Usability

Basics

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USABILITY

BASICS

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UNFOLDING INFORMATION MEANS TO MAKE IT UNDERSTANDABLE

INTRODUCTION

DIFFERENCE BETWEEN PAPER AND ONLINE PRESENTATION

i. In print, a document forms a whole and the user is focused on the entire set of information. On the web, you need to **split each document into multiple hyperlinked pages** since users are not willing to read long pages.

ii. Users can **enter a site at any page** and move between pages as they chose, so make every page independent and explain its topic without assumptions about the previous page seen by the user.

iii. Link to background or explanatory information to help users who do not have the necessary knowledge to understand or use the page.

iv. Make the word count for the online version of a given topic about **half the word count** used when writing for print: Users find it painful to read too much text on screens, and they **read about 25 percent more slowly** from screens than from paper.

v. Users don't like to scroll through masses of text, so put the most important information at the top.

vi. Web **users are impatient** and critical: They have not chosen your site because you are great but because they have something they need to do. Write in the "news you can use" style to allow users to quickly find the information they want.

vii. **Credibility** is important on the Web where users connect to unknown servers at remote locations. You have to work to **earn the user's trust**, which is rapidly lost if you use exaggerated claims or overly boastful language; avoid "marketese" in favor of a more objective style.

viii. A few hyperlinks to other sites with supporting information increase the credibility of your pages. If at all possible, **link quotes** from magazine reviews and other articles to the source.

ix. Use **simple sentence structures**: Convoluted writing and complex words are even harder to understand online.

x. The Web is a fluid medium: **Update pages** as time goes by to reflect all changes. Statistics, numbers, and examples all need to be recent or credibility suffers.

SCANNABILITY

i. Seventy-nine percent of Web users **scan pages; they do *not* read word-by-word**.

ii. Design your web document to be scannable!

iii. Reading from computer screens is 25% slower than from paper.

iv. Web content should be **50% the size** of its paper equivalent

v. To make keywords stand out, use **highlighting liberally**: Highlight about three times as many words as you would when writing for print.

vi. Use the <STRONG> tag rather than the <EM> tag for **keyword highlighting**. Since **STRONG** is usually rendered as boldface, this is typically the best way to highlight words.

vii. Colored text or colored backgrounds can also be used for highlighting, but don't use blue for words. That color is reserved for hyperlinks.

viii. The **hyperlinks** also stand out by virtue of being colored, so they should be written to do double duty as highlighted keywords.

ix. Highlight only **key information-carrying words**. Avoid highlighting entire sentences or long phrases since a scanning eye can only pick up two (or at most three) words at a time.

x. The <EM> tag is usually rendered as italics and can be used to make figure captions or emphasized sentences or phrases stand out. Do not use it for large blocks of text, since italic typefaces are slower to read online.

xi. **Bulleted and numbered lists** slow down the scanning eye and can draw attention to important points.

xii. Each paragraph should contain one main idea; use a second paragraph for a second idea, since users tend to skip any second point as they scan over the paragraph.

xiii. Start the page with the conclusion as well as a short summary of the remaining contents ("inverted pyramid" style).

WRITING TO BE READ

Part of web page design includes the consistent use of textual elements. These guidelines will improve readability: [1]

Heads:

- Make the **topmost head** on the page an H1, worded so that the user knows **why the page is important**.
- Make sure that heads clearly indicate the content of the sections.
- Organize your text so that the **hierarchy** is no deeper than four levels. Lower-level heads are hard to distinguish and disorienting to online readers.

Lists:

- You can include a greater number of lists on a web page than on a printed paper page.
- Use numbered lists when the order of entries is important.
- Use unnumbered lists whenever the sequence of the entries is not important.
- Limit the number of items in a single list to no more than nine.
- Generally, limit lists to no more than two levels: primary and secondary.

Hyperlinks:

- Don't use a hypertext link if the information can be succinctly presented on the current page.
- Use a description of the information to be found in the link, or perhaps the link address.
- Use hyperlinks to provide supplemental information like definitions of terms and abbreviations, reference information, and background reading.
- Cluster cross-references under a "See also" (or similar) heading where appropriate. Generally, such lists of cross-references are easiest to read if they include only headings or titles with a few words of explanation.

