIST %title.qname
  %XHTML.xmlns.attrib;
  %I18n.attrib;
> 
<!-- end of title.attlist -->>]

<!-- head: Document Head ............................ -->
<!ENTITY % XSI.schemaLocation.attrib "" >

<!ENTITY % html.attlist "INCLUDE" >
<!-- version attribute value defined in driver -->
<!ENTITY % XHTML.version.attrib     "version %FPI.datatype;            #FIXED '%XHTML.version;'" >
<!-- schemaLocation attribute from XML Schema -->
<!ENTITY % XSI.schemaLocation.attrib "schemaLocation %URIs.datatype;       #IMPLIED" >

<!-- see the Qualified Names module for information on how to extend XHTML using XML namespaces -->
<!ATTLIST % html.qname ;%XHTML.xmlns.attrib;%XSI.schemaLocation.attrib;%XHTML.version.attrib;%I18n.attrib;>

<!-- end of html.attlist -->

F.3.1.2. Text

<!-- ------------------------------- -->
<!-- XHTML Text Module ------------------------------- -->
<!-- file: xhtml-text-1.mod

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-text-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Text 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-text-1.mod"

Revisions:
  (none)
  -------------------------------

<!-- Textual Content

The Text module includes declarations for all core text container elements and their attributes.

-->
F.3.1.3. Hypertext

This module declares the anchor ('a') element type, which defines the source of a hypertext link. The destination (or link 'target') is identified via its 'id' attribute rather than the 'name' attribute as was used in HTML.
F.3.1.4. Lists

This module declares the list-oriented element types and their attributes.

\n\n<!ENTITY % dl.qname "dl" >
<!ENTITY % dt.qname "dt" >
<!ENTITY % dd.qname "dd" >
<!ENTITY % ol.qname "ol" >
F.3.2. Applet

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-applet-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

This DTD module is identified by the PUBLIC and SYSTEM identifiers:
This module declares the applet element type and its attributes, used to provide support for Java applets. The ‘alt’ attribute is now required (as it is on images). One of either code or object attributes must be present. In the document, place param elements before other content within the <applet> element.

Note that use of this module requires instantiation of the Param Element Module.

<!-- Java Applets -->

<applet>

This module declares the applet element type and its attributes, used to provide support for Java applets. The ‘alt’ attribute is now required (as it is on images). One of either code or object attributes must be present. In the document, place param elements before other content within the <applet> element.

Note that use of this module requires instantiation of the Param Element Module.

<!-- end of xhtml-applet-1.mod -->
F.3.3.1. Presentation

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-pres-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Presentation 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-pres-1.mod"

Revisions:
(none)

Presentational Elements

This module defines elements and their attributes for simple presentation-related markup.

<!ENTITY % xhtml-inlpres.module "INCLUDE" >
<![%xhtml-inlpres.module;[
<!ENTITY % xhtml-inlpres.mod
PUBLIC "-//W3C//ELEMENTS XHTML Inline Presentation 1.0//EN"
"xhtml-inlpres-1.mod" >
%xhtml-inlpres.mod;]]>

<!ENTITY % xhtml-blkpres.module "INCLUDE" >
<![%xhtml-blkpres.module;[
<!ENTITY % xhtml-blkpres.mod
PUBLIC "-//W3C//ELEMENTS XHTML Block Presentation 1.0//EN"
"xhtml-blkpres-1.mod" >
%xhtml-blkpres.mod;]]>

F.3.3.2. Edit

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-edit-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Editing Markup 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-edit-1.mod"
Revisions:
none

<!-- Editing Elements

ins, del

This module declares element types and attributes used to indicate inserted and deleted content while editing a document.-->

<!-- ins: Inserted Text ............................... -->

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

<!ENTITY % ins.attlist "INCLUDE" >
<![%ins.attlist;[
<!ATTLIST % ins.qname
 %Common.attrib;
    cite        %URI.datatype; #IMPLIED
    datetime    %Datetime.datatype; #IMPLIED
>
<!-- end of ins.attlist -->]]>

<!-- del: Deleted Text ................................ -->

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

<!ENTITY % del.attlist "INCLUDE" >
<![%del.attlist;[
<!ATTLIST %del.qname
    %Common.attrib;
    cite        %URI.datatype; #IMPLIED
    datetime    %Datetime.datatype; #IMPLIED
>
<!-- end of del.attlist -->]]>

<!-- end of xhtml-edit-1.mod -->
F.3.3.3. Bi-directional Text

<!-- .......................................................... -->
<!-- XHTML BDO Element Module ............................................. -->
<!-- file: xhtml-bdo-1.mod

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-bdo-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML BDO Element 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-bdo-1.mod"

Revisions:
none
.......................................................... -->

<!-- Bidirectional Override (bdo) Element

This module declares the element 'bdo', used to override the Unicode bidirectional algorithm for selected fragments of text.

DEPENDENCIES:
Relies on the conditional section keyword %XHTML.bidi; declared as "INCLUDE". Bidirectional text support includes both the bdo element and the 'dir' attribute.

-->

<!ENTITY % bdo.element "INCLUDE" >
<![%bdo.element;[
<!ENTITY % bdo.content
 "(#PCDATA | %Inline.mix; )""
>
<!ENTITY % bdo.qname "bdo" >
<!ELEMENT %bdo.qname; %bdo.content; >
<!-- end of bdo.element -->>

<!ENTITY % bdo.attlist "INCLUDE" >
<![%bdo.attlist;[
<!ATTLIST %bdo.qname
 %Core.attrib;
xml:lang %LanguageCode.datatype; #IMPLIED
dir ( ltr | rtl ) #REQUIRED
>
]]>

<!-- end of xhtml-bdo-1.mod -->
F.3.4. Forms

F.3.4.1. Basic Forms

<!-- ........................................ -->
<!-- XHTML Simplified Forms Module ......... -->
<!-- file: xhtml-basic-form-1.mod
This is XHTML Basic, a proper subset of XHTML.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-basic-form-1.mod,v 4.1 2001/04/05 06:57:40 altheim Exp $ SM
This DTD module is identified by the PUBLIC and SYSTEM identifiers:
PUBLIC "-//W3C//ELEMENTS XHTML Basic Forms 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-basic-form-1.mod"
Revisions:
(none)
........................................ -->

<!-- Basic Forms
This forms module is based on the HTML 3.2 forms model, with
the WAI-requested addition of the label element. While this
module essentially mimics the content model and attributes of
HTML 3.2 forms, the element types declared herein also include
all HTML 4 common attributes.

form, label, input, select, option, textarea
-->

<!-- declare qualified element type names:
-->
<!-- ENTITY % form.qname "form" >
<!-- ENTITY % label.qname "label" >
<!-- ENTITY % input.qname "input" >
<!-- ENTITY % select.qname "select" >
<!-- ENTITY % option.qname "option" >
<!-- ENTITY % textarea.qname "textarea" >

<!-- %BlkNoForm.mix; includes all non-form block elements,
plus %Misc.class;
-->
<!-- ENTITY % BlkNoForm.mix
"%Heading.class;
| %List.class;
| %BlkStruct.class;
%BlkPhras.class;
%BlkPres.class;
| %table.qname;
%Block.extra;
%Misc.class;" -->

<!-- form: Form Element ...................... -->
<!ENTITY % InputType.class
   "( text | password | checkbox | radio | submit | reset | hidden )" >

<!ATTLIST % input.qname
%Common.attrib;
    type   %InputType.class;        'text'
    name   CDATA                    #IMPLIED
    value  CDATA                    #IMPLIED
    checked ( checked )              #IMPLIED
    size   %Number.datatype;         #IMPLIED
    maxlength  %Number.datatype;     #IMPLIED
    src    %URI.datatype;            #IMPLIED
    tabindex %Number.datatype;       #IMPLIED
    accesskey %Character.datatype;   #IMPLIED
>
<!-- end of input.attlist -->

