Abstract

The XHTML Basic document type includes the minimal set of modules required to be an XHTML host language document type, and in addition it includes images, forms, basic tables, and object support. It is designed for Web clients that do not support the full set of XHTML features; for example, Web clients such as mobile phones, PDAs, pagers, and settop boxes. The document type is rich enough for content authoring.

XHTML Basic is designed as a common base that may be extended. For example, an event module that is more generic than the traditional HTML 4 event system could be added or it could be extended by additional modules from XHTML Modularization such as the Scripting Module. The goal of XHTML Basic is to serve as a common language supported by various kinds of user agents.

The document type definition is implemented using XHTML modules as defined in "Modularization of XHTML" [XHTMLMOD].

Status of this Document

This section describes the status of this document at the time of its publication. Other documents may supersede this document. The latest status of this document series is maintained at the W3C.

This document has been reviewed by W3C Members and other interested parties and has been endorsed by the Director as a W3C Recommendation. It is a stable document and may be used as reference material or cited as a normative reference from another document. W3C's role in making the Recommendation is to draw attention to the specification and to promote its widespread deployment. This enhances the functionality and interoperability of the Web.

This document has been produced by the W3C HTML Working Group [members only] as part of the W3C HTML Activity. It integrates feedback from the WAP Forum and members of the W3C Mobile Access Interest Group [members only]. This document will be used by the W3C HTML Working Group and the W3C Mobile Access Interest Group to find a common ground for future markup languages aimed at content for small information appliances.

"Modularization of XHTML" [XHTMLMOD] defines the XHTML modules used in the XHTML Basic document type. At the time of this publication, the Candidate Recommendation review period for "Modularization of XHTML" has closed. Based on that review, the W3C HTML Working Group believes that the definition of modules used in XHTML Basic is stable, and the Working Group does not expect to make changes to "Modularization of XHTML" that would be incompatible with XHTML Basic.

Public discussion of HTML takes place on www-html@w3.org (archive). To subscribe send an email to 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 (archive). The list of known errors in this document is available at http://www.w3.org/2000/12/REC-xhtml-basic-20001219-errata.

The English version of this specification is the only normative version. Information about translations of this document is available at http://www.w3.org/MarkUp/translations.

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1. Introduction

1.1. XHTML for Small Information Appliances

HTML 4 is a powerful language for authoring Web content, but its design does not take into consideration issues pertinent to small devices, including the implementation cost (in power, memory, etc.) of the full feature set. Consumer devices with limited resources cannot generally afford to implement the full feature set of HTML 4. Requiring a full-fledged computer for access to the World Wide Web excludes a large portion of the population from consumer device access of online information and services.

Because there are many ways to subset HTML, there are many almost identical subsets defined by organizations and companies. Without a common base set of features, developing applications for a wide range of Web clients is difficult.

The motivation for XHTML Basic is to provide an XHTML document type that can be shared across communities (e.g. desktop, TV, and mobile phones), and that is rich enough to be used for simple content authoring.

New community-wide document types can be defined by extending XHTML Basic in such a way that XHTML Basic documents are in the set of valid documents of the new document type. Thus an XHTML Basic document can be presented on the maximum number of Web clients.

The document type definition for XHTML Basic is implemented based on the XHTML modules defined in Modularization of XHTML [XHTMLMOD].

1.2. Background and Requirements

Information appliances are targeted for particular uses. They support the features they need for the functions they are designed to fulfill. The following are examples of different information appliances:
- Mobile phones
- Televisions
- PDAs
- Vending machines
- Pagers
- Car navigation systems
- Mobile game machines
- Digital book readers
- Smart watches

Existing subsets and variants of HTML for these clients include Compact HTML [CHTML], the Wireless Markup Language [WML], and the "HTML 4.0 Guidelines for Mobile Access" [GUIDELINES]. The common features found in these document types include:
- Basic text (including headings, paragraphs, and lists)
- Hyperlinks and links to related documents
- Basic forms
- Basic tables
- Images
- Meta information

This set of HTML features has been the starting point for the design of XHTML Basic. Since many content developers are familiar with these HTML features, they comprise a useful host language that may be combined with markup modules from other languages according to the methods described in "Modularization of XHTML" [XHTMLMOD]. For example, XHTML Basic may be extended with an event module that is more generic than the traditional HTML 4 event system or it could be extended by additional modules from XHTML Modularization such as the Scripting Module.

