



FROM WCAG 1.0 TO WCAG 2.0: ANTICIPATING AND ADJUSTING RENO

Aims of the document

This summary aims at evaluating the impact on the RENO approach of the transition from WCAG 1.0 to WCAG 2.0.



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1. THE RENO FRAMEWORK AND HOW WCAG2.0 IS ANTICIPATED

In order to comply with the global Quality approach as well as to apply the RENO process (2007), the CTIE have taken the Web Content Accessibility Guidelines (WCAG) 1.0 into account. But they also anticipated where it was possible on several modifications that were foreseeable in the final stages of the WCAG 2.0 production. This anticipation, both for accessibility evaluations and for website deployment, makes it easier now to transition towards the newer version of the WCAG.

1.1. COMPATIBILITY OF TECHNOLOGIES WITH ACCESSIBILITY

RENO gives priority to standards compliance in technological choices:

- The compulsory technological basis is XHTML transitional and CSS 2.1,
- Use of Flash and Javascript technologies must be limited to a small number of content and functionality types, mainly:
 - Multimedia players,
 - Scripts to print the page or send it to a friend,
 - Form validation scripts prior to submission,
 - Quick Javascript-based browsing through SELECT form elements.

Regarding these, WCAG 2.0 takes a broader range of technologies into account, and it looks like a potential opening for the future of RENO websites (especially towards Ajax), without questioning its fundamental choices.

1.2. ACCESSIBILITY-COMPATIBLE USE

Samely, the conception principles defined by RENO take into account the notion of accessibility-compatible use, in particular:

- By taking special care in separating structured content and its presentation:
 - Even though the chosen DTD is transitional, templates prohibit the use of presentational XHTML elements and attributes (transitional was in fact pushed by the need to use the TARGET attribute to make it possible to open links in new windows),
 - On the other hand, the use of CSS2.1 according to RENO goes together with avoiding CSS-generated contents, in particular background images (*F3: Failure of Success Criterion 1.1.1 due to using CSS to include images that convey important information*).
- By pushing for unobtrusive client-side scripting, developed as an additional layer on a fully-functional XHTML basis.

1.3. TARGETED ACCESSIBILITY LEVEL

WACG 2.0 indirectly clears up the difference between accessibility levels AA and AAA, the latter being presented as an optional level, whatever the web resources considered. Incidentally, the accessibility level taken by RENO as a reference target is AA. However, some possible advanced AAA guidelines are taken into account where it is reasonable, according to their ease of deployment. WCAG 2.0 thus reinforces the RENO approach.



1.4. EVALUATION METHOD

In addition to the development and writing principles defined by the RENO guidelines based on WCAG1.0, specific evaluations are undertaken on the sites, eventually followed by solutions being recommended. These evaluations successively relied on several methods, in order to have the most up-to-date evaluation possible. Accessiweb 1.0, then UWEM and then the projected RGAA guidelines (working draft 1.0).

WCAG 2.0 Success Criteria and their supporting documents do not question this need for an evaluation method, motivated by:

- The need to deal as closely as possible with various content types, choices and technological uses,
- The need for unit-testing-based evaluation enabling partial automation of the evaluation, and the use of assisting tools for expert evaluation during audits,
- The need for a model that enables different feedbacks according to different profiles.

1.5. ANTICIPATION FOR SOME TECHNIQUES

Lastly, some WCAG2.0 criteria still in writing and some current techniques considered as “sufficient techniques” according to WCAG2.0's supporting documents were already taken into account by RENO, such as:

- Use of the TITLE attribute for form elements as an alternative solution when the use of LABEL or FIELDSET and LEGEND elements was uneasy (*H65: Using the title attribute to identify form controls when the label element cannot be used*);
- Use of the WCAG2.0 algorithm to control the luminosity/contrast ratio, as well as use of font size and weight (18pt, 14pt bold) identical to criterion 1.4.3 (*Contrast: minimum*);
- Systematic integration into templates of skip links at the beginning of the page (*G1: Adding a link at the top of each page that goes directly to the main content area*, *G124: Adding links at the top of the page to each area of the content*);
- Textual feedback for error notifications after form input control (*3.3.1. Error Identification*);
- Handling of the meaning of abbreviated forms (acronyms and abbreviations) either through the TITLE attribute of elements ABBR and ACRONYM, through the immediate context (*G97: Providing the abbreviation immediately following the expanded form*), or through links pointing to a glossary (*G55: Linking to definitions*);
- Integration of a breadcrumb mechanism as a way of navigating in content (*G65: Providing a breadcrumb trail*);
- Integration of a site map and of a search engine as alternative means to access information (*G63: Providing a site map*, *G161: Providing a search function to help users find content*).

These limited and measured anticipations were confirmed by WCAG2.0's final version.

2. OPERATIONAL IMPACT OF WCAG 2.0

The immediate impact of WCAG 2.0 will be different according to the profile considered.

2.1. IMPACT ON USABILITY

WCAG 2.0 clarifies the relationship between usability and accessibility, through Success Criteria that seem easier to relate to a usability-driven approach, and that confirm its validity.