<!-- select: Option Selector ......................... -->

<!ENTITY % select.element  "INCLUDE" >
<! [%select.element;[
<!ENTITY % select.content  "( %option.qname; )+" >
<! [ELEMENT %select.qname; %select.content; ]>
<!-- end of select.element -->
]

<!ENTITY % select.attlist  "INCLUDE" >
<! [%select.attlist;[
<!ATTLIST % select.qname
%Common.attrib;
    name   CDATA                    #IMPLIED
    size   %Number.datatype;         #IMPLIED
    multiple ( multiple )             #IMPLIED
    tabindex %Number.datatype;       #IMPLIED
>
<!-- end of select.attlist -->
]

<!-- option: Selectable Choice ....................... -->

<!ENTITY % option.element  "INCLUDE" >
<! [%option.element;[
<!ENTITY % option.content  "( #PCDATA )" >
<! [ELEMENT %option.qname; %option.content; ]>
<!-- end of option.element -->
]

<!ENTITY % option.attlist  "INCLUDE" >
<! [%option.attlist;[
<!ATTLIST % option.qname
%Common.attrib;
    selected ( selected )             #IMPLIED
    value   CDATA                    #IMPLIED
>
<!-- end of option.attlist -->
]

<!-- textarea: Multi-Line Text Field ................ -->

<!ENTITY % textarea.element  "INCLUDE" >
<! [%textarea.element;[
<!ENTITY % textarea.content  "( #PCDATA )" >
<! [ELEMENT %textarea.qname; %textarea.content; ]>
<!-- end of textarea.element -->
]
F.3.4.2. Forms

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-form-1.mod,v 4.1 2001/04/10 09:42:30 altheim Exp $ SMI

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

PUBLIC "//W3C/ELEMENTS XHTML Forms 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-form-1.mod"

Revisions:
(none)

This module declares markup to provide support for online forms, based on the features found in HTML 4 forms.
<!ENTITY % form.qname "form" >
<!ENTITY % form.attlist "form" >
<!ENTITY % label.qname "label" >
<!ENTITY % label.attlist "label" >

<!-- form: Form Element ................................. -->
<!ENTITY % form.element "INCLUDE" >
<!ENTITY % form.content "(%BlkNoForm.mix; | %fieldset.qname; )+" >
<!ELEMENT % form.qname ; %form.content; >
<!-- end of form.element -->

<!-- label: Form Field Label Text ..................... -->
<!-- Each label must not contain more than ONE field -->
<!ENTITY % label.element "INCLUDE" >
<!ENTITY % label.content "(%PCDATA |
%input.qname; | %select.qname; | %textarea.qname; | %button.qname;
%In1Struct.class; %In1Phras.class; %I18n.class; %In1Pres.class;
%Anchor.class; %In1Special.class;" >

- 190 -
<!ENTITY % label.attlist "INCLUDE" >
<![ %label.attlist; [
<!ATTLIST % label.qname
%Common.attrib;
for IDREF #IMPLIED
accesskey %Character.datatype; #IMPLIED
> <!-- end of %label.attlist --> ]]>
<!-- end of select.element -->>}}>

<!ENTITY % select.attlist "INCLUDE" >
<![%select.attlist;[
<!ATTLIST % select.qname
  %Common.attrib;
  name CDATA #IMPLIED
  size [Number.datatype;] #IMPLIED
  multiple ( multiple ) #IMPLIED
  disabled ( disabled ) #IMPLIED
  tabindex [Number.datatype;] #IMPLIED

>}

<!-- end of select.attlist -->>}}>

<!-- optgroup: Option Group ............................ -->

<!ENTITY % optgroup.element "INCLUDE" >
<![%optgroup.element;[
<!ENTITY % optgroup.content "( %option.qname; )+" >
<!ELEMENT % optgroup.qname; %optgroup.content; >
<!-- end of optgroup.element -->>}}>

<!ENTITY % optgroup.attlist "INCLUDE" >
<![%optgroup.attlist;[
<!ATTLIST % optgroup.qname
  %Common.attrib;
  disabled ( disabled ) #IMPLIED
  label [Text.datatype;] #REQUIRED

>}

<!-- end of optgroup.attlist -->>}}>

<!-- option: Selectable Choice ............................ -->

<!ENTITY % option.element "INCLUDE" >
<![%option.element;[
<!ENTITY % option.content "( #PCDATA )" >
<!ELEMENT % option.qname; %option.content; >
<!-- end of option.element -->>}}>

<!ENTITY % option.attlist "INCLUDE" >
<![%option.attlist;[
<!ATTLIST % option.qname
  %Common.attrib;
  selected ( selected ) #IMPLIED
  disabled ( disabled ) #IMPLIED
  label [Text.datatype;] #IMPLIED
  value CDATA #IMPLIED

>}

<!-- end of option.attlist -->>}}>

<!-- textarea: Multi-Line Text Field ..................... -->

<!ENTITY % textarea.element "INCLUDE" >
<![%textarea.element;[
<!ENTITY % textarea.content "( #PCDATA )" >
<!ELEMENT % textarea.qname; %textarea.content; >
<!-- end of textarea.element -->>}}>

- 192 -
F.3.5. Tables

F.3.5.1. Basic Tables

This is XHTML Basic, a proper subset of XHTML.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-basic-table-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Basic Tables 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-basic-table-1.mod"

Revisions:
(none)

This table module declares elements and attributes defining a table model based fundamentally on features found in the widely-deployed HTML 3.2 table model. While this module
mimics the content model and table attributes of HTML 3.2 tables, the element types declared herein also includes all HTML 4 common and most of the HTML 4 table attributes.

-->

<!-- declare qualified element type names: -->
<!ENTITY % table.qname "table" >
<!ENTITY % caption.qname "caption" >
<!ENTITY % tr.qname "tr" >
<!ENTITY % th.qname "th" >
<!ENTITY % td.qname "td" >

<!-- horizontal alignment attributes for cell contents -->
<!ENTITY % CellHAlign.attrib
  "align
    ( left
    | center
    | right )         #IMPLIED">

<!-- vertical alignment attributes for cell contents -->
<!ENTITY % CellVAlign.attrib
  "valign
    ( top
    | middle
    | bottom )       #IMPLIED">

<!-- scope is simpler than axes attribute for common tables -->
<!ENTITY % scope.attrib
  "scope
    ( row | col )     #IMPLIED">

<!-- table: Table Element .............................. -->
<!ENTITY % table.element "INCLUDE" >
<![%table.element;[
<!ENTITY % table.content
  "( %caption.qname;?, %tr.qname;+ )"
> 
<!ELEMENT % table.qname ;  %table.content; >
<!-- end of table.element -->]

<!ENTITY % table.attlist "INCLUDE" >
<![%table.attlist;[
<!ATTLIST % table.qname
  %Common.attrib;
  summary   %Text.datatype;           #IMPLIED
  width     %Length.datatype;         #IMPLIED
> 
<!-- end of table.attlist -->]

<!-- caption: Table Caption ............................. -->
<!ENTITY % caption.element "INCLUDE" >
<![%caption.element;[
<!ENTITY % caption.content
<!-- tr: Table Row ..................................... -->

<!-- th: Table Header Cell ............................. -->
<!-- th is for header cells, td for data, but for cells acting as both use td -->

