



XHTML Role Attribute Module

A module to support role classification of elements

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Abstract

The XHTML Role Attribute defined in this specification allows the author to annotate XML Languages with machine-extractable semantic information about the purpose of an element. Use cases include accessibility, device adaptation, server-side processing, and complex data description. This attribute can be integrated into any markup language based upon XHTML Modularization [XHTMLMOD [p.19]].

Status of This Document

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This document is a Candidate Recommendation of the XHTML Role module. It is based upon comments received during the last call period, and also upon work done in the definition of [XHTML2 [p.19]]. It is considered mature and stable by the working group. A record of how the comments from the last call period were addressed is available at <http://www.w3.org/MarkUp/2008/xhtmll-role-lc2-doc-20080618.html> . An implementation report is available at <http://www.w3.org/MarkUp/2008/xhtmll-role-impl-report.html>. The working group invites comments on this draft through 30 July 2008. Comments should be addressed to www-html-editor@w3.org. All comments sent to that address are available in a (public archive).

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

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Table of Contents

1. Introduction	.5
2. Conformance Requirements	.7
2.1. Document Conformance	.7
2.2. Host Language Conformance	.7
3. The XHTML Role Attribute	.9
3.1. Extending the collection of roles	10
A. DTD Implementation	11
A.1. Qualified Names Module	11
B. Schema Implementation	15
B.1. Attributes Module	15

C. RDF/OWL Taxonomy	17
D. References	19
D.1. Normative References	19
D.2. Other References	19
E. Acknowledgments	21

1. Introduction

This section is informative.

This document is a module designed to be used to help extend the scope of XHTML-family markup languages into new environments. It has been developed in conjunction with the accessibility community and other groups to make it easier to describe the semantic meaning of XHTML-family document content.

2. Conformance Requirements

This section is *normative*.

The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119 [p.19]].

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

2.1. Document Conformance

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

1. The document **MUST** conform to the constraints expressed in its host language implementation.
2. If the host language is not in the XHTML namespace, and the host language does not incorporate this module into its own namespace, then the document **MUST** contain an XML namespace declaration for the XHTML Role Attribute Module namespace [XMLNAMES [p.19]]. The namespace for XHTML Role Attribute Module is defined to be `http://www.w3.org/1999/xhtml`. An example start tag of a root element might look like:

This example is informative

```
<mylang xmlns="http://www.example.com/dtd/mylang"
        xmlns:xh="http://www.w3.org/1999/xhtml" xml:lang="en" >
```

2.2. Host Language Conformance

When the XHTML Role Attribute Module is included in a host language, all of the facilities required in this specification **MUST** be included in the host language. In addition, the attribute defined in this specification **MUST** be included in the content model of the host language.

3. The XHTML Role Attribute

This section is normative.

The Role Attribute Module defines the `role` attribute. The `role` attribute takes as its value one or more whitespace separated CURIEs [CURIE [p.19]]. Any non-qualified value MUST be interpreted as being from the XHTML vocabulary at <http://www.w3.org/1999/xhtml/vocab#>. For a list of all roles in the default vocabulary, see [XHTMLVOCAB [p.19]].

The attribute describes the role(s) the current element plays in the context of the document. This can be used, for example, by applications and assistive technologies to determine the purpose of an element. This could allow a user to make informed decisions on which actions may be taken on an element and activate the selected action in a device independent way. It could also be used as a mechanism for annotating portions of a document in a domain specific way (e.g., a legal term taxonomy). Although the role attribute may be used to add semantics to an element, authors SHOULD use elements with inherent semantics, such as `<p>`, rather than layering semantics on semantically neutral elements, such as `<div role="paragraph">`.

The following is an example of a good, appropriate use of the role attribute:

This example is informative

```
<ul role="navigation">
  <li href="downloads">Downloads</li>
  <li href="docs">Documentation</li>
  <li href="news">News</li>
</ul>
```

The next example, on the other hand, is a poor use of the role attribute because it attempts to apply semantics of an element that already exists onto some other element:

This example is informative

```
<p>Do you agree with the above license?
  <span role="checkbox">Yes</span>
  <span role="checkbox">No</span>
</p>
```

A more appropriate use of this module would be to use the existing checkbox element:

This example is informative

```
<p>Do you agree with the above license?
  <input type="checkbox" name="agree" value="y" />Yes
  <input type="checkbox" name="agree" value="n" />No
</p>
```

3.1. Extending the collection of roles

It is possible to define additional role values. Such values **MUST** be defined in their own vocabulary. Note that current best practice is that the URI associated with that vocabulary resolve to a resource that allows for the discovery of the definition of the roles in the vocabulary. Example definitions include the RDF/OWL Taxonomy for the XHTML role attribute values in Appendix C [p.17] , and the Web Accessibility Initiative's work on an RDF Taxonomy [ARIA-ROLE [p.19]].

