

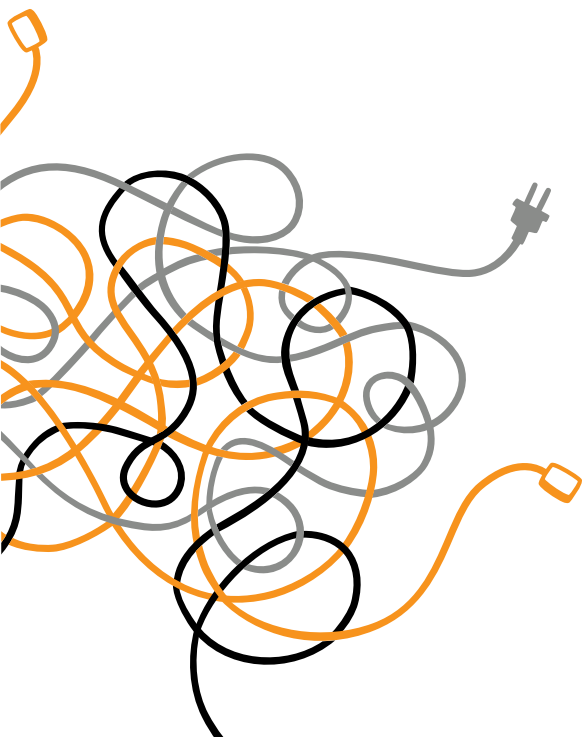
# EASY SURFING

Internet access for people with cognitive impairment

A guide to setting up easy internet user interfaces

## IN THE FOLLOWING GUIDE YOU WILL FIND:

- Information about cognitive impairment
- 14 recommendations on how to improve the accessibility of websites for people with cognitive impairment
- A summary checklist
- A matrix, which presents the connections between cognitive ability/impairment and the different website elements



## Contents:

Introduction	p.2
Recommendations:	p.4
1. Easy read	
2. Readable fonts	
3. Clear content	
4. Easy navigation and orientation	
5. Interactive elements	
6. Plain design	
7. Pictorial representation	
8. Animation	
9. Photos	
10. Video and audio	
11. Language alternatives	
12. Help	
13. Data protection	
14. Responsive design	
Checklist	p.11
Matrix	p.12
Our website	p.13

## INTRODUCTION

### Who is this guide aimed at?

This guide is aimed at all those involved in the process of website development: from those commissioning websites, to project leaders, web designers, developers and content editors. Making websites accessible to the widest possible audience is the responsibility of every person involved in the provision of internet content and services.

### Why this guide?

More and more aspects of daily life are transferring to the internet. At the same time there is an ever greater number of people who are unable to keep up with the rapidly changing new technologies. Various barriers are standing in their way. These barriers can be cleared. Guidelines for barrier-free websites have previously focused on physical and sensory disabilities, and cognitive impairment has been of only marginal concern. «Easy Surfing» fills this gap. This guide shows how websites can be set up to make internet access easier also for people with cognitive impairment. The guide is not intended to limit the creativity of web developers. The design principles are there to make developers aware of the potential pitfalls. Beyond that we also want to encourage developers to experiment with new design elements and to try out new ways of doing things.

«Easy Surfing» concentrates specifically on the needs of people with cognitive impairment. The recommendations contained in the guide complete the classic guidelines for internet accessibility. See WCAG 2.0, [www.accessibility-checklist.ch](http://www.accessibility-checklist.ch). In combination with these classic guidelines for barrier-free websites, «Easy Surfing» is suitable as a compulsory brochure for web agencies.



## Who will benefit from the application of these guidelines?

### People with cognitive impairment

The people with cognitive impairment who benefit from «easy-to-use» websites include users with difficulties in the following areas:

- Attention,
- Concentration,
- Learning,
- Thinking,
- Memory,
- Perception,
- Reading,
- Writing.

Individuals affected tend to experience a wide range of difficulties when it comes to understanding and using internet services.

### And others

People with intellectual or learning disabilities are not the only ones who experience such difficulties, but also people incurred a brain injury, experienced a mental illness, those with poor reading or writing skills, as well as non-native speakers of the language, older people or people with a lack of computer experience.

### Companies and their clients

Lastly, the companies and organisations behind the website also benefit. Through barrier-free, easy-to-use services, they will reach significantly more potential users or clients.