<!-- td: Table Data Cell ............................... -->

- 196 -
F.3.5.2. Tables

This is XHTML™ Modularization 1.1
<!ENTITY % thead.qname "thead" >
<!ENTITY % tfoot.qname "tfoot" >
<!ENTITY % tbody.qname "tbody" >
<!ENTITY % colgroup.qname "colgroup" >
<!ENTITY % col.qname "col" >
<!ENTITY % tr.qname "tr" >
<!ENTITY % th.qname "th" >
<!ENTITY % td.qname "td" >

<!-- The frame attribute specifies which parts of the frame around
the table should be rendered. The values are not the same as
CALS to avoid a name clash with the valign attribute.
-->  
<!ENTITY % frame.attrib
  "frame        ( void
   | above
   | below
   | hsides
   | lhs
   | rhs
   | vsides
   | box
   | border )               #IMPLIED"  >

<!-- The rules attribute defines which rules to draw between cells:
If rules is absent then assume:
   "none" if border is absent or border="0" otherwise "all"
-->  
<!ENTITY % rules.attrib
  "rules        ( none
   | groups
   | rows
   | cols
   | all )                  #IMPLIED"  >

<!-- horizontal alignment attributes for cell contents
-->  
<!ENTITY % CellHAlign.attrib
  "align        ( left
   | center
   | right
   | justify
   | char )                 #IMPLIED
char         %Character.datatype;      #IMPLIED
charoff      %Length.datatype;         #IMPLIED"

>

<!-- vertical alignment attribute for cell contents
-->  
<!ENTITY % CellVAAlign.attrib
  "valign        ( top
   | middle
   | bottom
   | char )                 #IMPLIED
char         %Character.datatype;      #IMPLIED
charoff      %Length.datatype;         #IMPLIED"

>
<!--- scope is simpler than axes attribute for common tables -->
<!ENTITY % scope.attrib "scope (row
  | col
  | rowgroup
  | colgroup ) #IMPLIED"

<!-- table: Table Element ......................... -->
<!ENTITY % table.element "INCLUDE" >
<![%table.element;[
<!ENTITY % table.content "( %caption.qname;?, ( %col.qname;* | %colgroup.qname;* ),
  {{ %thead.qname;?, %tfoot.qname;?, %tbody.qname;+ } | { %tr.qname;+ })"

<!ELEMENT % table.qname ; %table.content; >
<!-- end of table.element --
]]>

<!ENTITY % table.attlist "INCLUDE" >
<![%table.attlist;[  
<!ATTLIST % table.qname %Common.attrib;
  summary [%Text.datatype; #IMPLIED
  width [%Length.datatype; #IMPLIED
  border [%Pixels.datatype; #IMPLIED
  %frame.attrib;
  %rules.attrib;
  cellspacing [%Length.datatype; #IMPLIED
  cellpadding [%Length.datatype; #IMPLIED

<!-- end of table.attlist -->
]]>

<!-- caption: Table Caption ....................... -->
<!ENTITY % caption.element "INCLUDE" >
<![%caption.element;[
<!ENTITY % caption.content "{ #PCDATA | %Inline.mix; }""

<!ELEMENT %caption.qname ; %caption.content; >
<!-- end of caption.element -->
]]>

<!ENTITY % caption.attlist "INCLUDE" >
<![%caption.attlist;[
<!ATTLIST % caption.qname %Common.attrib;

<!-- end of caption.attlist -->
]]>

<!-- thead: Table Header ......................... -->
<!-- Use thead to duplicate headers when breaking table
across page boundaries, or for static headers when tbody sections are rendered in scrolling panel.

<!--
<!ENTITY % thead.element "INCLUDE" >
<![thead.element;[
<!ENTITY % thead.content "( %tr.qname; )+" >
<!ELEMENT %thead.qname; %thead.content; >
|-- end of thead.element -->]]>

<!ENTITY % thead.attlist "INCLUDE" >
<![thead.attlist;[
<!ATTLIST %thead.qname
  %Common.attrib;
  %CellHAlign.attrib;
  %CellVAlign.attrib;
]>|-- end of thead.attlist -->]]>

<!-- tfoot: Table Footer ......................... -->

<!-- Use tfoot to duplicate footers when breaking table across page boundaries, or for static footers when tbody sections are rendered in scrolling panel. -->

<!--
<!ENTITY % tfoot.element "INCLUDE" >
<![tfoot.element;[
<!ENTITY % tfoot.content "( %tr.qname; )+" >
<!ELEMENT %tfoot.qname; %tfoot.content; >
|-- end of tfoot.element -->]]>

<!ENTITY % tfoot.attlist "INCLUDE" >
<![tfoot.attlist;[
<!ATTLIST %tfoot.qname
  %Common.attrib;
  %CellHAlign.attrib;
  %CellVAlign.attrib;
]>|-- end of tfoot.attlist -->]]>

<!-- tbody: Table Body ............................. -->

<!-- Use multiple tbody sections when rules are needed between groups of table rows. -->

<!--
<!ENTITY % tbody.element "INCLUDE" >
<![tbody.element;[
<!ENTITY % tbody.content "( %tr.qname; )+" >
<!ELEMENT %tbody.qname; %tbody.content; >
|-- end of tbody.element -->]]>

<!ENTITY % tbody.attlist "INCLUDE" >
<![tbody.attlist;[
<!ATTLIST %tbody.qname
  %Common.attrib;
]>--
%CellHAlign.attrib;
%CellVAlign.attrib;

<!-- end of tbody.attlist -->]]>

<!-- colgroup: Table Column Group ...................... -->

<!-- colgroup groups a set of col elements. It allows you to group several semantically-related columns together. -->

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

<!ENTITY % colgroup.attlist "INCLUDE" >
<![%colgroup.attlist;[
<!ATTLIST %colgroup.qname %Common.attrib; 
   span %Number.datatype; '1'
   width %MultiLength.datatype; #IMPLIED
   %CellHAlign.attrib;
   %CellVAlign.attrib;
>  
<!-- end of colgroup.attlist -->]]>

<!-- col: Table Column .................................... -->

<!-- col elements define the alignment properties for cells in one or more columns.

The width attribute specifies the width of the columns, e.g.

width="64"       width in screen pixels
width="0.5*"     relative width of 0.5

The span attribute causes the attributes of one col element to apply to more than one column. -->

<!ENTITY % col.element "INCLUDE" >
<![%col.element;[
<!ENTITY % col.content "EMPTY" ]>
<!ELEMENT %col.qname; %col.content; >
<!-- end of col.element -->]]>

<!ENTITY % col.attlist "INCLUDE" >
<![%col.attlist;[
<!ATTLIST %col.qname %Common.attrib; 
   span %Number.datatype; '1'
   width %MultiLength.datatype; #IMPLIED
   %CellHAlign.attrib;
   %CellVAlign.attrib;
>
<!-- end of attlist -->]]>

<!-- tr: Table Row ..................................... -->

<!ENTITY % tr.element "INCLUDE" >
<![%tr.element;[
<!ENTITY % tr.content "( %th.qname; | %td.qname; )+" >
<!ELEMENT %tr.qname; %tr.content; >
<!-- end of tr.element --]>]]>

<!ENTITY % tr.attlist "INCLUDE" >
<![%tr.attlist;[
<!ATTLIST %tr.qname
  %Common.attrib;
  %CellHAlign.attrib;
  %CellVAlign.attrib;
>]
<!-- end of tr.attlist --]>]]>

<!-- th: Table Header Cell ............................. -->

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

<!ENTITY % th.attlist "INCLUDE" >
<![%th.attlist;[
<!ATTLIST %th.qname
  %Common.attrib;
  abbr %Text.datatype;           #IMPLIED
  axis CDATA                    #IMPLIED
  headers IDREFS                #IMPLIED
  %scope.attrib;
  rowspan %Number.datatype;     '1'
  colspan %Number.datatype;     '1'
  %CellHAlign.attrib;
  %CellVAlign.attrib;
>]
<!-- end of th.attlist --]>]]>

<!-- td: Table Data Cell ............................... -->

<!ENTITY % td.element "INCLUDE" >
<![%td.element;[
<!ENTITY % td.content "( #PCDATA | %Flow.mix; )*" >
<!ELEMENT %td.qname; %td.content; >
F.3.6. Image

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-image-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Images 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-image-1.mod"

Revisions:
(none)

This module provides markup to support basic image embedding.

