ISO 13407: Human Centred Design Process for Interactive Systems

**Application Area**

* Equipment
* User testing
* Software
* Process

The standard describes four principles of human-centred design:

1. Active involvement of customers (or those who speak for them).
2. Appropriate allocation of function (making sure human skill is used properly).
3. Iteration of design solutions (therefore allow time in project planning).
4. Multi-disciplinary design (but beware overly large design teams).

...And four key human-centred design activities

1. Understand and specify the context of use (make it explicit – avoid assuming it is obvious).
2. Specify user and socio-cultural requirements (note there will be a variety of different viewpoints and individuality).
3. Produce design solutions (note plural, multiple designs encourage creativity).
4. Evaluate designs against requirements (involves real customer testing not just convincing demonstrations).

ISO9241

ISO 9241-11:1998 Ergonomic requirements for office work with visual display terminals (VDTs) -- Part 11: Guidance on usability.

* Analyse the opportunity
* Build the context of use
* Create the user experience
* Track usage and improve

Website Accessibility Conformance Evaluation Methodology 1.0■Step 1.a: Define the Scope of the Website

■Step 1.b: Define the Goal of the Evaluation

■Step 1.c. Define the Conformance Target

■Step 1.d: Define the Context of Website Use

■Step 1.e: Define the Techniques to be Used (Optional)

◦Step 2: Explore the Target Website■Step 2.a: Identify Key Web Pages of the Website

■Step 2.b: Identify Key Functionalities of the Website

■Step 2.c: Identify the Variety of Web Page Types

■Step 2.d: Identify Web Technologies Relied Upon

◦Step 3: Select a Representative Sample■Step 3.a: Include Key Web Pages of the Website

■Step 3.b: Include Exemplar Instances of Web Pages

■Step 3.c: Include Other Relevant Web Pages

■Step 3.d: Include Complete Processes in the Sample

◦Step 4: Audit the Selected Sample■Step 4.a: Check for the Broadest Variety of Use Cases

■Step 4.b: Use WCAG 2.0 Techniques Where Possible

■Step 4.c: Assess Accessibility Support for Techniques

■Step 4.d: Archive Web Pages for Reference (Optional)

■Step 4.e: Record Evaluation Tools and Methods (Optional)

◦Step 5: Report the Evaluation Findings■Step 5.a: Provide Documentation for Each Step

■Step 5.b: Provide an Accessibility Statement (Optional)

■Step 5.c: Provide a Performance Score (Optional)

■Step 5.d: Provide Information on the Findings (Optional)

■Step 5.e: Provide Suggestions for Repairs (Optional)

■Step 5.f: Provide a Machine-Readable Report (Optional)

# Preliminary Review of Web Sites for Accessibility

## Page Contents

* [Introduction](http://www.w3.org/WAI/eval/preliminary.html#introduction)
* [Select a representative page sample](http://www.w3.org/WAI/eval/preliminary.html#sampling)
* [Examine pages using graphical browsers](http://www.w3.org/WAI/eval/preliminary.html#guibrowsers)
* [Examine pages using specialized browsers](http://www.w3.org/WAI/eval/preliminary.html#altbrowsers)
* [Use automated Web accessibility evaluation tools](http://www.w3.org/WAI/eval/preliminary.html#evaltools)
* [Summarize obtained results](http://www.w3.org/WAI/eval/preliminary.html#summarize)
* [Related pages](http://www.w3.org/WAI/eval/preliminary.html#related)

## Introduction

A preliminary review can quickly identify some accessibility problems on a Web site. A preliminary review does not check every accessibility issue and will not catch all of the problems on a site. Thus the method described in this page is not sufficient to determine if a Web site conforms to Web accessibility guidelines. Other pages in this [Evaluation Resource Suite](http://www.w3.org/WAI/eval/Overview) address conformance evaluation and related evaluation topics.

A preliminary review combines some manual checking of representative pages on a Web site, along with the use of several semi-automatic accessibility evaluation tools. Reviewers do not need to know Web mark-up languages, but should be able to download software and familiarize themselves with some evaluation tools, and change certain settings on their browser. To conduct a preliminary review, complete all five tasks below.

## Select a representative page sample

From the Web site to be reviewed, select a representative sampling of pages that match the following criteria:

* Include all pages on which people are more likely to enter your site ("welcome page", etc.).
* Include a variety of pages with different layouts and functionality, for example:
  + Web pages with tables, forms, or dynamically generated results;
  + Web pages with informative images such as diagrams or graphs;
  + Web pages with scripts or applications that perform functionality.

