

Do the EU member States comply with accessibility guidelines?

Accessibility evaluation of the EU member states government and parliament websites.

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Summary

In this study we have focus on the member states government and parliament web sites. The idea is to check if those web sites conform to the WCAG, Web Content Accessibility Guidelines. The study includes important checkpoints both from priority 1 and 2.

In total we have checked 60 government and parliament sites to see if they confirm to 5 priority level 1 and 7 priority level 2 checkpoints.

Not any site confirm to all checkpoints. 3 web sites approves on every level 1 checkpoint (German parliament, Great Britain government, and Italy parliament). One site approves to all level 2 checkpoints (Sweden government). With a generous approach one could say that 18 sites are close to complying with all 5 level 1 checkpoints. Only 2 sites (Sweden government and Hungarian government) validates to any html standard.

14 sites reach a "good enough" level.

To be really accessible a site must confirm to important priority level 2 checkpoints. I site that only confirm with level 1 is still a site that many disabled users will find almost impossible to use or that they can use it, but having to struggle a lot. Most of the countries seem to have ignored level 2 in WCAG. Countries that have been focusing in level 2 seem to be: Sweden, Germany, Great Britain, Spain, Italy and Finland. We don't know if this is the case but the result indicates that someone has considered priority level 2 checkpoints.

The question is if dividing accessibility checkpoints into different levels is a good approach. This study indicates that there is an in-built problem with this system. It seems that there has been some focus on level 1 in several countries but the process doesn't continue after that. If so: dividing accessibility checkpoints into different levels is counter productive. It doesn't help us to get really accessible sites.

In Sweden there has been another approach. Accessibility checkpoint from all 3 WCAG levels have been implemented in general demands for public web sites. The focus is on how to build well constructed web sites according to public demands. Usability and accessibility is considered at the same time. This strategy can be described as a Design for All strategy.

The result of this study shows that the implementation of the WCAG-guidelines is far from completed. In fact most of the countries still are far from reaching even the good enough level.

Background

Recommendations on how to make accessible web sites was defined in 1999 by the Web Accessibility Initiative (WAI) as a part of the work by the World Wide Web Consortium (www.w3.org). Those guidelines have become the base for how to build and how to evaluate websites when it comes to issues regarding accessibility.

The European Union has decided to follow these guidelines and the different member states has committed themselves to implement the guidelines on public web sites in each member state. The first step was taken in 2000 when the eEurope initiative was launched.

http://ec.europa.eu/information_society/eeurope/2002/action_plan/index_en.htm Seven years later it's time to see if this commitment has transformed into accessible web sites.

Over a period of seven years most of the sites has probably been re-designed either one or two times. There have been several opportunities to take these guidelines and use them to develop web sites that conform to high accessibility standards.

In this study we have focus on the member states government and parliament web sites. The idea is to check if those web sites conform to the guidelines. The result can be used to compare how far from complying with the guidelines different members states are. It must be regarded as essential if those web sites comply with the guidelines. If not, it indicates that the implementation is poor in the whole member state.

About Funka Nu

Funka Nu, www.funkanu.se, is the leading Swedish accessibility consultants.

This report is produced for the Stiftelsen Funka with contribution from Handisam Swedish Agency for Disability Policy Coordination.

Are there any previous studies to compare with?

We have not found any study of this kind. Closest is a British study from 2005. This study tested 436 web sites in 25 member states. It was limited to level 1 in the Web Content Accessibility Guidelines (WCAG 1.0). The study was conducted by Royal National Institute of the Blind (RNIB), www.rnib.org.uk, in cooperation with Ability Net at Dublin City University. This study can be found at: <http://archive.cabinetoffice.gov.uk/e-government/resources/eaccessibility/index.asp>.

According to us, it is not enough to comply with priority level 1 in WCAG. You still have severe accessibility problems. A site that only reaches the level 1 is in fact a web site with so poor accessibility that it is likely that users with different disabilities will regard it as a site that doesn't work.

Accessibility

Accessibility can be divided into 3 sub categories:

- Technique
- Understanding
- Content

In the WCAG 1.0 you can find a great number of issues dealing with technical aspects of accessibility. You can not find that much about concepts for interaction or how to provide an accessible content on the web site. To have a really accessible web site you must consider all aspects.

A common misunderstanding is that "accessibility" is something limited to make sites work better for people with severe disabilities. But when you consider accessibility issues it is something that will have an impact on how many "ordinary" users will tend to judge your site. It can either be seen as a web site that causes them trouble when using it. Or it can be seen as a friendly site that takes care of my needs (and my small personal problems with using the web).