To avoid problems with text-only UAs as well as to make image content understandable and navigable to users of non-visual UAs, you need to provide a description with the 'alt' attribute, and avoid server-side image maps.

<!-- Images

img

This module provides markup to support basic image embedding. -->
F.3.7. Client-side Image Map

<!-- end of img.element -->]]>

<!ENTITY % img.attlist "INCLUDE" >
<![%img.attlist;[
<!ATTLIST % img.qname
  %Common.attrib;
  src %URI.datatype; #REQUIRED
  alt %Text.datatype; #REQUIRED
  longdesc %URI.datatype; #IMPLIED
  height %Length.datatype; #IMPLIED
  width %Length.datatype; #IMPLIED
>]
<!-- end of img.attlist -->]]>

<!-- end of xhtml-image-1.mod -->

F.3.7. Client-side Image Map

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-csismap-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Client-side Image Maps 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-csismap-1.mod"

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

Client-side Image Maps

area, map

This module declares elements and attributes to support client-side image maps. This requires that the Image Module (or a module declaring the img element type) be included in the DTD.

These can be placed in the same document or grouped in a separate document, although the latter isn’t widely supported

PUBLIC "-//W3C//ELEMENTS XHTML Client-side Image Maps 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-csismap-1.mod"

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

<!ENTITY % area.element "INCLUDE" >
<![%area.element;[
<!ENTITY % area.content "EMPTY" >
<!ENTITY % area.qname "area" >
<!ELEMENT %area.qname; %area.content;>
<!-- end of area.element -->>]

<!ENTITY % Shape.datatype "( rect | circle | poly | default )">
<!ENTITY % Coords.datatype "CDATA" >
<!ENTITY % area.attlist "INCLUDE" >
<![%area.attlist;[
<!ATTLIST % area.qname
  %Common.attrib;
  href %URI.datatype;            #IMPLIED
  shape  %Shape.datatype;          'rect'
  coords %Coords.datatype;         #IMPLIED
  nohref ( nohref )               #IMPLIED
  alt    %Text.datatype;           #REQUIRED
  tabindex %Number.datatype;       #IMPLIED
  accesskey %Character.datatype;   #IMPLIED
>
<!-- end of area.attlist --]>]]>

<!-- modify anchor attribute definition list
   to allow for client-side image maps
-->
<!ATTLIST % a.qname
  shape  %Shape.datatype;          'rect'
  coords %Coords.datatype;         #IMPLIED
>
<!-- modify img attribute definition list
   to allow for client-side image maps
-->
<!ATTLIST % img.qname
  usemap IDREF                    #IMPLIED
>
<!-- modify form input attribute definition list
   to allow for client-side image maps
-->
<!ATTLIST % input.qname
  usemap IDREF                    #IMPLIED
>
<!-- modify object attribute definition list
   to allow for client-side image maps
-->
<!ATTLIST % object.qname
  usemap IDREF                    #IMPLIED
>
<!-- 'usemap' points to the 'id' attribute of a <map> element,
    which must be in the same document; support for external
    document maps was not widely supported in HTML and is
    eliminated in XHTML.

    It is considered an error for the element pointed to by
    a usemap IDREF to occur in anything but a <map> element.
-->
<!ENTITY % map.element "INCLUDE" >
<![%map.element;[
<!ENTITY % map.content
  "(( %Block.mix; ) | %area.qname; )+"
F.3.8. Server-side Image Map

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-ssismap-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Server-side Image Maps 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-ssismap-1.mod"

Revisions:
#2000-10-22: added declaration for 'ismap' on <input>
.................................................................................. -->

--- Server-side Image Maps

This adds the 'ismap' attribute to the img and input elements to support server-side processing of a user selection.

---

<!ATTLIST img.qname ismap ( ismap ) #IMPLIED>

<!ATTLIST input.qname ismap ( ismap ) #IMPLIED>

--- end of xhtml-ssismap-1.mod -->
F.3.9. Object

<!-- ........................................................--->
<!-- XHTML Embedded Object Module ................................. -->
<!-- file: xhtml-object-1.mod

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-object-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Embedded Object 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-object-1.mod"

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

</-- Embedded Objects

object

This module declares the object element type and its attributes, used
to embed external objects as part of XHTML pages. In the document,
place param elements prior to other content within the object element.

Note that use of this module requires instantiation of the Param
Element Module.

-->}

</-- object: Generic Embedded Object ...................... -->

<!ENTITY % object.element "INCLUDE" >
<![%object.element;[
<!ENTITY % object.content
  "(#PCDATA | %Flow.mix; | %param.qname; )""
>  
<!ENTITY % object.qname "object" >
<!ELEMENT %object.qname; %object.content; >
</-- end of object.element -->]]>

<!ENTITY % object.attlist "INCLUDE" >
<![%object.attlist;[
<!ATTLIST %object.qname
 %Common.attrib;
declare ( declare ) #IMPLIED
classid %URI.datatype;  #IMPLIED
codebase %URI.datatype;  #IMPLIED
data %URI.datatype;     #IMPLIED
type %ContentType.datatype; #IMPLIED
codetype %ContentType.datatype; #IMPLIED
archive %URIs.datatype;  #IMPLIED
standby %Text.datatype;  #IMPLIED
height %Length.datatype; #IMPLIED
width %Length.datatype; #IMPLIED

- 207 -
F.3.10. Frames

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-frames-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Frames 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-frames-1.mod"

Revisions:
(none)

This module declares frame-related element types and attributes.

frameset, frame, noframes

The content model for XHTML documents depends on whether the <head> is followed by a <frameset> or <body> element.

frameset, frame, noframes
F.3.11. Target

<!-- .......................... -->
<!-- XHTML Target Module  ................................................. -->
<!-- file: xhtml-target-1.mod

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-target-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Target 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-target-1.mod"

Revisions:
:none
................................. -->

<!-- Target

target

This module declares the 'target' attribute used for opening windows -->

<!-- render in this frame -->
<!ENTITY % FrameTarget.datatype "CDATA" >

<!-- add 'target' attribute to 'a' element -->
<!ATTLIST % a.qname
   target       %FrameTarget.datatype;    #IMPLIED
>

<!-- add 'target' attribute to 'area' element -->
<!ATTLIST % area.qname
   target       %FrameTarget.datatype;    #IMPLIED
>

<!-- add 'target' attribute to 'link' element -->
<!ATTLIST % link.qname
   target       %FrameTarget.datatype;    #IMPLIED
>

<!-- add 'target' attribute to 'form' element -->
<!ATTLIST % form.qname
   target       %FrameTarget.datatype;    #IMPLIED
>

<!-- add 'target' attribute to 'base' element -->
<!ATTLIST % base.qname
   target       %FrameTarget.datatype;    #IMPLIED
>

<!-- end of xhtml-target-1.mod -->

- 210 -
F.3.12. Iframe

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-iframe-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Inline Frame Element 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-iframe-1.mod"

Revisions:
#2000-10-22: added #PCDATA to <iframe> content model as per HTML 4
................................. -->

<!-- Inline Frames

iframe

This module declares the iframe element type and its attributes,
used to create an inline frame within a document.
-->

<!-- Inline Frames .............................. -->

<!ENTITY % iframe.content "( #PCDATA | %Flow.mix; )*" >
<!ENTITY % iframe.qname "iframe" >
<!ELEMENT %iframe.qname; %iframe.content; >
<!ATTLIST %iframe.qname
 %Core.attrib;
 longdesc   %URI.datatype;   #IMPLIED
 src        %URI.datatype;   #IMPLIED
 frameborder  ( 1 | 0 )        '1'
 marginwidth %Pixels.datatype; #IMPLIED
 marginheight %Pixels.datatype; #IMPLIED
 scrolling   ( yes | no | auto )   'auto'
 height      %Length.datatype; #IMPLIED
 width       %Length.datatype; #IMPLIED
 >

<!-- end of xhtml-iframe-1.mod -->

F.3.13. Intrinsic Events

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-events-1.mod,v 4.1 2001/04/10 09:42:30 altheim Exp $ SMI
This DTD module is identified by the PUBLIC and SYSTEM identifiers:

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

Revisions:
(none)

<!-- Intrinsic Event Attributes

These are the event attributes defined in HTML 4, Section 18.2.3 "Intrinsic Events". This module must be instantiated prior to the Attributes Module but after the Datatype Module in the Modular Framework module.

