



Test Metadata

W3C Working Group Note 14 September 2005

This version:

<http://www.w3.org/TR/2005/NOTE-test-metadata-20050914/>

Latest version:

<http://www.w3.org/TR/test-metadata/>

Previous version:

<http://www.w3.org/QA/2005/08/test-case-metadata>

<http://esw.w3.org/topic/TestCaseMetadata>

Editors:

Patrick Curran, Sun Microsystems

Karl Dubost, W3C

Contributors:

[See Acknowledgments.](#)

[Copyright](#) © 2004-2005 [W3C](#)® ([MIT](#), [ERCIM](#), [Keio](#)), All Rights Reserved. W3C [liability](#), [trademark](#) and [document use](#) rules apply.

Richard T. Kennedy 05-9-9 15:47

Comment: xhtml: Broken link.

Richard T. Kennedy 05-9-9 15:47

Comment: xhtml: Broken link.

Richard T. Kennedy 05-9-9 15:07

Comment: xhtml: Delete shape="rect" from the anchor tag. It is not valid without a coord attribute.

Richard T. Kennedy 05-9-9 15:07

Comment: xhtml: Replace © with ©

Richard T. Kennedy 05-9-9 15:07

Comment: xhtml: Replace ® with ®

Abstract

This document defines a minimal set of metadata elements that can usefully be applied to test cases that are intended for publication within a conformance test suite. Defining and providing metadata has proved helpful in a variety of areas during the test development process. It also helps those who run the tests to verify the conformance of their implementations.

Status of this document

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

This document is a W3C Working Group Note. It has been produced by the [Quality Assurance Working Group](#), which is part of the Quality Assurance Activity. It has been made available for discussion by W3C members and other interested parties. For more

information about the QA Activity, please see the [QA Activity statement](#). [Translations](#) of this document may be available.

Richard T. Kennedy 05-9-9 15:47

Comment: xhtml: Broken link.

This is the first published version of this document. It has been written along with the QA Framework by collecting the test development experience of W3C Working Groups and summarizing the work done on the Wiki about [Test and Metadata](#).

Publication as a Working Group Note 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.

The QA Working Group does not expect this document to become a Recommendation. Rather, after further development, review and refinement, it may be updated and maintained as [an](#) Interest Group Note.

Richard T. Kennedy 05-9-9 14:13

Deleted: a

You may email comments on this document to www-qa@w3.org, the [publicly archived](#) list of the QA Interest Group.

Table of contents

- [1. Introduction](#)
- [2. Metadata elements](#)
 - [2.1. Identifier](#)
 - [2.2. Title](#)
 - [2.3. Purpose](#)
 - [2.4. Description](#)
 - [2.5. Status](#)
 - [2.6. SpecRef](#)
 - [2.7. Preconditions](#)
 - [2.8. Inputs](#)
 - [2.9. ExpectedResults](#)
 - [2.10. Version](#)
 - [2.11. Contributor](#)
 - [2.12. Rights](#)
 - [2.13. Grouping](#)
 - [2.14. SeeAlso](#)
- [3. Acknowledgements](#)
- [4. References](#)

Richard T. Kennedy 05-9-9 14:27

Formatted: Bullets and Numbering

1. Introduction

This document defines a minimal set of metadata elements that can usefully be applied to test cases that are intended for publication within a conformance test suite. Defining and

providing metadata has proved helpful in a variety of areas during the test development process. It also helps those who run the tests to verify the conformance of their implementations. For example, metadata can be used to:

- track tests during the development and review process
- filter tests according to a variety of criteria (for example, whether or not they are applicable for a particular profile or optional feature)
- identify the area of the specification that is tested by the tests
- aid in the construction of a test harness to automatically execute tests

If the use of standard metadata elements is adopted within the W3C it is likely that standardized tools will be developed to facilitate many of these tasks.

Please note that these metadata elements are simply suggestions. It is likely that additional metadata elements may be appropriate for your implementation. It may even make sense to define metadata about metadata (for example, the Dublin Core elements [Date \[DCES\]](#) and [Language \[DCES\]](#) may usefully be applied to several of the elements defined below.)