Technique

Technical aspects are the basic ground for all work with accessibility. Technical failure in the overall web site construction leads to difficulties for people with different kind of screenreaders, magnifiers and other technical aids. It also can cause problem for people using different kind of browsers.

WCAG 1.0 is primarily intended to deal with technical aspects. A majority of checkpoints have focus on technical issues. However, there are two other areas who has to be considered when looking at accessibility as a whole:

- Pedagogical issues
- Content

Pedagogical issues

If the site support the user in how to operate and understand both the concept and the content then you can say that it confirms to pedagogical accessibility. You can say that usability is almost the same with the difference that you have focus on user who have significant problems with:

- Understanding
- Perception
- Memory

For those people, it doesn't matter if a site is technical perfect. They also need other aspects to be considered

Content

Finally: The content on a site or an individual page must be presented in a way that supports the reader. And if the user can't read it must be presented in a way that the user can understand (as speech, film, illustration etc.)

To conduct accessibility evaluations

It is relatively easy to analyse technical accessibility. Primarily because it's easy to put up guidelines that can be answered with yes or no. You can also speed up the process by using automated or semi-automated tools. It becomes more difficult to say when a specific content is easy enough or when a concept for navigation supports the user. Most accessibility studies therefore focus on technique, including this one. It becomes even more difficult to compare pedagogical or content issues when comparing sites in different cultures and countries.

The Web Accessibility Initiative (WAI) within the World Wide Web Consortium has recommended how to evaluate web sites. In this study we follow the basic principles of a so called preliminary review.

This study

When conducting an accessibility study you have to consider a wide range of aspects. Limitation is the most central. In this study we:

- Focus on startpages and one level down on government and parliament web sites for the EU member states
- Check 5 priority level 1 guidelines from WCAG 1.0
- Check 7 priority level 2 guidelines from WCAG 1.0
- Use a combination of expertise evaluation and automated evaluation tools

Included check points

The criteria for each checkpoint in this study is:

- **It should be relevant today.** Since WCAG 1.0 was launched in 1999 you must consider if the point is still relevant today. We regard the 12 checkpoints in the study as highly relevant.
- **It can easy be measured.** To present a fair study it should be easy to say "yes" or "no" when looking on each checkpoint. It should also be easy for someone else to check the same thing (and hopefully get the same result).
- **It must be language-independent.** No consultant that we know can understand all the languages used in the different member states. Therefore you must exclude checkpoints that requires understanding of a certain language.
- It should indicate that someone is aware of accessibility issues. If a web site complies the the checkpoints in this study it indicates that someone has taken accessibility issues in account and done something to make it work better.

WCAG Priority level 1

1.1 Provide a text equivalent for every non-text element (e.g., via "alt", "longdesc", or in element content).

2.1. Ensure that all information conveyed with color is also available without color, for example from context or markup.

5.1 For data tables, identify row and column headers.

6.1 Organize documents so they may be read without style sheets. For example, when an HTML document is rendered without associated style sheets, it must still be possible to read the document.

6.3 Ensure that pages are usable when scripts, applets, or other programmatic objects are turned off or not supported. If this is not possible, provide equivalent information on an alternative accessible page.

WCAG Priority level 2

2.2 Ensure that foreground and background color combinations provide sufficient contrast when viewed by someone having color deficits or when viewed on a black and white screen. [Priority 2 for images, Priority 3 for text].)

3.1 When an appropriate markup language exists, use markup rather than images to convey information.

3.2 Create documents that validate to published formal grammars.

3.3 Use style sheets to control layout and presentation.

3.4 Use relative rather than absolute units in markup language attribute values and style sheet property values.

3.5 Use header elements to convey document structure and use them according to specification.)

12.4 Associate labels explicitly with their controls.)

Scale

Point	Definition
2	Very good
1	Good
0	Bad accessibility
	Not applicable

Result

Total web sites in the study: 60

The overall result is:

- Not any web site has been approved on every checkpoint
- Average point of priority level 1: 4.47 out of 10 possible points
- Average point of priority level 2: 4.03 out of 14 possible points
- 3 web sites approves on every level 1 checkpoint (German parliament, Great Britain government, Italy parliament).
- With a generous approach one could say that 18 sites is close complying with all 5 level 1 checkpoints.
- 14 sites reach a "good enough" level (over a total average of 1 point)
- 27 sites do not use alt-text on images.
- 35 sites do not use relative sizes for text.
- 2 sites validate to a technical standard (Sweden government, Hungary government)
- Old member states are slightly better than newer. But the difference is very small.