"Note: Authors of HTML documents are advised that changes are likely to occur in the realm of intrinsic events (e.g., how scripts are bound to events). Research in this realm is carried on by members of the W3C Document Object Model Working Group (see the W3C Web site at http://www.w3.org/ for more information)."

<!-- NOTE: Because the ATTLIST declarations in this module occur before their respective ELEMENT declarations in other modules, there may be a dependency on this module that should be considered if any of the parameter entities used for element type names (eg., $a.qname;) are redeclared.

<!ENTITY % Events.attrib
"onclick      $Script.datatype;         #IMPLIED
ondblclick   $Script.datatype;         #IMPLIED
onmousedown  $Script.datatype;         #IMPLIED
onmouseup    $Script.datatype;         #IMPLIED
onmouseover  $Script.datatype;         #IMPLIED
onmousemove  $Script.datatype;         #IMPLIED
onmouseout   $Script.datatype;         #IMPLIED
onkeypress   $Script.datatype;         #IMPLIED
onkeydown    $Script.datatype;         #IMPLIED
onkeyup      $Script.datatype;         #IMPLIED"
>

<![%XHTML.global.attrs.prefixed;[
<!ENTITY % XHTML.global.events.attrib
"%XHTML.prefix;:onclick      $Script.datatype;         #IMPLIED
%XHTML.prefix;:ondblclick   $Script.datatype;         #IMPLIED
%XHTML.prefix;:onmousedown  $Script.datatype;         #IMPLIED
%XHTML.prefix;:onmouseup    $Script.datatype;         #IMPLIED
%XHTML.prefix;:onmouseover  $Script.datatype;         #IMPLIED
%XHTML.prefix;:onmousemove  $Script.datatype;         #IMPLIED
%XHTML.prefix;:onmouseout   $Script.datatype;         #IMPLIED
%XHTML.prefix;:onkeypress   $Script.datatype;         #IMPLIED
%XHTML.prefix;:onkeydown    $Script.datatype;         #IMPLIED
%XHTML.prefix;:onkeyup      $Script.datatype;         #IMPLIED"

}}}
<!-- additional attributes on anchor element -->
<!ATTLIST a qname
  onfocus %Script.datatype; #IMPLIED
  onblur %Script.datatype; #IMPLIED>

<!-- additional attributes on form element -->
<!ATTLIST form qname
  onsubmit %Script.datatype; #IMPLIED
  onreset %Script.datatype; #IMPLIED>

<!-- additional attributes on label element -->
<!ATTLIST label qname
  onfocus %Script.datatype; #IMPLIED
  onblur %Script.datatype; #IMPLIED>

<!-- additional attributes on input element -->
<!ATTLIST input qname
  onfocus %Script.datatype; #IMPLIED
  onblur %Script.datatype; #IMPLIED
  onselect %Script.datatype; #IMPLIED
  onchange %Script.datatype; #IMPLIED>

<!-- additional attributes on select element -->
<!ATTLIST select qname
  onfocus %Script.datatype; #IMPLIED
  onblur %Script.datatype; #IMPLIED
  onchange %Script.datatype; #IMPLIED>

<!-- additional attributes on textarea element -->
<!ATTLIST textarea qname
  onfocus %Script.datatype; #IMPLIED
  onblur %Script.datatype; #IMPLIED
  onselect %Script.datatype; #IMPLIED
  onchange %Script.datatype; #IMPLIED>

<!-- additional attributes on button element -->
<!ATTLIST button qname
  onfocus %Script.datatype; #IMPLIED
  onblur %Script.datatype; #IMPLIED>

<!-- additional attributes on body element -->
F.3.14. Metainformation

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-meta-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Metainformation 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-meta-1.mod"

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

<!-- Meta Information

meta

This module declares the meta element type and its attributes, used to provide declarative document metainformation.
-->

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

<!ENTITY % meta.element "INCLUDE" >
<![%meta.element;[
<!ENTITY % meta.content "EMPTY" >
<!ENTITY % meta.qname "meta" >
<!ELEMENT %meta.qname; %meta.content; >
<!-- end of meta.element -->]]>

<!ENTITY % meta.attlist "INCLUDE" >
<![%meta.attlist;[
<!ATTLIST %meta.qname %XHTMLxmlns.attrib; %I18n.attrib;
http-equiv NMTOKEN #IMPLIED
}-->

- 214 -
F.3.15. Scripting

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-script-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "//W3C//ELEMENTS XHTML Scripting 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-script-1.mod"

Revisions:
(None)

This module declares element types and attributes used to provide support for executable scripts as well as an alternate content container where scripts are not supported.

- 215 -
F.3.16. Style Sheet

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-style-1.mod,v 4.1 2001/04/05 06:57:40 altheim Exp $ SMI

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

PUBLIC "-//W3C//DTD XHTML Style Sheets 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-style-1.mod"

Revisions:
(none)

-->

F.3.16. Style Sheet

-->

<-- Style Sheets

style

This module declares the style element type and its attributes, used to embed style sheet information in the document head element.

-->
F.3.17. Style Attribute

This module declares the 'style' attribute, used to support inline style markup. This module must be instantiated prior to the XHTML Common Attributes module in order to be included in %Core.attrib;.

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

<!ENTITY % Core.extra.attrib
  "%style.attrib;" >
F.3.18. Link

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-link-1.mod,v 4.1 2001/04/05 06:57:40 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Link Element 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-link-1.mod"

Revisions:
(none)

................................. -->

<!-- Link element

link

This module declares the link element type and its attributes,
which could (in principle) be used to define document-level links
to external resources such as:

a) for document specific toolbars/menus, e.g. start, contents,
   previous, next, index, end, help
b) to link to a separate style sheet (rel="stylesheet")
c) to make a link to a script (rel="script")
d) by style sheets to control how collections of html nodes are
   rendered into printed documents
e) to make a link to a printable version of this document
   e.g. a postscript or pdf version (rel="alternate" media="print")

-->

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

<!ENTITY % link.element  "INCLUDE" >
<![%link.element;[
<!ENTITY % link.content  "EMPTY" >
<!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
 href %URI.datatype; #IMPLIED
 hreflang %LanguageCode.datatype; #IMPLIED
 type %ContentType.datatype; #IMPLIED
 rel %LinkTypes.datatype; #IMPLIED
 rev %LinkTypes.datatype; #IMPLIED

- 218 -
This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-base-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Base Element 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-base-1.mod"

Revisions:
  (none)
 ....................................................

Base element

base

This module declares the base element type and its attributes, used to define a base URI against which relative URIs in the document will be resolved.