[1] http://www.sun.com/980713/webwriting/wftw1.html

WRITING TO BE FOUND - SEARCH ENGINES

i. More than half of web users rely on **search engines** to navigate pages.

ii. When users link to a page from a search engine, they should **know immediately how the page relates to their query**.

iii. Include in each page all possible query terms that can be used to search for the topic of the page. List the most important terms in a **keywords meta-tag** together with all common **synonyms** (even ones not included in the body text).

iv. Include generic terms used by customers or competing companies to describe the topic of the page; do not include competitors' trademarks in the meta-tag.

v. Use a **controlled vocabulary** to add keywords to the meta-tags for your pages: Create a list of common terms for your subject area and make sure that each of these terms is added to the keywords meta-tag for those related pages.

vi. Do not add a keyword if the page is only peripherally related to the term. **Only use keywords that describe the main topic of a page**.

vii. Each page must have a <TITLE> tag.

viii. Create **title text** of a single line, typically no more than 60 characters. Make sure that the first 40 characters of the title describe the topic of the page: titles are often truncated in navigation menus and by search engines.

ix. Make the **first word of the title** the most important descriptor of the page: Users often scan down long lists of titles to choose pages.

x. Do not begin a title with a generic term ("Welcome to") or an article ("The").

xi. The title should make sense when **viewed completely out of context**, as part of a long list of other page titles.

xii. Give **different titles to different pages**: Pages about the same topic can start with the same words but should end with words that explain the difference between them.

xiii. Titles must be written in mixed case.

xiv. In rare cases, a single keyword might be emphasized by use of UPPERCASE (do not use for the first word in the title: being first is sufficient emphasis).

xv. Each page should have a short **summary** in a description meta-tag. This summary is shown below the page title by some search engines.

xvi. Descriptions must be 150 characters or less.

xvii. Descriptions must make sense when read **completely out of context** of the site (though you can assume that they will be seen together with the page title).

xviii. Descriptions should tell users what the page is about and allow them to judge whether it is of relevance to their current problem.

xix. Do not fill descriptions with hyperbole or promotional language; concentrate on the facts.[2]

[2] Syntax: <META name="description" content="Automotive and Assembly Competence Center: contact details.">

QUICK USABILITY INDEX CHECKLIST FOR WEB SITES

Answer each checklist question with not applicable (N/A), yes, or no. To determine the Usability Index count the number of yes answers compared with the total of the yes and no answers.[3]

First Steps	
What is the name of the Web site?	
What is the location (URL) of the Web site?	
What is the main purpose of the site?	
What is the style of the site?	
How many users are there?	

Finding the Information	**N/A**	**Yes**	**No**	
Contents				1
Contents list included?				2
Links in contents list correct?				
Site Map				
Site map included?				3
Links in site map correct?				4
Headings labeled correctly?				5
Two or three highest heading levels included?				6
Capitalization, spelling, and punctuation correct?				7
Acronyms avoided where possible?				8
Headings (Choose one page at random)				
Headings brief and informative?				9
Headings unique?				10
Headings parallel?				11
Headings stand out on the page?				12
At least one heading on every page?				13
Each heading accurately reflects tasks or information?				14
Search				
Choose a topic at random -- can you find it?				15
Index				
Index included?				16
Entries in alphabetical order?				17
Secondary and tertiary entries included?				18
Up-to-date information				
Is the date of the last update indicated?				19
Is there an automatic update notification mechanism?				20
Is new information indicated?				21
Finding an answer				
Choose a simple fact - can a user find it?				22
Can the user find the answer in 5 minutes?				23
Glossary				

[3] This is a modified checklist to enhance web sites. The original checklist is (c) 1998 Keevil & Associates.