Best country:

When taking both government and parliament sites in account you can present a ranking for best country:

1. Sweden
2. Italy
3. Germany
4. Finland
5. Slovakia

When both the government and the parliament have a good level of accessibility one can assume that there is some kind of national coordination. In Sweden that is the case. The demands for better accessibility have been implemented in national guidelines for public web sites. This national guidelines combines general usability needs, accessibility needs and what is commonly regarded as "best practice" for public central government web sites. The guidelines are user oriented and in that perspective there is no difference between a common user and a user with disabilities. Both should be able to use a public web site.

In this study we have not done any research to find out how the different member states work to implement the guidelines. In Sweden it has been thought that Denmark, Great Britain and the Netherlands are in the front group of countries. This study does not support that picture.

Best web sites

14 web sites get an average point 1 or higher:

Country	Average point
1. Great Britain, government	1.45
2. Sweden, government	1.42
3. Sweden, government,	1.33
4. Italy, parliament (chamber)	1.33
5. Spain, government	1.27
6. Germany, government	1.25
7. Italy, government	1.25
8. Italy, parliament (senate)	1.25
9. Germany, parliament	1.17
10. The Netherlands, parliament (2:nd chamber)	1.17
11. Finland, government	1.17
12. Austria, government	1.00
13. Slovakia, government	1.00
14. Finland, parliament	1.00

Worst sites

Country	Average point
Denmark, parliament	0.08
Luxemburg, parliament	0.17
Poland, government	0.17
Spain, parliament	0.17
The Netherlands, parliament (1:st chamber)	0.18
Slovenia, government	0.25
Latvia, parliament	0.33
The Netherlands, government	0.33
Portugal, parliament	0.33

When focus on priority level 1

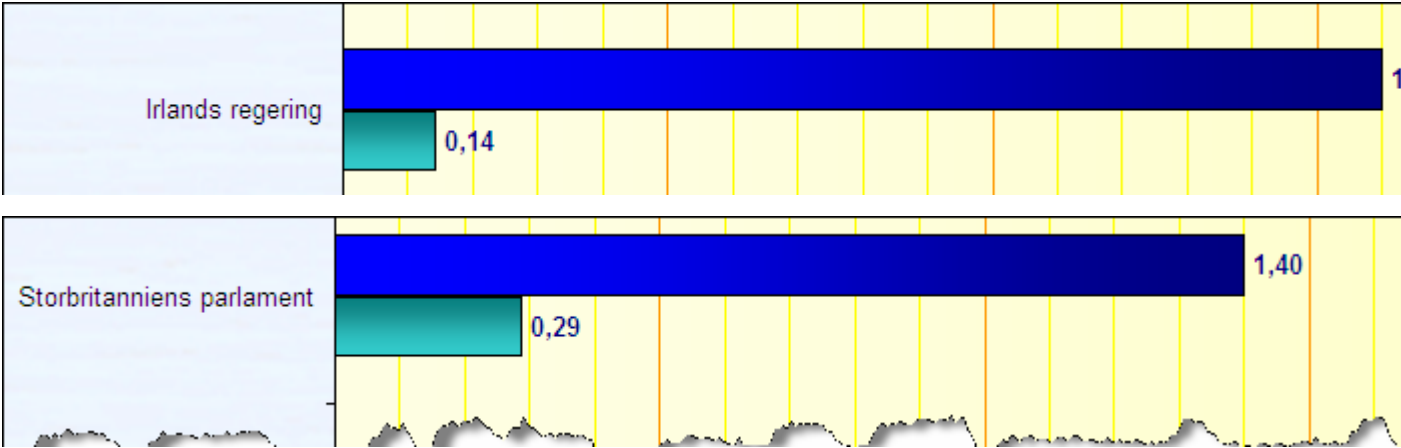
Since WCAG is divided into 3 priority levels you can apply different approaches and strategies when developing a web site. One approach is to do a step by step development. First you focus on level one. Then level 2 and finally level 3. In fact this means that you have to re-build your site two times to

confirm to WCAG as a whole. Most projects with this approach in reality seems to stop with level 1. It also means that checkpoints that easily could have been implemented during the initial construction never were considered. And there are never that many resources connected to a web project than during the initial construction period. So in reality this approach often proves to be counter productive. And the specific site never take that second step. In fact it only complies with some of the priority level 1 checkpoints.

Another approach is to take all relevant checkpoints under consideration when constructing the site. With this approach you can easily confirm to a majority of checkpoints in WCAG without having to accept higher costs or longer construction periods.

In Sweden all relevant WCAG 1 checkpoint is implemented in national guidelines for public web sites. Both the government and parliament site follow this guidelines resulting in that Sweden is the best country in this study.

In for example Ireland and Great Britain the focus very much seems to be on priority level 1. The bars below show a significant difference between level 1 and level 2.