We used in this document the Dublin Core elements where it seems appropriate. [DCMI Metadata Terms \[DCMI\]](#) gives an introduction to the use of metadata. For background information on the test development process and additional rationale for the use of metadata, the QA Working Group has created a [Test FAQ \[TEST-FAQ\]](#). A practical implementation of some of these principles is available in XML Query Test Suite defined by the XML Query and XSL Working Groups. (Their [Guidelines for Test Submission \[XQUERY-TEST\]](#) and [Guidelines for Test Execution \[XQUERY-TEST\]](#) provide explanations and examples.)

Richard T. Kennedy 05-9-9 14:13
Deleted: the

2. Metadata elements

2.1 Identifier

Name *Identifier*

Description An unambiguous reference to the test case.

Rationale Enables the test case to be referenced and identified.

Required? Yes.

Syntax Freeform (URI recommended).

Example CSS 2.1 Test Suite: [Pseudo-elements in Selectors \[CSS-TEST\]](#)

See Also

- Dublin Core: [Identifier \[DCES\]](#)
- Test Metadata: [Title](#)

Comments Most W3C test suites use URIs as identifiers.

Richard T. Kennedy 05-9-9 15:07
Comment: At the Dublin Core web site, all elements have the first character capitalized.

Richard T. Kennedy 05-9-9 14:57
Deleted: [identifier](#)

2.2 Title

Name *Title*

Description The name by which the test case is formally known.

Rationale It may be advantageous to provide a more human-oriented alternative to the *Identifier*.

Required? No.

Syntax Text.

Example The [CSS Test Suite](#) [CSS-TEST] uses the term *Description for* human readable names that more properly match this *Title element*. (For example, *CSS 2.1 Test Suite: Co>*.)

See Also

- Dublin Core: [Title](#) [DCES]
- Test Metadata: [Identifier](#)

Comments This element is optional because the *Identifier* will often be sufficient. Note also that in very large test suites it may be impractical to define unambiguous *Titles*.

- Richard T. Kennedy 05-9-9 14:23
Deleted: *Description*for
- Richard T. Kennedy 05-9-9 14:24
Deleted: *Title*element
- Richard T. Kennedy 05-9-9 14:59
Deleted: *title*

2.3 Purpose

Name *Purpose*

Description A brief explanation of the reason the test case was developed.

Rationale Provides additional context for the test case.

Required? Yes.

Syntax Free-form (hypertext).

Example The [CSS1 test suite](#) [CSS-TEST] provides such explanations. For example: *"This page tests the 'text-transform' property of CSS1"*.

See Also

- Test Metadata: [Description](#)
- Test Metadata: [SpecRef](#)

Comments The *Purpose* should typically be kept short enough (a "one liner") to be displayed in *tabular* format. More detailed explanation can be provided in a *Description* element.

- Richard T. Kennedy 05-9-9 14:43
Deleted: "
- Richard T. Kennedy 05-9-9 14:45
Deleted: "
- Richard T. Kennedy 05-9-9 15:47
Comment: xhtml: Missing target; i.e., no #specref in this file.
- Richard T. Kennedy 05-9-9 15:18
Comment: According to the Merriam-Webster dictionary this term means "a very succinct joke or witticism". I suggest changing the text to "(i.e., one line)" or deleting the parenthesis & their content entirely.
- Richard T. Kennedy 05-9-9 14:14
Deleted: tabular

2.4 Description

Name *Description*

Description A representation in words of the nature and characteristics of the test case.

Rationale A detailed explanation can help reviewers to understand the purpose of a test and may also provide those executing the test with information that will

be helpful if the test fails.

Required? No.

Syntax Free-form (hypertext).

Example The [WebCGM test suite](#) [[WEBCGM-TEST](#)] incorporates detailed descriptions. For example: "Test basic CGM-to-HTML link, from a Application Structure with linkuri APS Attribute within the CGM, to a whole HTML document, with no behaviors or fragments associated with the link."

See Also

- Dublin Core: [Description](#) [[DCES](#)]
- Test Metadata: [Purpose](#)

Richard T. Kennedy 05-9-9 15:05
Deleted: [description](#)

Comments This element can be used to provide more detailed information than can be provided in the relatively short [Purpose](#) element.

2.5 Status

Name *Status*

Description One of an enumerated list of values that can be used to track the state of a test at a given time.

Rationale It can be helpful to track the status of a test case during the development process.

Required? No.

Syntax Constrained choice from an enumerated list.

Example One of: *unconfirmed*, *new*, *assigned*, *pending*, *accepted*, *rejected*, *holding* (see [Conformance Test Process For WCAG 2.0](#) [[WCAG2-CONF-PROCESS](#)] and their [Test Case Status document](#)).