Glossary included?				24
Introductory statement correct?				25
All specialized terms in site included?				26
Terms not used in site eliminated?				27
Understanding the Information	**N/A**	**Yes**	**No**	
Overview Page				
Is an "Overview" page or picture included?				28
Sentence describing the site included?				29
Sentence describing the service included?				30
Organization of the Site				
Does every major topic have an "Introduction"?				31
"Introduction" part informative?				32
Is the "inverted information pyramid" used?				33
Organization conforms to style guidelines?				34
Heading levels appropriate to level of detail?				35
Each paragraph has main idea, described in topic sentence?				36
Presentation moves from general to specific?				37
Presentation moves from simple to complex?				38
Information complete?				39
Information limited to appropriate and necessary topics?				40
Information in correct sequence?				41
Summary included and accurate?				42
Style (Choose five pages at random)				
Style conforms to desired style?				43
Editorial comments added or otherwise resolved?				44
Active and passive voices used appropriately?				45
Second person used appropriately?				46
Present tense predominates?				47
Reading level acceptable?				48
One-sentence paragraphs used sparingly?				49
Sentences simple but not terse?				50
Abbreviations eliminated where possible?				51
Transitions between topics smooth?				52
Instructions in imperative mood?				53
Positive expressions and expressions predominate?				54
Abbreviations, acronyms, and symbols used sparingly?				55
Imprecise (vague) words replaced with precise ones?				56
Yesrgon avoided?				57
Redundant and extraneous words removed?				58
Coining of verbs, adjectives, and nouns avoided?				59
Noun strings limited to maximum of three words?				60
Figures				
Figures consistent in font, layout, and style?				61
Figures flow in an obvious manner?				62
Figures easily interpreted?				63
Figures suit information presented?				64
Figures useful?				65
Figures appropriately titled and numbered?				66
Each figure title unique?				67
Titles, callouts, and annotations informative?				68
Figures correctly integrated with the text?				69
List of Abbreviations				70
List of abbreviations included?				71

Entries in alphabetical order?				72
Style correct, concise, and readable?				73
Terminology				
Approved terminology used?				74
Terminology based on standards?				75
Sources of specialized terminology listed in bibliography?				76
Naming conventions applied correctly and consistently?				77
New terms highlighted and defined when first used?				78
Synonyms avoided after meaning of terms established?				79
Meaning of each term consistent throughout each site?				80
First occurrences of abbreviations follow spelled-out words?				81
Level of technical terms appropriate to audience?				82
Supporting User Tasks	**N/A**	**Yes**	**No**	
User-Oriented Tasks				83
Does the title of the site represent a major task?				84
Do the topics represent subtasks?				85
Does each topic have a clearly defined goal?				86
Does each task have an introduction?				87
Are the tasks described using action verbs?				88
Tasks				
Choose a task - can you complete the task in 10 minutes?				89
Interactive Tasks				
Are reply forms shorter than one page?				90
Information Updates				
Is the date of the last update indicated?				91
Is there an automatic update notification mechanism?				92
Is new information indicated?				93
User Questions				
Are Frequently Asked Questions (FAQ) included?				94
Presenting the Information	**N/A**	**Yes**	**No**	
Display Speed (Choose three pages at random)				
Home page displays within 10 seconds with a 56.6 modem?				95
If not, is there feedback indicating the delay?				96
Are graphics under 25K in size?				97
If more than 5 graphics on a page, are they 15k or smaller?				98
For URL (URI) links, is the final slash included?				99
Are WIDTH and HEIGHT attributes included on all images?				100
Are WIDTH and HEIGHT attributes included on all tables?				101
Are complex tables split into simple tables?				102
Links				
Is there advance notice before downloading large files?				103
Are thumbnail pictures at least 1 x 2 inches (2.5 x 5.0 cm.)?				104
Is there at least one link on every page?				105
Is the color of the link correct?				106
Text Format (Choose three pages at random)				
Text left justified and ragged right?				107
Format consistent throughout the site?				108
Figures and tables aligned correctly?				109

White space used effectively?				110
Information presented in readable blocks?				111
Major topics begin on separate pages?				112
Bad line breaks corrected?				113
Sentences not continued across pages?				114
No widowed headings?				115
Mechanics (Choose five pages at random)				
Spelling correct?				116
Punctuation correct?				117
Grammar correct?				118
Lists				
List formats appropriate for items listed?				119
Lists punctuated correctly?				120
Messages				
Messages (for example, errors) included and accurate?				121
Message format correct?				122
Message style consistent?				123
Messages as brief as possible?				124
Printing				
Do all the text and graphics print?				125
Does the file print on A4 and US letter size paper?				126

Summary of Questions	**N/A**	**Yes**	**No**	**Total**
Finding the Information				
Understanding the Information				
Supporting User Tasks				
Evaluating the Technical Accuracy				
Presenting the Information				
Total number of questions that you answered.				
This checklist has 126 questions in total.				
Calculating the Usability Index	**N/A**	**Yes**	**No**	**Usability Index**
100 x (Total Yes Answers)/(Total Yes + No Answers)				**xxx per cent**

1 BASICS: WEBDESIGN FOR INFORMATIVE WEB SITES

Website visitors are **Walk-up-and-use-users**. Visitors come voluntarily. However, they don't have to and a competitor's website is only one click away. Visitors of an informative website want

- to find specific information
- to solve a specific problem

⇒ and they want to do this immediately!!