Appendix 1 - Definition on how to set points

Scale

Point	Definition
2	Very good
1	Good
0	Bad accessibility
	Not applicable

WCAG Priority level 1

1.1 Provide a text equivalent for every non-text element.

- **2:** If all relevant pictures has alt-texts and if important images has alt-text with at least e full sentence (not a single word).
- **1:** If a majority of relevant pictures has alt-texts and if important images has alt-text with at least e full sentence (not a single word).
- **0:** If a majority of relevant pictures don't have alt-texts.

2.1 Ensure that all information conveyed with colour is also available without color...

- **2** All information can be perceived even if you without depending on understanding of different colours.
- **1** Understanding of different colours is in some cases important. For example links differing from text with a different colour but also in at least a different type face.
- **0** Important information or functionality is depending on that the user must be able to understand different colours. For example links differing from text only with a different colour.

5.1 For data tables, identify row and column headers.

This checkpoint has shown to be difficult. Most of the sites don't have any data tables on the startpage. Such pages can more often be found deeper in the site structure. Therefore the result on this point can be based on a small amount of tables.

- **2** All data tables found are constructed correctly or almost correctly. Table headers are correctly associated with table cells (either by "scope" or by "id" and "headers").
- **1** Most data tables have table headers but there can be some problems with association headers with cells.
- **0** Most data tables lack table headers or have incorrect table headers.

6.1 Organize documents so they may be read without style sheets...

- **2:** Pages are clearly readable and presented in a logical order when css is turned off.
- **1:** Pages are readable and presented in a logical order to such extent that they can be used when css are turned off.
- **0:** Pages are not readable and/or not presented in a logical order when css are turned off.

6.3 Ensure that pages are usable when scripts, applets, or other programmatic objects are turned off or not supported...

- **2:** All navigation should be possible without support of scripts. Main functions such as search and print-friendly functions must be usable without scripts.
- **1:** Head navigation should be possible without support of scripts. Some functions may have difficulties but search functions must be operable without scripts.
- **0:** The website is difficult or impossible to navigate without scripts.

WCAG Priority 2

2.2 Ensure that foreground and background color combinations provide sufficient contrast...

In this survey we have used the Colour Contrast Analyser, version 1.0, developed by Jun (<http://html.idena.jp/>) and Steve Faulkner (www.nils.org.au/ais/).

We have measured the difference in brightness). The difference must be 125 or more.

- **2:** All contrasts on the site is within the scope.
- **1:** Menus and text contrasts is within the scope but some less important objects may have some problem.
- **0:** Important parts of menus or content is not within the scope.

3.1 When an appropriate markup language exists, use markup rather than images to convey information.

- **2:** Text converted to images are not used or used very scarcely. For example banners or image maps be allowed and if they are used they must have appropriate alt-text. Text in images must be at least twice as big as normal text in pages.
- **1:** Some images contains text.
- **0:** A lot of images contains text.

3.2 Create documents that validate to published formal grammars.

We have used the html-validator (www.htmlhelp.org/tools/validator/). We have validated a maximum of 100 pages per web site.

In some cases the site has technology that prevent automatic download of code. In those cases we have used W3C html-validator (<http://validator.w3.org>) and randomly validated pages until a point when we feel that we can make a judgement.

- **2:** 95% or more of the pages validates correctly or most of the pages validate correctly and the rest has only minor errors.
- **1:** 90% or more of the pages validate correctly.
- **0:** Less than 90% of the pages validate correctly.

3.3 Use style sheets to control layout and presentation.

- **2:** No tables are used for layout. Almost all presentation is done by css
- **1:** A few tables are used for layout but most of the page layout is done by css.
- **0:** Tables for layout is used for most of the pages.

3.4 Use relative rather than absolute units in markup language attribute values and style sheet property values.

- **2:** It is possible to increase text size with the browser in two steps. The text should be significant bigger and still readable. All text must bigger.
- **1:** It is possible to increase text size with the browser in two steps. The text should be significant bigger and still readable. Some pages or parts of pages may not work.
- **0:** It is not possible to increase text size or it is possible but the text is not readable.

3.5 Use header elements to convey document structure and use them according to specification.

- **2:** Headers have header elements in a correct hierarchy Some exceptions may occur.
- **1:** All header on level one H1 are correct and some H2.
- **0:** Headers are not used or used incorrect.

12.4 Associate labels explicitly with their controls.

- **2:** All controls are correctly associated with their controls (label for... and title)
- **1:** Most controls are correctly associated with their controls (label for... and title)
- **0:** Controls are not correctly associated with their controls.

Appendix 2 - Survey data

The whole survey can be found in a separate Excel-document.