Federal Statistical Office (FSO): In Switzerland more than 500,000 people with a significant impairment [www.bfs.admin.ch](http://www.bfs.admin.ch). Federal Office of the Culture (FOC): 20% of all adults have poor reading skills. [www.bak.admin.ch](http://www.bak.admin.ch)

## User with cognitive impairment

### Different performance limitations

People with a cognitive impairment are characterised by limited performance in thinking and in the processes that are central for understanding, abstract thought, methodical action and concept forming. The performance limitations are the result of functional damage to the brain. In addition to learning and the application of knowledge, other areas such as motor skills, sensory skills, perception, language, emotions and the ability to carry out tasks are affected.

### Examples

- People with cognitive impairment find it difficult to differentiate between the essential and non-essential. They are easily distracted.
- The visual processing of animated graphics, quickly changing images or displays lacking in contrast is more difficult.
- Problem-solving skills and the ability to keep one's bearings are impaired.
- Those affected show a deficit in reading skills and language comprehension.

### Different needs

The matrix on the fold-out pages at the end of this brochure helps users decide which measures are best suited to compensate specific difficulties arising as a result of cognitive impairment.

### Get to know your users

User-centered design is advisable. Inform yourself of the specific needs of your target group. Get to know them personally and involve them directly in the development of the website.





#### Easy read:

Easy read has its own rules regarding sentence construction and choice of words. These rules comprise more than mere recommendations for writing on the web. You will find guidelines and more in-depth information about easy read here:

[www.easysurfing.ch](http://www.easysurfing.ch).

Easy read is also known as Easy-to-read and E2R.



#### Readable fonts:

Fonts without serifs are easier to read.

Aa Bb Cc (without serif)  
Aa Bb Cc (Serif)

Fonts with and without serifs compared.



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## RECOMMENDATIONS

### 1. EASY READ

**Write in clear and easily understandable language, every-day language.** Use short, concise sentences. The content can be repeated, especially important background. Explain difficult words. Give examples. Don't write in metaphors. Don't use abbreviations, or explain them if you do.

**Don't use jargon or foreign words in your text.** This also applies to buttons or lists of links.

**Always use self-explanatory text for links.** Avoid link names such as «More» or «Continue», in favour of «Download 2014 Annual Report» or «To go to Easy Read website», for example.

### 2. READABLE FONTS

**Use easily readable fonts as standard fonts.** Easily readable fonts are generally fonts without serifs (sans-serif), for example: Arial or Verdana.

**Avoid text in capitals, italics and decorative fonts.**

**Use a reasonable font size in your standard setting.** Experts in easy read and in learning difficulties recommend a minimum font size of 12 pt to 14 pt. This is equivalent to 1 em to 1.2 em in digital size.

**Allow users to adjust the font size.** Show the reader how this is done using easily visible clear symbols.

**Avoid texts on background images and use high contrast.** The minimum requirement for contrast, according to WCAG 2.0, is a contrast ratio of 4.5:1 for text in standard font size.

See here for an easy-to-use tool to measure contrast ratio:

[www.paciellogroup.com](http://www.paciellogroup.com) > Resources > Colour Contrast Analyser (CCA)

**Set up linked texts in an easily visible and uniform way.**

### 3. CLEAR CONTENT

Ensure clearly structured content and a clean, clearly structured typeface. Render the text clearly. Break up the text into short paragraphs. Experts in easy read recommend paragraphs of not more than six lines.

**Limit yourself to the essential content.**  
Focus on the central points.

Emphasise very important areas through the design. Insert animation and video in a limited and targeted way. Too much animation has an unsettling effect and is distracting. (See recommendations 8. Animation and 10. Video and audio.)

Make sure that individual themes are covered on a single page, if possible in such a way that the header area with navigation options is visible until the end of the text.

### 4. EASY NAVIGATION AND ORIENTATION

Design the navigation bar in a clear, simple and easily viewable way. Stick to the current convention for the positioning of the navigation bar (top of the page, left aligned). This aids in the recognition of familiar structures.

Make sure the navigation area and the content area remain clearly visually separate. Allow plenty of room for your navigation area, paying attention to the font size as well as the distance between elements.

Don't offer too many options in the navigation area. Design hierarchical navigational structures with a maximum of five options for each division of hierarchy.

Support comprehension for the different navigation options through appropriate pictograms. These support recognition and make orientation easier. (See recommendation 7. Pictorial representation.)