- without barriers
- without waiting time
- without getting lost

1.1 Avoiding barriers

1.1.1 The website functions well with the current browser generations.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.1.2 The website uses correct standard html-code. Pages appear in proper style and no error messages occur.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.1.3 There are no dead links; all graphics are found; all pages are finished and reviewed by risk-management

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.1.4 The website can be accessed without plug-ins.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.1.5 Bookmarking the site is easy (no frames)

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.1.6 Visitors don't need a log-in/password.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.1.7 Visitors don't have to relinquish personal data.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.1.8 All headlines and links are texts or are labeled with text (not solely graphics). Thus visually impaired can use voice output.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.1.9 Fonts are labeled in percent (and not in dots). Thus the browser's capacity to maximize font sizes works properly.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.1.10 The website is found by all major search-engines and is among the first five entries. It contains meaningful and significant headers and and meta-data like author, keywords, descriptions etc.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2 Reducing waiting time

An aesthetic design is nice to have and contributes to a pleasant and credible appearance. However, even more important is rapid loading time: the quicker a website loads the higher the rate of page-impressions.

1.2.1 The file size doe not exceed 40 KB.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2.2 No unneeded graphics and multimedia-effects (splash-screens, unnecessary flash-programming)

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2.3 Optimal compression of all graphic elements. All graphics are smaller than 25K; if there are more than five graphics on a page they are smaller than 15K. [4]

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2.4 WIDTH and HEIGHT for graphics and tables

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2.5 Usage of multiple small tables instead of using a single complex one.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2.6 Usage of style-sheets

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2.7 Added end-slashes (/) for URLs

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2.8 All pages load in less than 10 seconds. (10 seconds: dial-up analogue modem 34 KB, ISDN/Cable connection 150 KB)

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

[4] Jacob Nielsen: Designing Web Usability - The Practice of Simplicity. - Indianapolis: New Riders, 2000.

1.2.9 In case the page loads slower a message appears indication the approximate waiting-time

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2.10 All information on the superior/upper part of the screen is visible even when the lower part is still loading.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.2.11 If (in exeptional cases!) a longer waiting-time cannot be avoided the overall file-size is indicated. As long as users have analogue dial-up modems this rule applies for pages > 50 KB

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.3 Reducing time to adopt to a website

1.3.1 The structure of the website is geared towards the external target group and its activities – and not towards the internal organization.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.3.2 The visitor is not forced to choose among options that he doesn't know.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.3.3 All options are visible. Visitors don't have to search for hidden pull-down menus or use imagemaps to anticipate the next possible action.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.3.4 Visitors don't have to read long texts online. They can print out an optimized print version.

This requirement is		
Completely accomplished	Partly accomplished	Not accomplished

1.4 The relationship between author and visitor

Web-authors inevitable write with a certain intention in mind and also assign a certain role to visitors.[5] Yet when users don't like this role they just leave and don't come back. Designing and assuring attractive visitor-roles is therefore dependent on solid research about the target group and its needs.

Keep in mind:

- People skim ruthlessly - particularly in online environments.
- If possible, they avoid reading entirely.
- They tend to pick out 'key' words and phrases. However, these may not be the words and phrases that authors envisaged.

1.4.1 Key concepts

Author persona
The person or voice who speaks through the Web site; a personage that is put on the stage by the designer.

User persona
The person of the user or visitor created by the content of the Web site; the role the actual visitor is asked to play when engaging in the communication.

Face-threatening acts
Communicative utterances that threaten the wish of visitors to control their own actions and to be respected for their wishes and values.

Peripheral cues
Features that cause positive feelings by association rather than by facts and rational arguments.