It is not the intention of XHTML Basic to limit the functionality of future languages. But since the features in HTML 4 (frames, advanced tables, a fixed set of attribute event handlers, etc.) were developed for a desktop computer type of client, they have proved to be inappropriate for many non-desktop devices. XHTML Basic will be extended and built upon. Extending XHTML from a common and basic set of features, instead of almost
identical subsets or the too-large set of functions in HTML 4, will be good for interoperability on the Web, as well as for scalability.

Compared to the rich functionality of HTML 4, XHTML Basic may look like one step back, but in fact, it is two steps forward for clients that do not need what is in HTML 4 and for content developers who get one XHTML subset instead of many.

1.3. Design Rationale

This section explains why certain HTML features are not part of XHTML Basic.

1.3.1. Style Sheets

The style element is not supported. External style sheets are recommended. The link element can be used to include external style sheets. The div and span elements and the class attribute are supported to hook style information onto the structure. Separation between structure and presentation allows user agents to download the style sheets if they support style sheets; user agents that do not support style sheets can ignore the external stylesheet. The media attribute can be used to select the appropriate style sheets. See the section on "Media types" in the HTML 4.01 specification ([HTML4], section 14.2.4) for more details.

1.3.2. Script and Events

The script and noscript elements are not supported. Usually small devices have limited memory and CPU power. Execution of script programs may not be supported. Contents should be readable even if scripts are not executed.

Event handler attributes used to invoke script programs are not supported. Events are device dependent. An incoming-call event is unlikely to happen in a television. A generic event handling mechanism would be more appropriate than hardwiring the event names in the document type definition.

1.3.3. Presentation

Many simple Web clients cannot display fonts other than monospace. Bi-directional text, bold faced font, and other text extension elements are not supported.

It is recommended that style sheets be used to create a presentation that is appropriate for the device.

1.3.4. Forms

Basic XHTML forms ([XHTMLOD], section 5.5.1) are supported. Since only devices with a local file system can take advantage of file and image input types in forms, they are not included in the basic forms. Also, content developers should keep in mind that users may not be able to input many characters from some devices (e.g. from a mobile phone).

1.3.5. Tables

Basic XHTML tables ([XHTMLOD], section 5.6.1) are supported, but tables can be difficult to display on small devices. It is recommended that content developers follow the Web Content Accessibility Guidelines 1.0 for creating accessible tables ([WCAG10], Guideline 5). Note that in the Basic Tables Module, nesting of tables is prohibited.

1.3.6. Frames

Frames are not supported. Frames depend on a screen interface and may not be applicable to some small appliances like phones, pagers, and watches.
2. Conformance

This section is normative.

2.1. Document Conformance

A Conforming XHTML Basic document is a document that requires only the facilities described as mandatory in this specification. Such a document must meet all of the following criteria:

1. The document must conform to the constraints expressed in Appendix B.
2. The root element of the document must be `<html>`.
3. The name of the default namespace on the root element must be the XHTML namespace name, http://www.w3.org/1999/xhtml.
4. There must be a DOCTYPE declaration in the document prior to the root element. If present, the public identifier included in the DOCTYPE declaration must reference the DTD found in Appendix B using its Formal Public Identifier. The system identifier may be modified appropriately.
   ```xml
   <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML Basic 1.0//EN"
            "http://www.w3.org/TR/xhtml-basic/xhtml-basic10.dtd">
   ```
5. The DTD subset must not be used to override any parameter entities in the DTD.

2.2. User Agent Conformance

The user agent must conform to the "User Agent Conformance" section of the XHTML
3. The XHTML Basic Document Type

This section is normative.

The XHTML Basic document type is defined as a set of XHTML modules. All XHTML modules are defined in the "Modularization of XHTML" specification [XHTMLMOD].