2.1.1. Multiple ways to access information and location

The requirement for multiple ways to access information (2.4.5. *Multiple Ways*) and to indicate one's location (2.4.8. *Location*) has an equivalent in the RENO approach that systematically requires a site map, a breadcrumb and an internal search engine in addition to browsing tools (menus and highlighting of the current section in menus).

2.1.2. User control over the interface and over some contents

WCAG 2.0 gives much importance to functionalities in web pages that enable the user to configure their content or presentation. These functionalities are mentioned in several instances as criteria, or as technical solutions sufficient to achieve success on several criteria, when they enable to:

- Stop, start again and control the volume of a sound that started automatically on a web page (Criterion 1.4.2 *Audio Control*, Level A);
- Resort to timing-adjusted contents, when the user can turn off the time limit or adjust it (Criterion 2.2.1 *Timing Adjustable*, Level A);
- Resort to moving, scrolling or blinking contents, or to automatically-updated contents, when the user can stop, start again or hide said contents or updates (Criterion 2.2.2 *Pause, Stop, Hide*, Level A);
- Freely use images of text as long as the user can customise them by choosing their font, colour, size and background (Criterion 1.4.5 *Images of Text*, Level AA);
- Freely set the background sound of multimedia contents when the user can turn off said background (Criterion 1.4.7 *Low or No Background Audio*, Level AAA);
- Choose background and foreground colours in text blocks on the user's side (Criterion 1.4.8 *Visual Presentation*, Level AAA);
- Open new windows with no user input, as long as this behaviour can be turned off (Criterion 3.2.5 *Change on Request*, Level AAA).

The eventual impact of those criteria, however, remains to be measured:

- Some of them should have no impact, considering that they involve content types that are not deemed relevant in the RENO approach (sounds that start automatically, moving, scrolling or blinking contents, popups with no user input);
- Some will indeed need specific requirements (timed contents);
- Others can reinforce broader requirements (volume of the background sound).

2.2. IMPACT ON VISUAL DESIGN

2.2.1. Colours and contrasts

Handling colour as a means to convey information (1.4.1 *Use of Color*) is a point already very clearly stated in RENO, which takes over the principle common to WCAG1.0 and 2.0 that a colour needs an alternative.

However, the handling of character contrasts has long been more tricky (1.4.3 *Contrast (Minimum)*):

- The WCAG2.0 algorithm has been used as a reference since 2008 to evaluate contrasts in mockups and in integration validation (with the help of the *Colour Contrast Analyser* tool).



- But the theoretical thresholds to have a valid contrast are most often too restrictive: some colour combinations just above the threshold or even below them don't seem too problematic in the end to real users.
- Moreover, evaluating contrasts through this ratio is still very systematic, and does not take into account the broader graphical context where the element is located.

It could thus be necessary to adapt this criterion to the RENO frame, as the reasonable goal is to be as close as possible to the demanded thresholds, but without excluding occasional arbitrations.

2.3. IMPACT ON XHTML-CSS DEVELOPMENT AND INTEGRATION

2.3.1. XHTML validation

The systematic presence of a DTD in each page is a RENO requirement: it enforces the use of grammatical validation for XHTML. However, formal validity is not a mandatory criterion: validity errors that impact the document tree are the only ones considered as errors that urgently require to be fixed. This concurs with the WCAG2.0 Criteria (*4.1.1 Parsing*).

2.3.2. XHTML semantics

Care taken in making XHTML as semantic as possible and systematic use of high-value elements (headers Hn, lists UL, OL and DL, quoting elements Q and BLOCKQUOTE, data table elements, form labels LABEL) are reinforced by Criterion *1.3.1 Info and Relationships*. The same goes for the separation of content and presentation, for the coherent linear order in structured content, as well as for the indication of the default language in a page through the LANG attribute of the element.

However, even if there is no reservation in WCAG2.0 about the use of layout tables (as long as they can be linearised and cannot be taken for data tables, *F46* and *F49*), the RENO rule that generally prohibits their use should not be questioned.

2.3.3. Skip links

The need for skip links (*2.4.1 Bypass Blocks*) was already taken into account in templates through the integration of skip links (to content, to search). A compromise has been made with graphical demands, that dynamically hides them when the page loads, but shows them at the first keyboard tab.

2.4. IMPACT ON EDITORIAL WORK

2.4.1. Link wording

In the specific case of link text, the RENO approach was keen on making them explicit out of context. This would set the websites closer to Level AAA (*2.4.9 Link Purpose (Link Only)*) than to the easy way out offered at Level A by the notion of a link being explicit within its immediate context (*2.4.4 Link Purpose (In Context)*). Taking WCAG2.0 into account should not question this required standard, except in the case of very particular contents where writing links that can be understood out of their context would be too difficult, or would be perceived as overdoing quality.

2.4.2. Language switching

The rule that deals with switching content language (*3.1.2 Language of Parts*) remains up to now a major problem, whose responsibility relies mostly on content editors. The precisions added by WCAG2.0 on the range covered by this criterion will however make it easier to apply this rule, by enabling editorial guidelines to be clearer.