1.5 Designing a credible and inviting author persona

1.5.1 Should the author persona be anonymous or identifiable?

Author		
Anonymous	Depending on the text/content	Identifiable

1.5.2 Should the author persona have a strong presence?

Author's presence		
Strong	Depending on the text/content	Weak

[5] Technical Communication: Journal of the Society for Technical Communication 47 (2000) 3

1.5.3 Which values shall be emphasized?

The following values shall be emphasized:

1.5.4 How explicitly should these values be presented?

Values are presented		
Very explicit	Neutral	Not explicit

1.6 Role of the author

1.6.1 How is the author perceived?

Author is perceived as				
Service provider	Expert	Consultant	Salesperson	Contact person

1.6.2 How will the author's role(s) be prompted?

What supports the role of the author?			
	Yes	No	Please substantiate
Color			
Language			
Interactivity			
Structure			
Graphics			
Internationality			
Style			
Orthography and grammar			
Feedback-options			

1.7 Design attractive visitor roles

1.7.1 What role(s) should the user persona have?

What role(s) should the user persona have?			
	Yes	No	Please substantiate
Goal-oriented persona			
Searching for information/Time on his hands			
Learner			

Information seeker			
What goals shall the user have?			
How shall he be guided through the website?			

1.7.2 Which values do the users of the website have?

Values	
Please substantiate	

1.7.3 Shall these values be addressed directly or indirectly?

Shall these values be addressed directly or indirectly?		
Directly		Indirectly

1.8 Designing comfortable relationships

1.8.1 Distance between authors and user personas.

How intimate respectively businesslike should the authors' tone be?	
Please substantiate	

How hierarchical should the relationship be?	
Please substantiate	

Etiquette

1.8.2 Are users treated politely at all times?

Are users treated politely at all times?		
Yes		No

1.8.3 Politeness and respect towards site visitors is demonstrated through transparency and a professional web design.

Politeness and respect towards site visitors is demonstrated through transparency and a professional web design.		
Yes		No

2 BASICS: CONTENT USABILITY

Visitors of a web site usually want:

- Find a specific information
- Solve a specific problem
- Find assistance
- Find a relevant and adequate contact person

User questions:

- "Where am I?“
- "What can I do here?"
- "What's in it for me?"
- "Should I stay here or can I get the same information somewhere else faster and easier?”

⇒ Users want to understand this in not more than 10 seconds!!!

All parts of the reading process use a reader's attentional resources, a limited commodity. If a reader can devote less attention to lower level tasks such as decoding letters, words, and syntactic structures, he or she will have more attention available for higher level tasks, such as combining text-based information with other text-based information and also with information stored in long term memory.

2.1 Selecting and presenting content

Is the content presented in such a way that readers can orient themselves and access relevant prior knowledge so they can comprehend new information when they arrive on a new page.? Dazu tragen bei:

2.1.1 An informative title at the top of each page. An informative title is short, precise and understandable without context.

An informative title at the top of each page		
Yes	Predominantly	No

2.1.2 Headlines reflect the following content

Headlines reflect the following content		
Yes	Predominantly	No

2.1.3 An introduction or introductory sentence that announces the topic and specifies the intended audience

Introductory sentences exist		
Yes	Predominantly	No

2.1.4 Concentration on users' concerns and backgrounds.

Concentration on users' concerns and backgrounds.		
Yes	Predominantly	No

2.1.5 Information is grouped to help readers create hierarchical frameworks.

Information is grouped to help readers create hierarchical frameworks		
Yes	Predominantly	No

2.1.6 Redefinition of specific terminology, and spelling out acronyms on each page.

Redefinition of specific terminology, and spelling out acronyms on each page.		
Yes	Predominantly	No

2.1.7 Results and texts are summarized

Results and texts are summarized		
Yes	Predominantly	No

2.2 Is the content relevant and interesting for the target group?

2.2.1 Many authors reuse content from existing printed texts or Web sites just because they have the information.

Many authors reuse content from existing printed texts or Web sites just because they have the information.	
Please substantiate	

2.2.2 A telephone-hotline for immediate inquiries exists.

A telephone-hotline for immediate inquiries exists.		
Yes		No

2.2.3 Amount of information per page is minimized.

Amount of information per page is minimized.			
	Yes	No	Please substantiate
Short pages instead of long pages (in general)			
Only a few examples of a concept versus exhaustive			

coverage			
Usage of diagrams or graphics if a text would be more complicated			
Summaries or abstracts with links to longer articles or discussions			
Information the reader is likely to know is placed before new information (within sentences, paragraphs, and pages)			
Important information near the top of paragraphs and pages			
Tables of contents, overviews, or site maps help the visitors to navigate			
Forms are self-explanatory, clear without ambiguity, and allow subsequent corrections			

2.3 Organizing content on the page

2.3.1 Is the information grouped to help readers create hierarchical frameworks (for storing incoming information in long-term memory)?