XHTML Basic consists of the following XHTML modules:

**Structure Module**
- body, head, html, title

**Text Module**
- abbr, acronym, address, blockquote, br, cite, code, dfn, div, em, h1, h2, h3, h4, h5, h6, kbd, p, pre, q, samp, span, strong, var

**Hypertext Module**
- a

**List Module**
- dl, dt, dd, ol, ul, li

**Basic Forms Module**
- form, input, label, select, option, textarea

**Basic Tables Module**
- caption, table, td, th, tr

**Image Module**
- img

**Object Module**
- object, param

**Metainformation Module**
- meta

**Link Module**
- link

**Base Module**
- base

(*) = This module is a required XHTML Host Language module.

An XML 1.0 DTD is available in Appendix B.

NOTE: Since the HTML event handler attributes are not included in XHTML Basic, form controls outside forms may not function as expected by the user.
4. How to Use XHTML Basic

Although XHTML Basic can be used as it is - a simple XHTML language with text, links, and images - the intention of its simple design is for use as a host language. A host language can contain a mix of vocabularies all rolled into one document type. It is natural that XHTML is the host language, since that is what most Web developers are used to.

When markup from other languages is added to XHTML Basic, the resulting document type will be an extension of XHTML Basic. Content developers can develop for XHTML Basic or take advantage of the extensions. The goal of XHTML Basic is to serve as a common language supported by various kinds of user agents.
5. Acknowledgements

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A. References

A.1. Normative References

[HTML4]
The latest version is available at: http://www.w3.org/TR/html4

[XHTML1]
"XHTML 1.0: The Extensible HyperText Markup Language - A Reformulation of HTML 4 in XML 1.0", W3C

[XHTMLMOD]
The latest version is available at: http://www.w3.org/TR/xhtml-modularization

[XML]
The latest version is available at: http://www.w3.org/TR/REC-xml

A.2. Informative References

[CHTML]

[GUIDELINES]
The latest version is available at: http://www.w3.org/TR/NOTE-html40-mobile

[WCAG10]
The latest version is available at: http://www.w3.org/TR/WCAG10

[WML]
B. XHTML Basic Document Type Definition

This appendix is normative.

B.1. SGML Open Catalog Entry for XHTML Basic

This section contains the SGML Open Catalog-format definition of the XHTML Basic FPI.

```
-- ............................................................ --
-- File catalog ............................................................ --
-- XHTML Basic Catalog Data File
See "Entity Management", SGML Open Technical Resolution 9401 for detailed
information on supplying and using catalog data. This document is available
from OASIS at URL:
-- ............................................................ --
```

```
-- SGML declaration associated with XML .................................... --
OVERRIDE YES
SGMLDECL "xml1.dcl"
-- :::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::: --
-- XHTML Basic DTD modular driver file ..................................... --
PUBLIC "-//W3C//DTD XHTML Basic 1.0//EN" "xhtml-basic10.dtd"
-- XHTML Basic framework module ............................................. --
PUBLIC "-//W3C//ENTITIES XHTML Basic 1.0 Document Model 1.0//EN" "xhtml-basic10-
model-1.mod"
-- End of catalog data ..................................................... --
```

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B.2. XHTML Basic Driver

This section contains the driver for the XHTML Basic document type implementation as an XML DTD. It relies upon XHTML module implementations defined in [XHTMLMOD].

<!·- XHTML Basic 1.0 DTD ...................................................... -·>
<!·- file: xhtml-basic10.dtd -·>
<!·- XHTML Basic 1.0 DTD
This is XHTML Basic, a proper subset of XHTML.
The Extensible HyperText Markup Language (XHTML)
Copyright 1998-2000 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 Basic DTD
and its accompanying documentation for any purpose and without fee is
hereby granted in perpetuity, provided that the above copyright notice
and this paragraph appear in all copies. The copyright holders make
no representation about the suitability of the DTD for any purpose.
It is provided "as is" without expressed or implied warranty.
Editors: Murray M. Altheim <mailto:altheim@eng.sun.com>
Peter Stark <mailto:Peter.Stark@ecs.ericsson.se>