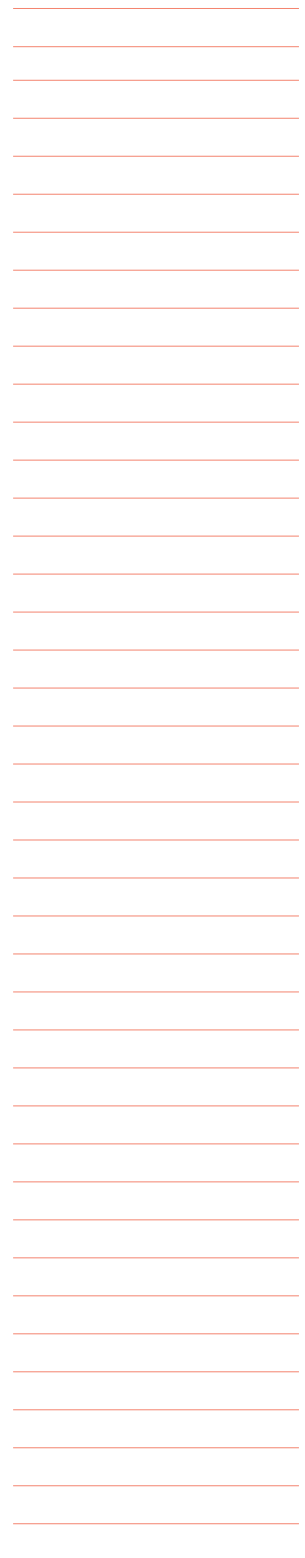


#### Clear content:

In view of the wide variety of different screen formats, it is difficult to cover themes on one screen page (keyword: viewport) without resorting to the scrolling function.

Here are two suggestions that may help:

1. Develop help functions for navigation. (See recommendation 4. Easy navigation and orientation.)
2. The increasing use of tablets and smartphones makes the scrolling problem more acute. (See recommendation 14. Responsive design.)





**Navigation/Orientation:**  
For the various navigation elements use classic web icons such as a house for the homepage. This encourages recognition on different websites, also for people who cannot read.



Classic icons help users.

**Include the back function everywhere in the navigation area** and a link that returns to the home page. Make sure this function is always positioned in the same place on every page.

**Make navigation easier within individual pages.** Offer navigation help such as skipping buttons or direct links in the form of arrows to the top or bottom of the page. Ensure that the navigation area never disappears from the reader's view.



Navigation help at [www.insiemeplus.ch/fr](http://www.insiemeplus.ch/fr).

**Give users the possibility to get their bearings** by showing them the path they have followed within the navigation structure. Keyword: bread-crumbs-navigation.

## **5. INTERACTIVE ELEMENTS**

### **Easily understandable user guidance**

Good user guidance is necessary for all interactive sites, elements and functions, such as forms, search fields or error messages.

**Make sure you have clear instructions and ensure there are easily findable and understandable help sections.** This should be in place as soon as the interaction process calls for the user to take action.

- Indicate immediately when something has been entered incorrectly.
- Confirm entered data immediately as correct.
- Enable users to correct mistakes easily.

### **Forms – step by step**

Forms must be structured in a clear and logical way.

- Group questions by content and theme.
- Break up the form clearly (fieldsets, several pages, wizard, tabs etc.).



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- Go through the form step by step.
- Limit the selection of answers to a maximum of five options per question.

This will help users to focus their attention and will protect them from the danger of feeling overwhelmed. There will be fewer cases of users abandoning the form before completion.

Good understandability and readability as well as a clear layout is also important in setting questions and possible answers. (See recommendations 1., 2. and 3. Clear content.)

**Search function**

Put in place the most error-tolerant and intelligent search system possible.

In other words, systems:

- which suggest search terms,
- tolerate mistakes,
- and also include semantically related terms in the search.

Combine this search system with an easily understandable presentation of the results.

**CAPTCHAS**

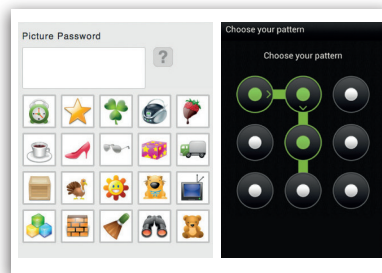
Do not use CAPTCHAS, which require the user to correctly enter a visually distorted series of characters. They are not just highly problematic for people with cognitive impairment or reading difficulties, but also impossible for blind people to use. And to be honest, tedious for everyone.