Arranging the contents			
	Yes	No	Please substantiate
Five or fewer items per group at one level of the organizational hierarchy			
Grouped ideas on one page at the same conceptual level			
Main topics start on a separate page			
Journalistic presentation of information (chunks): first level important information and introduction, second level background information and details			
Every page has at least one headline. [6]			
Headlines and sub-headlines are clear.			
Introductions.			
Lists and tables			
Tables of content and site maps			
Short paragraphs			

2.4 Communication style

2.4.1 Are words used that readers can easily and accurately understand?

Wording			
	Yes	No	Please substantiate
Objective tone instead of promotional tone			
Plain instead of inflated, pseudo-intellectual language			
Concrete words			
Short words			
Pronounceable words			
Words that readers are familiar with (the audience's vocabulary set)			

[6] J. Nielsen: "How Users Read in the Web"www.useit.com/alertbox/9710a.html

2.4.2 Effective text features

Text features			
	Yes	No	Please substantiate
Active voice verbs			
Few relative clauses			
Few embedded relative clauses			
Few embedded links			
Important information placed in independent clauses			

2.4.3 Are ideas stated concisely?

Are ideas stated concisely?			
	Yes	No	Please substantiate
Omission of unnecessary detail			
No repetitions			
Concise wording			
Short sentences			
Links to relevant examples instead of cumbersomely explanations			

2.5 Establishing credibility

2.5.1 Make pages trustworthy. Readers are more likely to continue reading and return to a page if they feel the information is credible.

Credibility of information			
	Yes	No	Please substantiate
Author's name, credentials, and e-mail address			
Date that site was posted or last updated			
Citation of sources when appropriate			
Up-to-date information			
Links to *relevant* outside sites			
Accurate information			
Lack of typos, grammatical errors, and spelling mistakes			
Lack of "hyped-up" language			
Sachliche Darstellung ohne Wertung wenn angebracht			
Provision of a relevant contact person (not only webmaster@...)			

3 BASICS: WEB NAVIGATION

Navigation answers the following questions:

- Where am I? – within this website / within the World Wide Web?
- Where have I been/ which way did I take?
- Where can I go from here?

Additionally navigation is important for:

- A comfortable user experience („virtual ground“).
- Navigation indicates the options to choose from by giving an appropriate overview.
- Navigation indicates how visitors can use the web site. If the navigation is self-explanatory further assistance won't be necessary.
- A well designed navigation establishes trust. The visitors gets a feeling that “people behind the site know what they are doing”.

3.1 Designing an effective link

3.1.1 Did you make sure that all links indicate that they are links?

Did you make sure that all links indicate that they are links?			
	Yes	No	Please substantiate
Well-established cues such as underlining and the raised "button" appearance should be used to indicate links. Do not use these cues for other purposes.			
Links can also be indicated by semantic meaning, layout, and formatting. These cues, however, are less reliable and should be used with care.			
Graphics, other than icons, are usually not interpreted as links. A special cue, such as a text label, may be necessary to indicate the link.			

3.1.2 Did you ensure that users will view and notice links?

Did you ensure that users will view and notice links?			
	Yes	No	Please substantiate
Avoid cluttered page designs that make links hard to see.			
Make sure the most important links appear high enough on the page to be visible without scrolling, regardless of the resolution of the user's monitor.			
Be sure that all links clearly indicate their destinations.			

3.1.3 Do all links clearly indicate their destinations?

Do all links clearly indicate their destinations?			
	Yes	No	Please substantiate
Use layering techniques, such as adding supplemental text and mouse rollovers, when necessary to make the			

destination of text links clear.			
Use labels and mouse rollovers (created with an ALT tag) when necessary to clarify the destination of icon links. ALT tags are especially desirable because they can be recognized by text-only and text-to-voice browsers.			
Use link typing to indicate external links and links that initiate a process, such as opening a mail message window or starting a download.			