Note that this module also redeclares the content model for the head element to include the base element.

-->

base: Document Base URI .........................

ENTITY % base.element "INCLUDE" >
![%base.element;]
ENTITY % base.content "EMPTY" >
ENTITY % base.qname "base" >
ELEMENT %base.qname; %base.content; >
-->

ENTITY % base.attlist "INCLUDE" >
![%base.attlist;]
ATTLIST %base.qname
  %XHTMLxmlns.attrib;
  href %URI.datatype; #REQUIRED
>
-->

ENTITY % head.content "( %HeadOpts.mix;,
F.3.20. Name Identification

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-nameident-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $

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

PUBLIC "-//W3C//ELEMENTS XHTML Name Identifier 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-nameident-1.mod"

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

<!-- Name Identifier

'name' attribute on form, img, a, map, applet, frame, iframe

This module declares the 'name' attribute on element types when
it is used as a node identifier for legacy linking and scripting
support. This does not include those instances when 'name' is used
as a container for form control, property or metainformation names.

This module should be instantiated following all modules it modifies.
-->
F.3.21. Legacy

This is an extension of XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-legacy-1.mod,v 4.1 2001/04/10 09:42:30 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Legacy Markup 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-legacy-1.mod"

Revisions:
(None)

This optional module declares additional markup for simple
presentation-related markup based on features found in the HTML 4 Transitional and Frameset DTDs. This relies on inclusion of the Legacy Redeclarations module. This module also declares the frames, inline frames and object modules.

This is to allow XHTML 1.1 documents to be transformed for display on HTML browsers where CSS support is inconsistent or unavailable.

-->
<!-- Constructing a Legacy DTD

To construct a DTD driver obtaining a close approximation of the HTML 4 Transitional and Frameset DTDs, declare the Legacy Redeclarations module as the pre-framework redeclaration parameter entity (%xhtml-prefw-redecl.mod;) and INCLUDE its conditional section:

... 
<!ENTITY % xhtml-prefw-redecl.module "INCLUDE" >
<![%xhtml-prefw-redecl.module;[
<!ENTITY % xhtml-prefw-redecl.mod 
PUBLIC "-//W3C//ELEMENTS XHTML Legacy Redeclarations 1.0//EN" 
xhtml-legacy-redecl-1.mod" > 
%xhtml-prefw-redecl.mod;]]>

Such a DTD should be named with a variant FPI and redeclare the value of the %XHTML.version; parameter entity to that FPI:

"-//Your Name Here//DTD XHTML Legacy 1.1//EN"

IMPORTANT: see also the notes included in the Legacy Redeclarations Module for information on how to construct a DTD using this module.

-->

<!-- Additional Element Types .................................... -->

<!-- font: Local Font Modifier ........................ -->

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

<!ENTITY % font.attlist "INCLUDE" >
<![%font.attlist;[
<!ATTLIST %font.qname 
Core.attrib;
%I18n.attrib;
size CCDATA #IMPLIED
color [Color.datatype]; #IMPLIED
face CDATA #IMPLIED
>
<!-- end of font.attlist --]>

<!-- basefont: Base Font Size ............................. -->
"<!ENTITY % strike.attlist  "INCLUDE" >
<![%strike.attlist;
  <!ATTLIST % strike.qname ;
    %Common.attrib; >
  <!-- end of strike.attlist -->]]>

<!-- u: Underline Text Style ......................... -->

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

<!-- dir: Directory List .............................. -->

"<!ENTITY % dir.element  "INCLUDE" >
<![%dir.element;
  <!ENTITY % dir.content 
    "(%li.qname; )+" >
  <!ENTITY % dir.qname  "dir" >
  <!ELEMENT %dir.qname; %dir.content; >
  <!-- end of dir.element -->]]>

<!-- menu: Menu List .................................. -->

"<!ENTITY % menu.element  "INCLUDE" >
<![%menu.element;
  <!ENTITY % menu.content 
    "(%li.qname; )+" >
  <!ENTITY % menu.qname  "menu" >
  <!ELEMENT %menu.qname; %menu.content; >
  <!-- end of menu.element -->]]>
F.4. XHTML DTD Support Modules

The modules in this section are elements of the XHTML DTD implementation that, while hidden from casual users, are important to understand when creating derivative markup languages using the Modularization architecture.

F.4.1. Block Phrasal

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.

Revision: $Id: xhtml-blkphras-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Block Phrasal 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-blkphras-1.mod"

Revisions:
(none)

This module declares the elements and their attributes used to support block-level phrasal markup.

address, blockquote, pre, h1, h2, h3, h4, h5, h6

This module declares the elements and their attributes used to support block-level phrasal markup.

<!ENTITY % address.element "INCLUDE" >
<!ENTITY % address.element >
<!ENTITY % address.content "{ (PCDATA | %Inline.mix; )}" >
<!ENTITY % address.qname "address" >
<!ELEMENT %address.qname; %address.content; >
<!-- end of address.element -->

<!ENTITY % address.attlist "INCLUDE" >
<!ENTITY %address.attlist >
<!ATTLIST %address.qname
    align(top | middle | bottom | left | right) #IMPLIED
>
< ENTITY % blockquote.element "INCLUDE" >
<!-- end of blockquote.element -->
<! [ % blockquote.element ; [ % blockquote.qname "blockquote" >
| % blockquote.content ; > ] ] ] >
<! ENTITY % blockquote.attlist "INCLUDE" >
<!-- end of blockquote.attlist -->
<! [ % blockquote.attlist ; [ % Common.attrib;
| cite % URI.datatype; #IMPLIED ] ] ] >
<! ENTITY % pre.element "INCLUDE" >
<!-- end of pre.element -->
<! [ % pre.element ; [ % pre.content ; "( % PCDATA
| % InlStruct.class;
| % InlPhras.class;
| % tt.qname ; | % i.qname ; | % b.qname ;
| % Il8n.class;
| % Anchor.class;
| % script.qname ; | % map.qname;
% Inline.extra; )*" ] ] ] >
<! ENTITY % pre.qname "pre" >
<!-- end of pre.qname -->
<! ENTITY % pre.attlist "INCLUDE" >
<!-- end of pre.attlist -->
<! ENTITY % Heading.content "( % PCDATA | % Inline.mix; )*" >
<! ENTITY % h1.element "INCLUDE" >
<!-- end of h1.element -->
<! ENTITY % h1.qname "h1" >
<! ENTITY % h1.attlist "INCLUDE" >
<!-- end of h1.attlist -->
F.4.2. Block Presentational

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-blkpres-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Block Presentation 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-blkpres-1.mod"

Revisions:
none

Block Presentational Elements

hr

This module declares the elements and their attributes used to support block-level presentational markup.

-->

<!ENTITY % hr.element "INCLUDE" >
<![%hr.element;]
<!ENTITY % hr.content "EMPTY" >
<!ENTITY % hr.qname "hr" >
<!ELEMENT %hr.qname; %hr.content; >
<!-- end of hr.element -->]]>

<!ENTITY % hr.attlist "INCLUDE" >
<![%hr.attlist;]
<!ATTLIST %hr.qname
  %Common.attrib;
  >
<!-- end of hr.attlist -->]]>

<!-- end of xhtml-blkpres-1.mod -->
F.4.3. Block Structural

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-blkstruct-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Block Structural 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-blkstruct-1.mod"

Revisions:
(none)

This module declares the elements and their attributes used to support block-level structural markup.