A. DTD Implementation

This appendix is *informative*.

The DTD implementation of XHTML Role Attribute Module conforms to the requirements defined in [XHTMLMOD [p.19]]. Consequently, it provides a Qualified Names declaration module.

A.1. Qualified Names Module

Note that this module defines the parameter entity `%xhtml-role-attrs.qname;`. This entity is intended to be used in the attribute lists of elements in any host language that permits the use of the role attribute on elements in its own namespace. If a host language does not permit role in its namespace, then the host language driver should set a parameter entity `%XHTML-ROLE.prefix;` to `INCLUDE` and a parameter entity `%XHTML-ROLE.prefix;` to a value that is the prefix for the XHTML Role Attribute Module attribute.

```
<!-- ..... -->
<!-- XHTML Role QName Module ..... -->
<!-- file: xhtml-role-qname-1.mod

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

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

        PUBLIC "-//W3C//ENTITIES XHTML Role Attribute Qnames 1.0//EN"
        SYSTEM "http://www.w3.org/Markup/DTD/xhtml-role-qname-1.mod"

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

<!-- XHTML Role Attribute QName (Qualified Name) Module

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

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

    Section B declares parameter entities used to provide
    namespace-qualified names for the XHTML role attribute:

        %role.qname;    the xmlns-qualified name for @role
        ...

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

<!-- Section A: XHTML Role Attribute XML Namespace Framework ::::::::::::::: -->
<!-- 1. Declare a %XHTML-ROLE.prefix; conditional section keyword, used
```

to activate namespace prefixing. The default value should inherit '%NS.prefixed;' from the DTD driver, so that unless overridden, the default behavior follows the overall DTD prefixing scheme.

```
-->
<!ENTITY % NS.prefixed "IGNORE" >
<!ENTITY % XHTML-ROLE.prefixed "%NS.prefixed;" >

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

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

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

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

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

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

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

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

<!ENTITY % xhtml-role.role.qname "%XHTML-ROLE.pfx;role" >

<!-- The following defines a PE for use in the attribute sets of elements in
      other namespaces that want to incorporate the XHTML role attribute. Note
```

that in this case the XHTML-ROLE.pfx should be defined. -->

```
<!ENTITY % xhtml-role.attrs.qname
    "%XHTML-ROLE.pfx;role          CDATA          #IMPLIED"
>
```

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


B. Schema Implementation

This appendix is *informative*.

The schema implementation of XHTML Role Attribute Module conforms to the requirements defined in [XHTMLMOD [p.19]]. It is included here as an example implementation.

B.1. Attributes Module

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

  <xs:annotation>
    <xs:documentation>
      This is the XML Schema attribute module for XHTML Role
      $Id: xhtml-role-attr-1.xsd,v 1.1 2008/01/28 18:01:58 ahby Exp $
    </xs:documentation>
    <xs:documentation source="xhtml-copyright-1.xsd"/>
    <xs:documentation source="http://www.w3.org/TR/xhtml-role#A_role"/>
  </xs:annotation>
  <xs:attribute name="role" type="xh11d:CURIEs"/>
</xs:schema>
```


C. RDF/OWL Taxonomy

This section is informative

The following example shows a way to define the collection of role attributes in the XHTML vocabulary space using RDF/OWL.

This example is informative

```
<?xml version="1.0"?>
<!DOCTYPE rdf:RDF [
  <!ENTITY xsd "http://www.w3.org/2001/XMLSchema#">
  <!ENTITY dc "http://dublincore.org/2003/03/24/dces#">
  <!ENTITY owl "http://www.w3.org/2002/07/owl#">
  <!ENTITY rdfs "http://www.w3.org/2000/01/rdf-schema#">
  <!ENTITY rdf "http://www.w3.org/1999/02/22-rdf-syntax-ns#">
  <!ENTITY states "http://www.w3.org/2005/07/aaa#">
  <!ENTITY wairole "http://www.w3.org/2005/01/wai-rdf/GUIRoleTaxonomy#">
]>
<rdf:RDF xml:base="http://www.w3.org/1999/xhtml"
  xmlns:dc="http://purl.org/dc/elements/1.1/#"
  xmlns:owl="http://www.w3.org/2002/07/owl#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:states="http://www.w3.org/2005/07/aaa#"
  xmlns:wairole="http://www.w3.org/2005/01/wai-rdf/GUIRoleTaxonomy#" >
  <owl:Class rdf:ID="banner">
    <rdfs:subClassOf rdf:resource="wairole:region"/>
    <wairole:scope rdf:resource="wairole:document"/>
    <dc:description xml:lang="en">
      A region that contains the prime heading or internal title of a
      page.
    </dc:description>
  </owl:Class>
  <owl:Class rdf:ID="complementary">
    <rdfs:subClassOf rdf:resource="wairole:region"/>
    <wairole:scope rdf:resource="wairole:document"/>
    <dc:description xml:lang="en">
      Any section of the document that supports but is separable
      from the main content, but is semantically meaningful on its
      own even when separated from it.
    </dc:description>
  </owl:Class>
  <owl:Class rdf:ID="contentinfo">
    <rdfs:subClassOf rdf:resource="wairole:region"/>
    <wairole:scope rdf:resource="wairole:document"/>
    <dc:description xml:lang="en">
      Meta information about the content on the page or the page as
      a whole.
    </dc:description>
  </owl:Class>
  <owl:Class rdf:ID="definition">
    <rdfs:subClassOf rdf:resource="wairole:section"/>
    <wairole:scope rdf:resource="wairole:document"/>
    <dc:description xml:lang="en">
```