An alternative to CAPTCHAS is the honey pot method. This is how it works: an input field is created with the instruction that it is to be left open (this is a spam protection measure). It is easier just to leave a field empty than to decipher a code from an image and type it into the field. This additional field should ideally be made invisible using CSS, so that the users have no idea it's there. You'll find more information on this subject here: [www.easysurfing.ch](http://www.easysurfing.ch).



**Interactive elements:**

Wherever user accounts are needed for the application of services, we are faced with the difficult task of making access easy. Offer a login procedure, for example, with user interfaces that avoid any kind of writing.

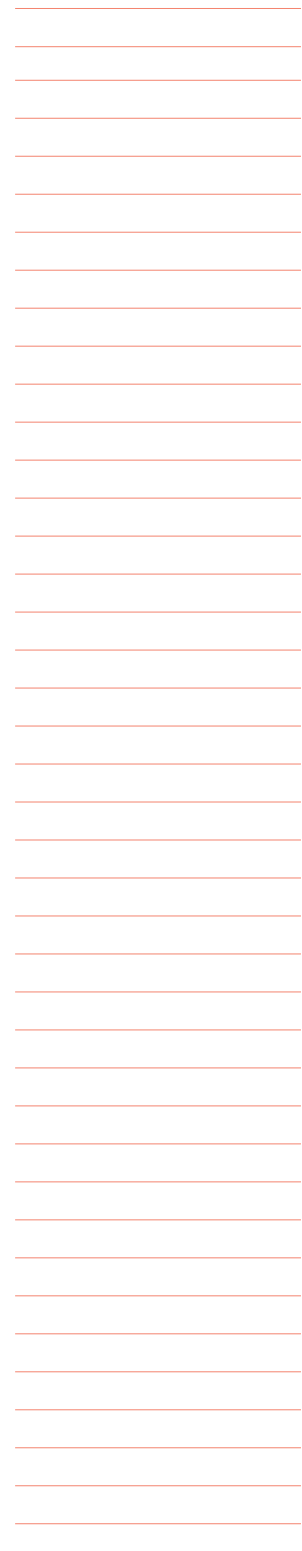


Two examples of login procedures that do not require the input of letters, numbers or characters. Left: login process with image passwords at [www.klikin.eu](http://www.klikin.eu). Right: Android touchscreen login.



**CAPTCHAS:**

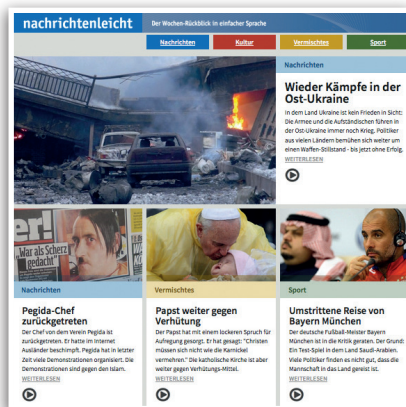
Examples of CAPTCHAS: distorted letters are difficult to decode.





### Plain design:

Online shops and news portals especially need to be aware that not too many items are «packed» into one page and that the items/articles are clearly separated from one another.



[www.nachrichtenleicht.de](http://www.nachrichtenleicht.de) with four clearly-distinguishable articles on the main page.

## 6. PLAIN DESIGN

Design your pages in a consistent and visually balanced way, with clear visual and spatial divides between the different content areas.

Use single colour backgrounds. Avoid restless patterns or pictures in the background.

Make sure you have high contrast. (See recommendation 2. Readable fonts.)

Avoid disturbances and distractions. Reduce the content to the essential and avoid unnecessary elements. Avoid any flashing or flickering areas.

Don't pack too many elements/objects onto one page. Place the most important elements/objects in easily visible positions (e.g. in the middle).

## 7. PICTORIAL REPRESENTATION

Pictograms, visual signals and symbols support comprehension. In combination with other media (text, audio) pictograms, signals and symbols help users grasp meanings and connections better and quicker. They are more suitable for abstract, category-related information (in the navigation area, for example).

The basics of plain design also apply here. Pictorial representation should be used sparingly and in a balanced way. Too many images in a limited space has a restless and distracting effect.

Use known images. Pictograms, signals and symbols should be of high illustrative quality and must have high recognition value.