<!ENTITY % div.element "INCLUDE" >
<![div.element;[
<!ENTITY % div.content "( #PCDATA | %Flow.mix; )*" >
<!ENTITY % div.qname "div" >
<!ELEMENT %div.qname; %div.content; >
<-- end of div.element -->]]>
<!ENTITY % div.attlist "INCLUDE" >
<![div.attlist;[
<!ATTLIST %div.qname %Common.attrib;
> 
<-- end of div.attlist -->]]>

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

<!ENTITY % p.attlist "INCLUDE" >
<![p.attlist;[
<!ATTLIST %p.qname %Common.attrib;
F.4.4. Inline Phrasal

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-inlphras-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Inline Phrasal 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-inlphras-1.mod"

Revisions:
(none)

This module declares the elements and their attributes used to
support inline-level phrasal markup.

abbr, acronym, cite, code, dfn, em, kbd, q, samp, strong, var

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

<!ENTITY % abbr.attlist  "INCLUDE" >
<![%abbr.attlist;[
<!ATTLIST %abbr.qname %Common.attrib; >
<!-- end of abbr.attlist -->]]>

<!ENTITY % acronym.element  "INCLUDE" >
<![%acronym.element;[
<!ENTITY % acronym.content
 "( #PCDATA | %Inline.mix; )*"
>
<!ENTITY % acronym.qname "acronym" >
<!ELEMENT %acronym.qname; %acronym.content; >
<!-- end of acronym.element -->]]>
F.4.5. Inline Presentational

This is XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-inlpres-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Inline Presentation 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-inlpres-1.mod"

Revisions:
This module declares the elements and their attributes used to support inline-level presentational markup.

-->

---

<!ENTITY % b.element "INCLUDE" >
<![b.element;[
<!ENTITY % b.content
 "{ #PCDATA | %Inline.mix; }" ]>
<!ENTITY % b.qname "b" >
<!ELEMENT %b.qname; %b.content; >
<!-- end of b.element -->>]
<!ENTITY % b.attlist "INCLUDE" >
<![b.attlist;[
<!ATTLIST %b.qname
 %Common.attrib; ]>
<!-- end of b.attlist -->>]

<!ENTITY % big.element "INCLUDE" >
<![big.element;[
<!ENTITY % big.content
 "{ #PCDATA | %Inline.mix; }" ]>
<!ENTITY % big.qname "big" >
<!ELEMENT %big.qname; %big.content; >
<!-- end of big.element -->>]
<!ENTITY % big.attlist "INCLUDE" >
<![big.attlist;[
<!ATTLIST %big.qname
 %Common.attrib; ]>
<!-- end of big.attlist -->>]

<!ENTITY % i.element "INCLUDE" >
<![i.element;[
<!ENTITY % i.content
 "{ #PCDATA | %Inline.mix; }" ]>
<!ENTITY % i.qname "i" >
<!ELEMENT %i.qname; %i.content; >
<!-- end of i.element -->>]
<!ENTITY % i.attlist "INCLUDE" >
<![i.attlist;[
<!ATTLIST %i.qname
 %Common.attrib; >

---
XHTML™ Modularization 1.1F.4.5. Inline Presentational

<!-- end of i.attlist -->]]>

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

<!ENTITY % small.attlist "INCLUDE" >
<![%small.attlist;[
<!ATTLIST % small.qname 
%Common.attrib; > 
<!-- end of small.attlist -->]]>

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

<!ENTITY % sub.attlist "INCLUDE" >
<![%sub.attlist;[
<!ATTLIST % sub.qname 
%Common.attrib; > 
<!-- end of sub.attlist -->]]>

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

<!ENTITY % sup.attlist "INCLUDE" >
<![%sup.attlist;[
<!ATTLIST % sup.qname 
%Common.attrib; > 
<!-- end of sup.attlist -->]]>

<!ENTITY % tt.element "INCLUDE" >
<![%tt.element;[
<!ENTITY % tt.content 
"( #PCDATA | %Inline.mix; )*"
> 
<!ENTITY % tt.qname "tt" >
<!ELEMENT %tt.qname; %tt.content; >
F.4.6. Inline Structural

This is XHTML, a reformulation of HTML as a modular XML application.
Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved.
Revision: $Id: xhtml-inlstruct-1.mod,v 4.0 2001/04/02 22:42:49 altheim Exp $ SMI

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

PUBLIC "-//W3C//ELEMENTS XHTML Inline Structural 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-inlstruct-1.mod"

Revisions:
(none)

br, span

This module declares the elements and their attributes
used to support inline-level structural markup.

br: forced line break

span: generic inline container
This DTD module is identified by the PUBLIC and SYSTEM identifiers:

PUBLIC "-//W3C//ELEMENTS XHTML Param Element 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-param-1.mod"

Revisions:
(none)

Parameters for Java Applets and Embedded Objects

param

This module provides declarations for the param element, used to provide named property values for the applet and object elements.

param: Named Property Value

<!ENTITY % param.element "INCLUDE" >
<![%param.element;!]
<!ENTITY % param.content "EMPTY" >
<!ENTITY % param.qname "param" >
<!ELEMENT %param.qname; %param.content; >
<!-- end of param.element -->]]>

<!ENTITY % param.attlist "INCLUDE" >
<![%param.attlist;!]
<!ATTLIST % param.qname %Common.attrib;
<!-- end of param.attlist -->]]>

F.4.7. Param
F.4.8. Legacy Redeclarations

This is an extension of XHTML, a reformulation of HTML as a modular XML application. Copyright 1998-2005 W3C (MIT, ERCIM, Keio), All Rights Reserved. Revision: $Id: xhtml-legacy-redecl-1.mod,v 4.4 2001/04/10 09:42:30 altheim Exp $

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

PUBLIC "-//W3C//ELEMENTS XHTML Legacy Redeclarations 1.0//EN"
SYSTEM "http://www.w3.org/MarkUp/DTD/xhtml-legacy-redecl-1.mod"

Revisions:
(no)

This optional module replaces the Modular Framework module, interspersing redeclarations of various parameter entities to allow for inclusions of Transitional markup in the XHTML 1.1 document model. This instantiates the modules needed to support the XHTML modularization model, including:

+ notations
+ datatypes
+ namespace-qualified names
+ common attributes
+ document model
+ character entities

By default, the Object module is included, with Frames and IFrames ignored.

The Intrinsic Events module is ignored by default but occurs in this module because it must be instantiated prior to Attributes but after Datatypes.

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

<!ENTITY % xhtml-arch.module "IGNORE" >
<![%xhtml-arch.module;[
<!ENTITY % xhtml-arch.mod
PUBLIC "-//W3C//ELEMENTS XHTML Base Architecture 1.0//EN"
F.4.8. Legacy Redeclarations

"xhtml-arch-1.mod" >
%xhtml-arch.mod;]]>

<!ENTITY % xhtml-notations.module "INCLUDE" >
<![%xhtml-notations.module;[ PUB0 "-/W3C//NOTATIONS XHTML Notations 1.0//EN"
"xhtml-notations-1.mod" >
%xhtml-notations.mod;]]>

<!ENTITY % xhtml-datatypes.module "INCLUDE" >
<![%xhtml-datatypes.module;[ PUB0 "-/W3C//ENTITIES XHTML Datatypes 1.0//EN"
"xhtml-datatypes-1.mod" >
%xhtml-datatypes.mod;]]>

<!ENTITY % xhtml-qname.module "INCLUDE" >
<![%xhtml-qname.module;[ PUB0 "-/W3C//ENTITIES XHTML Qualified Names 1.0//EN"
"xhtml-qname-1.mod" >
%xhtml-qname.mod;]]>

<!ENTITY % xhtml-legacy-1.mod -->
<!ENTITY % font.qname "%XHTML.pfx;font" >
<!ENTITY % basefont.qname "%XHTML.pfx;basefont" >
<!ENTITY % center.qname "%XHTML.pfx;center" >
<!ENTITY % s.qname "%XHTML.pfx;s" >
<!ENTITY % strike.qname "%XHTML.pfx;strike" >
<!ENTITY % u.qname "%XHTML.pfx;u" >
<!ENTITY % dir.qname "%XHTML.pfx;dir" >
<!ENTITY % menu.qname "%XHTML.pfx;menu" >
<!ENTITY % isindex.qname "%XHTML.pfx;isindex" >