2.4.3. Audio and video contents

Finally, the most difficult subject to deal with nowadays from an editorial point of view is multimedia contents, requiring textual alternatives, captioning and synchronised audio description (*Criteria 1.2.1 to 1.2.5*).

3. ARBITRATIONS ON AAA CRITERIA

The fact that Level AA is the explicit reference Level, and that Level AAA is considered reachable for some resources only, brings up the question of whether to take AAA-level criteria according to their feasibility.

3.1. SOME OF THESE CRITERIA CAN INDEED BE EVEN MORE EASY TO USE THAN THEY ARE ALREADY USED:

- **Exclusive use of links that can be understood out of context**, without taking advantage of the AA-level guideline to let the user rely on a link's immediate context to understand its target or purpose:

2.4.9 Link Purpose (Link Only): A mechanism is available to allow the purpose of each link to be identified from link text alone, except where the purpose of the link would be ambiguous to users in general.

- Systematic use of section headers to organise each page's content:

2.4.10 Section Headings: Section headings are used to organize the content.

3.2. OTHER CRITERIA MEET BROADER QUALITY REQUIREMENTS:

- The absence of timing in interactivity, including authenticated sessions:

2.2.3 No Timing: Timing is not an essential part of the event or activity presented by the content, except for non-interactive synchronized media and real-time events.

2.2.4 Interruptions: Interruptions can be postponed or suppressed by the user, except interruptions involving an emergency.

2.2.5 Re-authenticating: When an authenticated session expires, the user can continue the activity without loss of data after re-authenticating.

- The absence of any potentially blocking flashes in the content:

2.3.2 Three Flashes: Web pages do not contain anything that flashes more than three times in any one second period.

- The presence of information to locate oneself in the site and in contents:

2.4.8 Location: Information about the user's location within a set of Web pages is available.

- The presence of a glossary and the handling of abbreviations:

3.1.3 Unusual Words: A mechanism is available for identifying specific definitions of words or phrases used in an unusual or restricted way, including idioms and jargon.

3.1.4 Abbreviations: A mechanism for identifying the expanded form or meaning of abbreviations is available.

- The absence of any change of context (notably, popups) not asked by the user:



3.2.5 Change on Request: Changes of context are initiated only by user request or a mechanism is available to turn off such changes.

- Help in handling and correcting input errors in all forms - and not only for legal, financial, personal, or test data:

3.3.6 Error Prevention (All): For Web pages that require the user to submit information, at least one of the following is true:

- Reversible: Submissions are reversible.
- Checked: Data entered by the user is checked for input errors and the user is provided an opportunity to correct them.
- Confirmed: A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission.

3.3. LASTLY, OTHER CRITERIA ARE INDEED MUCH MORE DIFFICULT TO COMPLY WITH:

- Concerning the various types of additional alternatives to multimedia contents:

1.2.6 Sign Language (Prerecorded): Sign language interpretation is provided for all prerecorded audio content in synchronized media.

1.2.7 Extended Audio Description (Prerecorded): Where pauses in foreground audio are insufficient to allow audio descriptions to convey the sense of the video, extended audio description is provided for all prerecorded video content in synchronized media.

1.2.8 Media Alternative (Prerecorded): An alternative for time-based media is provided for all prerecorded synchronized media and for all prerecorded video-only media.

1.2.9 Audio-only (Live): An alternative for time-based media that presents equivalent information for live audio-only content is provided

- Concerning colour contrasts with the highest ratio:

1.4.6 Contrast (Enhanced): The visual presentation of text and images of text has a contrast ratio of at least 7:1, except for the following:

- Concerning the handling of background audio in multimedia contents:

1.4.7 Low or No Background Audio: For prerecorded audio-only content that (1) contains primarily speech in the foreground, (2) is not an audio CAPTCHA or audio logo, and (3) is not vocalization intended to be primarily musical expression such as singing or rapping, at least one of the following is true:

- No Background: The audio does not contain background sounds.
- Turn Off: The background sounds can be turned off.
- 20 dB: The background sounds are at least 20 decibels lower than the foreground speech content, with the exception of occasional sounds that last for only one or two seconds.

- Concerning user-customised interfaces:

1.4.8 Visual Presentation: For the visual presentation of blocks of text, a mechanism is available to achieve the following:

- Foreground and background colors can be selected by the user.



- Width is no more than 80 characters or glyphs (40 if CJK).
- Text is not justified (aligned to both the left and the right margins).
- Line spacing (leading) is at least space-and-a-half within paragraphs, and paragraph spacing is at least 1.5 times larger than the line spacing.
- Text can be resized without assistive technology up to 200 percent in a way that does not require the user to scroll horizontally to read a line of text on a full-screen window.

- In handling the reading ability of users:

3.1.5 Reading Level: When text requires reading ability more advanced than the lower secondary education level after removal of proper names and titles, supplemental content, or a version that does not require reading ability more advanced than the lower secondary education level, is available.

3.1.6 Pronunciation: A mechanism is available for identifying specific pronunciation of words where meaning of the words, in context, is ambiguous without knowing the pronunciation.

- And, finally, in providing systematic context-sensitive help:

3.3.5 Help: Context-sensitive help is available.