<!-- reserved for future use with document profiles -->
<!ENTITY % XHTML.profile "" >
<!·- Bidirectional Text features
This feature-test entity is used to declare elements
and attributes used for bidirectional text support.
-->
B.3. XHTML Basic Customizations

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

```xml
<!-- ...XHTML Basic 1.0 Document Model Module ... -->
<!-- file: xhtml-basic10-model-1.mod

This is XHTML Basic, a proper subset of XHTML.
Copyright 1998-2000 W3C (MIT, INRIA, Keio), All Rights Reserved.
Revision: $Id: xhtml-basic10-model-1.mod,v 2.8 2000/11/03 14:28:25 mimasa Exp $

SMI

This DTD module is identified by the PUBLIC and SYSTEM identifiers:
PUBLIC "-//W3C//ENTITIES XHTML Basic 1.0 Document Model 1.0//EN"
SYSTEM "http://www.w3.org/TR/xhtml-basic/xhtml-basic10-model-1.mod"
Revisions:
none

... -->
<!-- XHTML Basic Document Model
This module describes the groupings of elements that make up common content models for XHTML elements.

-->
<!-- Optional Elements in head .............. -->
<ENTITY % HeadOpt mix "(%meta.qname; | %link.qname; | %object.qname; )" >
<!-- Miscellaneous Elements ................. -->
<ENTITY % Misc.class "">
<!-- Inline Elements ........................ -->
<ENTITY % InlStruct.class "%br.qname; | %span.qname;">
<ENTITY % InlPhras.class "| %em.qname; | %strong.qname; | %dfn.qname; | %code.qname;
| %samp.qname; | %kbd.qname; | %var.qname; | %cite.qname;
| %abbr.qname; | %acronym.qname; | %q.qname;">
<ENTITY % InlPres.class "">
<ENTITY % I18n.class "">
<ENTITY % Anchor.class " | %a.qname;">
<ENTITY % InlSpecial.class " | %img.qname; | %object.qname;">
<ENTITY % InlForm.class " | %input.qname; | %select.qname; | %textarea.qname;
| %label.qname;">
<!ENTITY % Inline.extra "">
<!ENTITY % Inline.class *
%InlStruct.class;
%InlPhras.class;
%Anchor.class;
%InlSpecial.class;
%InlForm.class;
%Inline.extra;">
<ENTITY % InlNoAnchor .class *
%InlStruct.class;
%InlPhras.class;
%InlSpecial.class;
%InlForm.class;
%Inline.extra;" >
```
<!ENTITY % InlNoAnchor.mix
  "%InlNoAnchor.class;
  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 % Table.class "| %table.qname;"
>
<!ENTITY % Form.class "| %form.qname;"
>
<!ENTITY % BlkStruct.class "%p.qname; | %div.qname;"
>
<!ENTITY % BlkPhras.class
  "| %pre.qname; | %blockquote.qname; | %address.qname;"
>
<!ENTITY % BlkPres.class ""
>
<!ENTITY % BlkSpecial.class
  "%Table.class;
  %Form.class;"
>
<!ENTITY % Block.extra ""
>
<!ENTITY % Block.class
  "%BlkStruct.class;
  %BlkPhras.class;
  %BlkSpecial.class;
  %Block.extra;"
>
<!ENTITY % Block.mix
  "%Heading.class;
   | %List.class;
   | %Block.class;
   Misc.class;"
>
<!-- All Content Elements .................... -->
<!-- declares all content except tables -->
<!ENTITY % FlowNoTable.mix
  "%Heading.class;
   | %List.class;
   | %BlkStruct.class;
   %BlkPhras.class;
   %Form.class;
   %Block.extra;
   | %Inline.class;
   Misc.class;"
>
<!ENTITY % Flow.mix
  "%Heading.class;
   | %List.class;
   | %Block.class;
   | %Inline.class;
   Misc.class;"
>
<!- end of xhtml-basic10-model-1.mod -->