**Note:** there are [special considerations for web sites with database driven dynamically generated web content](http://www.w3.org/WAI/eval/considerations.html#dynamic).

## Examine pages using graphical browsers

Use a graphical user interface (GUI) browser (such as [Firefox](http://www.mozilla.org/products/firefox/), [Internet Explorer](http://www.microsoft.com/windows/ie/), [Netscape Navigator](http://home.netscape.com/browsers/), [Opera](http://www.opera.com/), [Safari](http://www.apple.com/safari/), or others) and examine the selection of pages while adjusting some settings in your browser or operating system as follows (some of these manual checks may require additional software):

1. Turn off images, and check whether appropriate alternative text for the images is available.
2. Turn off the sound, and check whether audio content is still available through text equivalents.
3. Use browser controls to vary font-size: verify that the font size changes on the screen accordingly; and that the page is still usable at larger font sizes.
4. Test with different screen resolution, and/or by resizing the application window to less than maximum, to verify that horizontal scrolling is not required (caution: test with different browsers, or examine code for absolute sizing, to ensure that it is a content problem not a browser problem).
5. Change the display color to gray scale (or print out page in gray scale or black and white) and observe whether the color contrast is adequate.
6. Without using the mouse, use the keyboard to navigate through the links and form controls on a page (for example, using the "Tab" key), making sure that you can access all links and form controls, and that the links clearly indicate what they lead to.

**Note:** Browser extensions and other plug-in evaluation tools (such as [AIS Toolbar for Internet Explorer and Opera](http://www.visionaustralia.org.au/ais/toolbar), [WAVE Toolbar for Firefox, Internet Explorer, and Netscape Navigator](http://wave.webaim.org/index.jsp), or [Web Developer Extension for Firefox](http://chrispederick.com/work/firefox/webdeveloper/)) provide functionality to help perform many of these manual checks.

**Note:** For reviewers who have disabilities, certain of the following tasks may need to be done with another person who does not have the same disability.

## Examine pages using specialized browsers

Use a [voice browser](http://www.w3.org/WAI/References/Browsing#4) (such as [Home Page Reader](http://www-3.ibm.com/able/hpr.html)) or a text browser (such as [Lynx](http://lynx.browser.org/)) and examine the selection of pages while answering these questions:

1. Is [equivalent](http://www.w3.org/TR/WCAG10/#equivalent) information available through the voice or text browser as is available through the GUI browser?
2. Is the information presented in a meaningful order if read serially?

**Note:** experienced users of screen readers may substitute a screen reader for a voice or text browser, but if blind, may need a sighted partner to compare information available visually; if sighted, listen to it with eyes closed, then open eyes and confirm whether the information is equivalent.

## Use automated Web accessibility evaluation tools

Use at least two [automated Web accessibility evaluation tools](http://www.w3.org/WAI/ER/existingtools.html#General) to analyze the selection of pages and note any problems indicated by the tools. **Note:** these tools will only check the accessibility aspects that can be tested automatically, the results from these tools should not be used to determine a conformance level without further manual testing.

## Summarize obtained results

Summarize results obtained from previous four tasks:

1. Summarize the types of problems encountered, as well as positive aspects that should be continued or expanded on the site.
2. Indicate the method by which problems were identified, and clearly state that this was not a full conformance evaluation.
3. Recommend follow-up steps, including full [conformance evaluation](http://www.w3.org/WAI/eval/conformance.html) which includes validation of markup and other tests, and ways to address any problems identified.

## Related pages

This document is part of a multi-page [Evaluating Web Accessibility resource suite](http://www.w3.org/WAI/eval/Overview) that outlines different approaches for evaluating Web accessibility.

WCAG 2.0 Guidelines1 Perceivable1.1 Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.

1.2 Provide alternatives for time-based media.

1.3 Create content that can be presented in different ways (for example simpler layout) without losing information or structure.

1.4 Make it easier for users to see and hear content including separating foreground from background.

2 Operable2.1 Make all functionality available from a keyboard.

2.2 Provide users enough time to read and use content.

2.3 Do not design content in a way that is known to cause seizures.

2.4 Provide ways to help users navigate, find content, and determine where they are.

3 Understandable3.1 Make text content readable and understandable.

3.2 Make Web pages appear and operate in predictable ways.

3.3 Help users avoid and correct mistakes.

4 Robust4.1 Maximize compatibility with current and future user agents, including assistive technologies.