<!ENTITY % xhtml-frames-1.mod -->
<!ENTITY % frameset.qname "%XHTML.pfx;frameset" >
<!ENTITY % frame.qname "%XHTML.pfx;frame" >
<!ENTITY % noframes.qname "%XHTML.pfx;noframes" >

<!ENTITY % xhtml-iframe-1.mod -->
<!ENTITY % iframe.qname "%XHTML.pfx;iframe" >

<!ENTITY % xhtml-events.module "IGNORE" >
<![%xhtml-events.module;[ PUB0 "-/W3C//ENTITIES XHTML Intrinsic Events 1.0//EN"
"xhtml-events-1.mod" >
%xhtml-events.mod;]]>

<!-- Additional Common Attributes ...................... -->

<!-- include historical 'lang' attribute (which should
always match the value of 'xml:lang') -->
<!ENTITY % lang.attrib "xml:lang %LanguageCode.datatype; #IMPLIED" >

- 242 -
<!-- redeclare content model of <html> to allow for either body or frameset content. The SGML markup minimization features used in HTML 4 do not apply, so the ambiguity that necessitated separation into the separate Frameset and Transitional DTDs is eliminated. -->

<!ENTITY % html.content
 "( %head.qname;, ( %body.qname; | %frameset.qname; ) )">

<!-- end of xhtml-legacy-redecl-1.mod -->
G. References

This appendix is normative.

G.1. Normative References


[ISO10646] "Information Technology -- Universal Multiple-Octet Coded Character Set (UCS)", ISO/IEC 10646:2003, as, from time to time, amended, replaced by a new edition or expanded by the addition of new parts. (See http://www.iso.org/iso/en/ISOOnline.openerpage for the latest version.)

[RFC1808] (obsoleted, see [URI [p. 246] ])


G.2. Informative References

[SRGB]

[UNICODE]
[The Unicode Standard, Version 4.1], as updated from time to time by the publication of new versions, The Unicode Consortium. See http://www.unicode.org/unicode/standard/versions for the latest version and additional information on versions of the standard and of the Unicode Character Database).

[URI]

[URL]

[XHTML1]

[XML]

[XMLNAMES]

[XMLSCHEMA]

G.2. Informative References

[MATH]

[SMIL]
Available at: http://www.w3.org/TR/2005/REC-SMIL2-20050107/

[XLINK]

Available at: http://www.w3.org/TR/2000/PR-xlink-20001220

[XMLSTYLE]

Available at: http://www.w3.org/1999/06/REC-xml-stylesheet-19990629
H. Design Goals

This appendix is informative.

In this appendix, design goals are identified with a label "Gn", and requirements are identified with a label "Rn.n". There are four major design goals for the modularization framework for XHTML:

- [G1] To group semantically related parts of XHTML together.
- [G2] Using DTD technology, to support the creation of related languages (subsets, supersets) for specific purposes (small devices, special-purpose devices), while guaranteeing commonality of the overlapping parts.
- [G3] To facilitate future development by allowing parts of the language to be replaced by improved modules (for instance, forms) without disturbing the rest of the language.
- [G4] To encourage and facilitate the reuse of modules in other languages.

H.1. Requirements

The design goals listed in the previous section lead to a large number of requirements for the modularization framework. These requirements, summarized in this section, can be further classified according to the major features of the framework to be described.

H.1.1. Granularity

Collectively the requirements in this section express the desire that the modules defined within the framework hit the right level of granularity:

- [R1.1] Abstract modules should promote and maintain content portability.
- [R1.2] Abstract modules should promote platform profile standardization.
- [R1.3] Abstract modules should be large enough to promote interoperability.
- [R1.4] Abstract modules should be small enough to avoid the need for subsets.
- [R1.5] Abstract modules should collect elements with similar or related semantics.
- [R1.6] Abstract modules should separate elements with dissimilar or unrelated semantics.
- [R1.7] Modules should be small enough to allow single element document type modules.

H.1.2. Composibility

The composibility requirements listed here are intended to ensure that the modularization framework be able to express the right set of target modules required by the communities that will be served by the framework:

- [R2.1] The module framework should allow construction of abstract modules for XHTML 1.0.
- [R2.2] The module framework should allow construction of abstract modules that closely approximate HTML 4.
- [R2.3] The module framework should allow construction of abstract modules for other W3C
Recommendations.
- [R2.4] The module framework should allow construction of abstract modules for other XML document types.
- [R2.5] The module framework should allow construction of abstract modules for a wide range of platform profiles.

H.1.3. Ease of Use

The modularization framework will only receive widespread adoption if it describes mechanisms that make it easy for our target audience to use the framework:

- [R3.1] The module framework should make it easy for document type designers to subset and extend XHTML abstract modules.
- [R3.2] The module framework should make it easy for document type designers to create abstract modules for other XML document types.
- [R3.3] The module framework should make it easy for document authors to validate elements from different abstract modules.

H.1.4. Compatibility

The intent of this document is that the modularization framework described here should work well with the XML and other standards being developed by the W3C Working Groups:

- [R4.1] The module framework should strictly conform to the XML 1.0 Recommendation.
- [R4.2] The module framework should be compatible with the XML Linking Language (XLink) \([\text{XLINK}]\) \([\text{p.247}]\) specification.
- [R4.3] The module framework should be compatible with the Associating Style Sheets with XML documents \([\text{XMLSTYLE}]\) \([\text{p.247}]\) specification.
- [R4.4] The module framework should be able to adopt new W3C Recommendations where appropriate.
- [R4.5] The module framework should not depend on W3C work in progress.
- [R4.6] The module framework should not depend on work done outside W3C.

H.1.5. Conformance

The effectiveness of the framework will also be measured by how easy it is to test the behavior of modules developed according to the framework, and to test the documents that employ those modules for validation:

- [R5.1] It should be possible to validate documents constructed using elements and attributes from abstract modules.
- [R5.2] It should be possible to explicitly describe the behavior of elements and attributes from abstract modules.
- [R5.3] It should be possible to verify the behavior of elements and attributes from abstract modules.
- [R5.4] It should be possible to verify a hybrid document type as an XHTML document type.
• [R5.5] Modules defined in accordance with the methods in this document shall not duplicate the names of elements or parameter entities defined in XHTML modules.
J. Acknowledgements

This appendix is *informative*.

This specification was prepared by the W3C HTML Working Group. The members at the time of publication of the first edition were:

- Steven Pemberton, CWI (HTML Working Group Chair)
- Murray Altheim, Sun Microsystems
- Daniel Austin, Mozquito Technologies
- Jonny Axelsson, Opera Software
- Mark Baker, Sun Microsystems
- Wayne Carr, Intel
- Tantek Çelik, Microsoft
- Doug Dominiak, Openwave Systems
- Andrew W. Donoho, IBM
- Herman Elenbaas, Philips Electronics
- Beth Epperson, Netscape/AOL
- Masayasu Ishikawa, W3C (HTML Activity Lead)
- Shin’ichi Matsui, Panasonic
- Shane McCarron, Applied Testing and Technology
- Ann Navarro, WebGeek, Inc.
- Peter Stark, Ericsson
- Michel Suignard, Microsoft
- Jeremy Wadsworth, Quark Inc.
- Malte Wedel, Mozquito Technologies
- Ted Wugofski, Openwave Systems

The members at the time of publication of the second edition were:

*(insert the list here)*