```

        A definition of a term or concept.
      </dc:description>
    </owl:Class>
    <owl:Class rdf:ID="main">
      <rdfs:subClassOf rdf:resource="wairole:region"/>
      <wairole:scope rdf:resource="wairole:document"/>
      <dc:description xml:lang="en">
        This defines the main content of a document.
      </dc:description>
    </owl:Class>
    <owl:Class rdf:ID="navigation">
      <rdfs:subClassOf rdf:resource="wairole:region"/>
      <wairole:scope rdf:resource="wairole:document"/>
      <wairole:relatedConcept rdf:resource="wairole:menu"/>
      <dc:description xml:lang="en">
        A collection of links suitable for use when navigating the
        document or related documents.
      </dc:description>
    </owl:Class>
    <owl:Class rdf:ID="note">
      <rdfs:subClassOf rdf:resource="wairole:section"/>
      <wairole:scope rdf:resource="wairole:document"/>
      <dc:description xml:lang="en">
        The content is parenthetical or ancillary to the main content
        of the resource.
      </dc:description>
    </owl:Class>
    <owl:Class rdf:ID="search">
      <rdfs:subClassOf rdf:resource="wairole:region"/>
      <wairole:scope rdf:resource="wairole:document"/>
      <dc:description xml:lang="en">
        The search tool of a web document.
      </dc:description>
    </owl:Class>
  </rdf:RDF>

```

D. References

This appendix is *normative*.

D.1. Normative References

[CURIE]

"*CURIE Syntax 1.0*", W3C Working Draft, M. Birbeck, S. McCarron, *ed.*, 2 April 2008.

Available at: <http://www.w3.org/TR/2008/WD-curie-20080402/>

The latest version is available at: <http://www.w3.org/TR/curie>

[RFC2119]

"*Key words for use in RFCs to indicate requirement levels*", RFC 2119, S. Bradner, March 1997.

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[XHTMLMOD]

"*Modularization of XHTML™ 1.1*", W3C Proposed Recommendation, D. Austin *et al.*, *eds.*, 11 June 2008.

Available at: <http://www.w3.org/TR/2008/PR-xhtml-modularization-20080611>

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[XHTMLVOCAB]

"XHTML Vocabulary namespace", XHTML 2 Working Group.

Available at: <http://www.w3.org/1999/xhtml/vocab>

[XMLNAMES]

"*Namespaces in XML*", W3C Recommendation, T. Bray *et al.*, *eds.*, 14 January 1999.

Available at: <http://www.w3.org/TR/1999/REC-xml-names-19990114>

The latest version is available at: <http://www.w3.org/TR/REC-xml-names>

D.2. Other References

[ARIA-ROLE]

"*Roles for Accessible Rich Internet Applications*". L. Seeman, R. Schwerdtfeger, 1 June 2007.

The latest version is available at: <http://www.w3.org/TR/aria-role>

[XHTML]

"*XHTML™ 1.0: The Extensible HyperText Markup Language (Second Edition)*". S.

Pemberton *et al.*, 26 January 2000, revised 1 August 2002.

Available at: <http://www.w3.org/TR/2002/REC-xhtml1-20020801>

The latest version is available at: <http://www.w3.org/TR/xhtml1>

[XHTML2]

"*XHTML™ 2.0*". J. Axelsson *et al.*, 27 May 2005.

Available at: <http://www.w3.org/TR/2005/WD-xhtml2-20050527>

The latest version is available at: <http://www.w3.org/TR/xhtml2>

E. Acknowledgments

This section is informative.

At the time of publication, the participants in the W3C XHTML 2 Working Group were: