Harmonizing Accessibility Testing

Open Web Lounge, by CMS Garden

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Who am I?
accessibility
Web accessibility means that websites, tools, and technologies are designed and developed so that people with disabilities can use them.
Over 1 billion people live with some form of disability

Is that you?

<table>
<thead>
<tr>
<th>Touch</th>
<th>Permanent</th>
<th>Temporary</th>
<th>Situational</th>
</tr>
</thead>
<tbody>
<tr>
<td>One arm</td>
<td>Arm injury</td>
<td>New parent</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>See</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Blind</td>
<td>Cataract</td>
<td>Distracted driver</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hear</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaf</td>
<td>Ear infection</td>
<td>Bartender</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speak</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-verbal</td>
<td>Laryngitis</td>
<td>Heavy accent</td>
</tr>
</tbody>
</table>
accessibility testing
Evaluation helps you ensure that your websites and applications meet accessibility requirements.
What does it mean to test the accessibility?
Scope

Public Sector Bodies

Websites

September 23, 2020

Mobile apps

September 23, 2021

Web Accessibility Directive
Article 4

Requirements for the accessibility of websites and mobile applications

Member States shall ensure that public sector bodies take the necessary measures to make their websites and mobile applications more accessible by making them perceivable, operable, understandable and robust.
Article 6

Presumption of conformity with the accessibility requirements

The Commission shall adopt implementing acts establishing the technical specifications [...] Those technical specifications shall meet the accessibility requirements set out in Article 4 and shall ensure at least a level of accessibility equivalent to that ensured by European standard EN 301 549 V1.1.2 (2015-04).
Scope
Lots of products
Banking services
e-Books
e-Commerce

National Law Transpositions
June 28, 2022
Enforcement
June 28, 2025

European Accessibility Act
Checking conformance to a standard
How to test the accessibility?
(automated)
Testing
Tools

(manual)
Testing
Methodologies
6 Errors
- 6 X Linked image missing alternative text

17 Contrast Errors
- 17 X Very low contrast
- **Link has accessible name**
  - Passed - 59 results
  - Failed - 6 results
  - Warning - 0 results
  - Not applicable - 0 results

- **Text has minimum contrast**
  - Passed - 24 results
  - Failed - 6 results
  - Warning - 1 result
  - Not applicable - 0 results

- 6 Errors
  - 6 X Linked image missing alternative text

- 17 Contrast Errors
  - 17 X Very low contrast
Accessibility testing has lacked consistency.
harmonizing accessibility testing
Consistent accessibility testing for tools and testing methodologies
Goals of ACT

- Reduce differing interpretations of WCAG
- Make test procedures interachable
- Develop a library of commonly accepted rules for WCAG
- Establish a community of contributors
What is an ACT rule

Technology specific tests

Unambiguous language

Backed by test cases

Implementation independent
ACT rules work for all methods of accessibility testing.
Currently at version 1.0

Formalized definition of how to write ACT rules

Official W3C Recommendation as of October 2019

ACT Rules Format
The ACT Rules Format 1.0
Structure of an ACT Rule

General information

Accessibility Requirements Mapping

Applicability

Expectations

Assumptions

Accessibility Support

Test Cases
General Information

Rule type: Atomic or Composite
Rule ID: 2779a5
Title: HTML page has non-empty title
Description: This rule checks that ...
Input aspects: DOM tree, CSS styling, ...

Structure of an ACT Rule
Accessibility Requirements Mapping

Structure of an ACT Rule

List of accessibility requirements.

Outcome mapping:

• Any failed outcomes: success criterion is not satisfied.

• All passed outcomes: success criterion needs further testing.

• An inapplicable outcome: success criterion needs further testing.
Applicability

This rule applies to the root element of the web page, if it is an html element.

Structure of an ACT Rule
Expectation 1
Each target element has at least one descendant that is the title element.

Expectation 2
For each target element, the first HTML title element that is a descendant of the document element has children that are text nodes that are not only whitespace.
This rule assumes that Success Criterion 2.4.2 Page Titled does not require that a document only has one title element, nor that it is a child of the head element of a document. While this is invalid in HTML, the HTML 5.2 specification describes what should happen in case of multiple titles, and titles outside the head element. Because of this, neither of these validation issues causes a conformance problem for WCAG. Regardless of whether this is required by 2.4.2 Page Titled, failing this rule means the success criterion is not satisfied.
There are no major accessibility support issues known for this rule.
Test Cases

Structure of an ACT Rule

Passed Example 1:
<title>This page has a title</title>

Failed Example 5:
<title> &nbsp; </title>

Inapplicable Example 1:
<svg><title>This is an SVG</title></svg>
All about implementations!
1. **Consistent**
   - No fail example passes
   - No pass/inapplicable example fails

2. **Partially consistent**
   - Some failed examples are passed or inapplicable

3. **Inconsistent**
   - Passed or inapplicable examples are failed
<table>
<thead>
<tr>
<th>Testcase Url</th>
<th>Expected</th>
<th>HTML Page has a title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passed Example 1</td>
<td>passed</td>
<td>passed</td>
</tr>
<tr>
<td>Passed Example 2</td>
<td>passed</td>
<td>passed</td>
</tr>
<tr>
<td>Passed Example 3</td>
<td>passed</td>
<td>passed</td>
</tr>
<tr>
<td>Passed Example 4</td>
<td>passed</td>
<td>passed</td>
</tr>
<tr>
<td>Passed Example 5</td>
<td>passed</td>
<td>passed</td>
</tr>
<tr>
<td>Failed Example 1</td>
<td>failed</td>
<td>failed</td>
</tr>
<tr>
<td>Failed Example 2</td>
<td>failed</td>
<td>failed</td>
</tr>
<tr>
<td>Failed Example 3</td>
<td>failed</td>
<td>failed</td>
</tr>
<tr>
<td>Failed Example 4</td>
<td>failed</td>
<td>failed</td>
</tr>
<tr>
<td>Failed Example 5</td>
<td>failed</td>
<td>failed</td>
</tr>
<tr>
<td>Inapplicable Example 1</td>
<td>inapplicable</td>
<td>inapplicable</td>
</tr>
</tbody>
</table>

**Id:** 2779a5  
**Type:** atomic  
**Consistency:** consistent
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Tool</th>
<th>Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access42</td>
<td>RGAA 3.0</td>
<td>View Report</td>
</tr>
<tr>
<td>Deque Systems</td>
<td>axe-core</td>
<td>View Report</td>
</tr>
<tr>
<td>LASIGE, Faculdade de Ciências da Universidade de Lisboa</td>
<td>QualWeb</td>
<td>View Report</td>
</tr>
<tr>
<td>Level Access</td>
<td>Access Engine</td>
<td>View Report</td>
</tr>
<tr>
<td>PowerMapper</td>
<td>SortSite</td>
<td>View Report</td>
</tr>
<tr>
<td>Siteimprove</td>
<td>Alfa</td>
<td>View Report</td>
</tr>
<tr>
<td>Trusted Tester</td>
<td>Trusted Tester</td>
<td>View Report</td>
</tr>
</tbody>
</table>
How to contribute
Suggest rules

Submit rule idea
Submit rule draft

Give feedback

on ideas
on draft rules
on published rules
Raise the discussion
Fix it yourself
Where are we
https://act-rules.github.io/
https://github.com/act-rules/act-rules.github.io
The future (or is the present?)
WCAG 2 Test Rules
All WCAG 2 Test Rules

Summary

WCAG 2 Test Rules describe how to test conformance to Web Content Accessibility Guidelines (WCAG) success criteria. They are primarily for developers of evaluation tools and test methodologies. Guidance for others is in Understanding WCAG and WCAG Techniques. To learn more, see WCAG Overview, All WCAG 2 Guidance, About WCAG 2 Test Rules.

This page lists WCAG 2 Test Rules formally published by the W3C Accessibility Guidelines Working Group (AGWG). Additional Rules are in development and will be published on this page when completed.

Test Rules

These Test Rules have been approved by the Accessibility Guidelines Working Group. They are fully implemented in at least one evaluation tool or methodology.

- HTML page has non-empty title
- Image has non-empty accessible name
- Image button has accessible name
- Link has non-empty accessible name
- Button has non-empty accessible name
- Form field has non-empty accessible name
- meta viewport allows for zoom
- SVG element with explicit role has non-empty accessible name
- HTML page has lang attribute
- HTML page language is valid
- HTML page lang and xml:lang attributes have matching values

Proposed Test Rules
Advisory Techniques

Although not required for conformance, the following additional techniques should be considered in order to make content more accessible. Not all techniques can be used or would be effective in all situations.

- **G127: Identifying a Web page's relationship to a larger collection of Web pages**

Failures

The following are common mistakes that are considered failures of this Success Criterion by the WCAG Working Group.

- **F25: Failure of Success Criterion 2.4.2 due to the title of a Web page not identifying the contents**

Test Rules

The following are Test Rules for certain aspects of this Success Criterion. It is not necessary to use these particular Test Rules to check for conformance with WCAG, but they are defined and approved test methods. For information on using Test Rules, see Understanding Test Rules for WCAG Success Criteria.

- **HTML page has non-empty title**

Key Terms

- **assistive technology**: hardware and/or software that acts as a user agent, or along with a mainstream user agent, to provide functionality

- **user agent**: a technology that is capable of interacting with web content. This typically includes web browsers, crawlers, and other software that can process HTML.
Thank you!

https://act-rules.github.io/

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