Richard T. Kennedy 05-9-9 14:19
Deleted: *holding*

See Also

Comments This metadata element may also be useful after test suite publication, when it could be used to record the state of challenges to the validity of the test case.

2.6 SpecRef

Name *SpecRef*

Description Identification of the portion of the specification tested by this test case.

Rationale Traceability back to the specification.

Required? Yes.

Syntax Freeform hypertext or (ideally) an XPath expression.

Example The HTML 4.1 test suite provides a list of [Testable Assertions](#) that

associates individual test cases with assertions in the specification.

See Also

Comments The more specific this reference is the better. (Simply pointing to the beginning of a large sub-section of the spec is not helpful. Identifying the exact string containing the requirement to be tested is ideal.)

2.7 Preconditions

Name *Preconditions*

Description Conditions that must be met before this test is executed.

Rationale Any such conditions must be understood and met before the test case can be successfully executed.

Required? No.

Syntax Freeform (hypertext).

Example It might be necessary that a network connection be available or a server process be running before the test case is executed.

See Also Test Metadata: [Inputs](#)

Comments This element does not refer to parameters or data required for execution (see [Inputs](#)).

2.8 Inputs

Name *Inputs*

Description Parameters or data that are needed for the test execution.

Rationale Must be understood and supplied for test execution.

Required? No.

Syntax Implementation dependent.

Example [The XML Query Test Suite metadata \[XQUERY-TEST\]](#) defines an *input_file* element.

See Also Test Metadata: [Preconditions](#)

Comments

2.9 ExpectedResults

Name *ExpectedResults*

Description The results that a conformant implementation is expected to produce when this test case is executed.

Rationale If these are not defined, it will be impossible to determine whether the test

case passed or failed.

Required? Yes.

Syntax Implementation dependent.

Test cases within the CSS Test Suite embed their expected results within the test's output. See [this example](#) [CSS-TEST]. [The XML Query Test Suite metadata](#) [XQUERY-TEST] defines an *output_file* element.

See Also

Comments

2.10 Version

Name *Version*

Description An identifier ~~that allows~~ one to distinguish between different revisions of test case.

Richard T. Kennedy 05-9-9 14:21

Deleted: thatallows

Rationale Test cases often evolve over time, and it is important to maintain a history and to be able to identify and distinguish between different revisions.

Required? Yes.

Syntax Implementation dependent.

Example This will often be generated by a source-code control system such as [CVS](#).

See Also

Comments

2.11 Contributor

Name *Contributor*

Description The individual or organization that contributed this test case.

Rationale It may be necessary to contact the contributor to ask for information about the test case or to request an update.

Required? Yes.

Syntax Freeform.

Example The [XML Conformance Test Suite](#) [XML-TEST] encodes the contributor in the directory structure used to store the test cases.

See Also Dublin Core: [Contributor](#) [DCES]

Richard T. Kennedy 05-9-9 15:20

Deleted: contributor

Comments

2.12 Rights

Name *Rights*

Description Information about rights held in and over the test case.

Rationale Publishers and users of the test case need to understand the associated Intellectual Property Rights (IPR).

Required? Yes.

Syntax Ask your lawyer.

Example

See Also Dublin Core: [Rights](#) [[DCES](#)]

Comments This will often be simply a pointer to a copyright notice contained within the source code.

Richard T. Kennedy 05-9-9 15:06
Deleted: [rights](#)

2.13 Grouping

Name *Grouping*

Description A mechanism for classifying test cases into groups.

Rationale To enable the selection of subsets of test cases that share certain characteristics.

Required? No.

Syntax Implementation dependent. Possibilities include naming conventions and enumerated lists.

Example Tests may be classified as interactive or automated, positive or negative, voice or [Dual-tone-multi-frequency \(DTMF, also known as touch-tone\)](#).

See Also

Comments An important use of grouping techniques is to classify tests that belong to particular profiles, modules, or other discretionary groupings (see [Variability in Specifications](#) [[SPEC-VARIABILITY](#)] for a detailed discussion of these issues). The *SVG test suite* [[SVG-TEST](#)], for example, uses naming conventions to distinguish between test cases targeted at different profiles (full, basic, or tiny).

Richard T. Kennedy 05-9-9 14:22
Deleted: dtmf

2.14 SeeAlso

Name *SeeAlso*

Description A list of references to relevant materials.