Use images which are easy to understand. Images which are easy to understand are generally plain images with one or very few viewed objects. Similar rules apply to those for text. (See recommendation 2. Readable fonts.)



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## 11. LANGUAGE ALTERNATIVES

It is not only people with cognitive impairment who have trouble reading. Remember, 20% of the adult population in Switzerland have insufficient reading skills.

**Make use of technologies through which the text content of websites can be converted into speech, or which allow texts to be played as speech (Text to speech).** The combination of text with pictograms and speech output has proven to be very helpful to people with reading difficulties. (See recommendations 7. to 9.)

**It is important here that:**

- these functions are easily findable and language alternatives are easy to play.
- the playing speed is moderate.
- foreign words or abbreviations are correctly entered (lang="", <abbr>) so that they can be correctly reproduced.
- every button and forms can be played in language.
- that the language quality is good.

## 12. HELP

**All the functions of a page should be explained by an easily activated help function, even better when the individual functions have their own help function.**

**Make adaptive help functions available.**

Very comfortable and cleverly devised help functions are adapted to the situations users find themselves in and give them a selection of appropriate, easily understandable actions to take, particularly in the case of error messages. (See recommendation 5. Interactive elements.)

**Make help consultation available to users on the content of each page, if possible with direct links to the critical terms.** Give your help information understandable titles, for example: «What is that?» or «What does that mean?» etc., rather than «FAQ» or «Glossary». (See recommendation 1. Easy read.)

## 13. DATA PROTECTION

**Protect the users of your website from divulging private information unwillingly.** If you offer chat or other social media functions, the standard privacy protection settings should be as conservative as possible.

**Allow users the possibility to implement privacy settings.** Place these setting options in in an easily visible position and keep the design simple.

**Give clear information about the visibility of what is entered on the site.** It should be clearly explained and recognisable to the users immediately which input is visible for others and which is not.

## 14. RESPONSIVE DESIGN

**Many people with cognitive impairment find it much easier to use touchscreens than mouse and keyboard, because of the direct usability.**

Therefore we recommend optimising any new internet offerings for tablets and smartphones using responsive design. Efficient surfing using these devices requires specifically adapted navigation functions and menus. Keyword: mobile first.



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# MATRIX

	REASONING	MEMORY	ATTENTION	RECOGNITION	LANGUAGE SKILL	COMMUNICATION
TEXT	Repetition allowed.				Easy read, short sentences, no jargon or foreign words.	
FONT	Minimal font size of 1 em to 1.2 em.		Easily readable fonts, adjustable font size, highly visible links.			
CONTENT		Short content. Benchmark: one page/screen per subject/article.	Clean, clear typeface, short paragraphs, important areas and content emphasised.			
NAVIGATION / ORIENTATION	Hierarchical navigation structures without too many options to select from. Orientation help on the pages (keyword: breadcrumb navigation) and regarding «back» functions.		Clear design, clear separation from other areas. Use of the common design conventions (positioning: top of the page and left aligned; nesting through indentation, etc.)			The navigation texts enhanced with pictograms.
INTERACTION / FORMS / SEARCH / ERROR MESSAGES / CAPTCHAS	User guidance: clear instructions and choice of options where interaction is expected.	Avoiding too many options to choose form.	User guidance: clear instructions and choice of options where interaction is expected. Clearly structured forms.		Error-tolerant, intelligent search functions (semantic search).	No use of CAPTCHAS.
DESIGN			Calm, consistent, balanced design: no patterns or images as background, clear spatial separation of the different content areas. No flashing or flickering.			
PICTORIAL REPRESENTATION / PICTOGRAMS AND PHOTOS / MULTIMEDIA / ANIMATION			Sparingly use of images and animation. Pictorial representation in a targeted way to draw attention to important content/areas.		Pictorial representation for the comprehension. Use of pictograms and speech output in the navigation, for buttons and links.	
HELP SECTION	Intelligent help tailored to the situation for all interactive functions.				A glossary or reference section explaining the most important terms and connections briefly and clearly in easy read.	
DATA PROTECTION	Standard settings for functions which are relevant to data protection as conservative as possible.					

## OUR WEBSITE

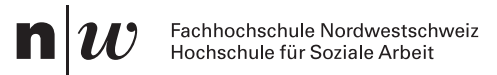
More information, links to best practices and examples can be found at:

[www.easysurfing.ch](http://www.easysurfing.ch)



BROUGHT TO YOU BY:

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