Rationale Can help to clarify the intent or usefulness of the test case.

Required? No.

Syntax Freeform (hypertext).

Example A pointer to an item in an issue-tracking system such as [Bugzilla](#) [[BUGZILLA](#)] or to a mailing list thread in which the justification for this test case is discussed.

See Also Dublin Core: [Relation](#) [[DCES](#)]

Comments

Richard T. Kennedy 05-9-9 15:21

Deleted: [relation](#)

3. Acknowledgments

The following QA Working Group and Interest Group participants have contributed significantly to this document:

- Tim Boland (NIST),
- Dimitris Dimitriadis (Ontologicon),
- Dominique Hazaël-Massieux (W3C),
- Lofton Henderson (CGM Open),
- Richard T. Kennedy (Boeing),
- David Marston (Lotus Development Corp),
- Patrick Curran (Sun Microsystems),
- Lynne Rosenthal (NIST),
- Mark Skall (NIST).

Richard T. Kennedy 05-9-9 15:07

Comment: xhtml: Replace é with ë

Richard T. Kennedy 05-9-9 15:25

Comment: Please add my middle initial as Boeing employs several persons named Richard Kennedy.

4. References

BUGZILLA

[Bugzilla](http://www.bugzilla.org/) <http://www.bugzilla.org/> .

CSS-TEST

[Cascading Style Sheets test suites](http://www.w3.org/Style/CSS/Test/), CSS Working Group, <http://www.w3.org/Style/CSS/Test/> .

DCES

[Dublin Core Metadata Element Set, Version 1.1: Reference Description](http://dublincore.org/documents/2004/12/20/dces/), Dublin Core Metadata Initiative, DCMI Recommendation, 20 [December](#) 2004, <http://dublincore.org/documents/2004/12/20/dces/> . [Latest version](#) available at <http://dublincore.org/documents/dces/> .

Richard T. Kennedy 05-9-9 14:23

Deleted: Decembre

DCMI

[DCMI Metadata Terms](http://dublincore.org/documents/2005/06/13/dcmi-terms/), Dublin Core Metadata Initiative, DCMI Recommendation, 13 June 2005, <http://dublincore.org/documents/2005/06/13/dcmi-terms/> . [Latest version](#) available at <http://dublincore.org/documents/dcmi-terms/> .

HTML4-TEST

[HTML4 Test Suite](http://www.w3.org/MarkUp/Test/HTML401/current/), W3C, <http://www.w3.org/MarkUp/Test/HTML401/current/> .

SPEC-VARIABILITY

[Variability in Specifications](http://www.w3.org/TR/2005/NOTE-spec-variability-20050831/), D. Hazaël-Massieux, L. Rosenthal, Editors, W3C Working Group Note, 31 August 2005, <http://www.w3.org/TR/2005/NOTE-spec-variability-20050831/> . [Latest version](#) available at <http://www.w3.org/TR/spec-variability/> .

Richard T. Kennedy 05-9-9 15:07

Comment: xhtml: Replace é with ë

SVG-TEST

[W3C Scalable Vector Graphics \(SVG\) 1.1 Test Suite](http://www.w3.org/Graphics/SVG/Test/), SVG Working Group,
<http://www.w3.org/Graphics/SVG/Test/> .

TEST-FAQ

[Test Development FAQ](http://www.w3.org/QA/WG/2005/01/test-faq), QA Working Group,
<http://www.w3.org/QA/WG/2005/01/test-faq> .

WCAG2-CONF-PROCESS

[Conformance Test Process For WCAG 2.0](http://www.w3.org/WAI/GL/WCAG20/tests/ctprocess.html), WCAG WG, 23 February 2005,
<http://www.w3.org/WAI/GL/WCAG20/tests/ctprocess.html> .

WEBCGM-TEST

[WebCGM Test Suite](http://www.cgmpen.org/resources/webcgm-test-suite.html), OASIS CGM Open,
<http://www.cgmpen.org/resources/webcgm-test-suite.html> .

XML-TEST

[Extensible Markup Language \(XML\) Conformance Test Suites](http://www.w3.org/XML/Test/), W3C, NIST,
<http://www.w3.org/XML/Test/> .

XQUERY-TEST

[XML Query Test Suite](http://www.w3.org/XML/Query/test-suite/), W3C XML Query Working Group, W3C XSL Working
Group, <http://www.w3.org/XML/Query/test-suite/> .