3.2 Managing large numbers of links

3.2.1 Are there effective ratios of breadth and depth in Web site hierarchies?

Are there effective ratios of breadth and depth in Web site hierarchies?			
	Yes	No	Please substantiate
Within limits, it is best to favor breadth over depth in designing a hierarchy.			
To help users cope with breadth, consider grouping links under headings.			

3.2.2 Are primary links of a Web site supplemented with secondary links-when appropriate?

Are primary links of a Web site supplemented with secondary links-when appropriate?			
	Yes	No	Please substantiate
Use shortcut links to provide quick access from the home page to important nodes located deeper in the hierarchy.			
Use associational links to indicate a special relationship between two nodes.			

3.2.3 Is the interface designed to readily reveal the underlying information structure?

Is the interface designed to readily reveal the underlying information structure?			
	Yes	No	Please substantiate
The interface should help users build a mental map of the node-link structure of the site.			
On the home page, the links to the main branches of the hierarchy (primary links) should be prominent. Shortcut links and links to utility nodes (such as help and search) should be easily distinguishable from the primary links.			
On lower-level pages, the interface should enable users to readily distinguish links to the next level down in the hierarchy from various kinds of secondary links.			
Highlighting and markers in navigation bars and columns allow users to visualize the location of the current node in the hierarchy.			

3.3 Providing orientation information

Orientation information on a web site should be

⇒ **clear**

⇒ **brief**

⇒ **highly conspicuous**

- To become properly oriented to an unfamiliar web site, the user needs to know the name of the site and the general purpose.
- Orientation information must be conspicuous. It should not be overshadowed by other elements, including advertising banners.
- Orientation information on the home page of a subsite should make clear the subsite's identity and purpose and the relationship of the subsite to the main site.

3.3.1 Is orientation information provided on lower-level pages to support continued exploration of the web site?

Is orientation information provided on lower-level pages to support continued exploration of the web site?			
	Yes	No	Please substantiate
The site name or logo on lower-level pages are included to maintain site identity.			
Use orientation elements to show differences among sections of the site while also providing continuity to the user's experience.			

3.3.2 Are site maps employed to show the global structure of a site and to provide direct access to nodes?

Are site maps employed to show the global structure of a site and to provide direct access to nodes?			
	Yes	No	Please substantiate
Site maps should show all branches of the hierarchy, although space limitations may limit the number of levels that are displayed.			
Site maps are more effective when they include a "You are here" (or "Last page visited") marker.			

3.3.3 Search mode

Search mode			
	Yes	No	Please substantiate
The search interface should typically be configured both for users who simply type a word or phrase and for those who wish to formulate more complex searches. The interface, however, should be optimized for the kind of searches that will most often be performed.			
Search results should be listed in the most appropriate order and should provide enough information about each Web page for the user to differentiate successfully among the choices.			
A quality index is likely to give better results than a search facility, but indexes are expensive and difficult to maintain. Does a quality index exist?			

3.3.4 Is a link to the home page throughout the site provided?

Is a link to the home page throughout the site provided?			
	Yes	No	Please substantiate
A convention is emerging in which a corporate logo is recognized as a link to the home page. Follow this convention if you have confidence that your users are familiar with it.			
If your web site is divided into one or more subsites, provide links from every subsite page back to the subsite's home page. It is also desirable to provide a direct link from the subsite pages back to the home page of the main web site.			

4 BASICS: USABILITY FOR SEARCH ENGINES

The size of the site, the way the information is organized, and the information needs of the user should be considered when choosing a search engine and customizing the search interface for the site.

"... site designers must create sophisticated search engines with a simple user interface capable of delivering the goods on the user's first query." [7]

4.1 Intended purpose and particularities of search engines

4.1.1 Clear and short statement about intended purpose and complexity of the search tool.

Clear and short statement about intended purpose and complexity of the search tool.			
	Yes	No	Please substantiate
The user realizes immediately that the search tool is a search tool.			
The user realizes immediately through scanning which part of the internet will be searched (www, a web-catalogue, a web site, a sub site,).			
In case the search engine is specialized (thematic / geographic/target-group specific) the users realizes it right away.			

4.2 The user interface for data entry

4.2.1 Minimalistic interface

Minimalistic interface			
	Yes	No	Please substantiate
There is a default search and a search option for experts (Advanced Search).			
The default search is placed on the entrance site and perfectly visible (normally in the upper right corner).			
There is a button with an unambiguous label: e.g. search, find, find it, go).			
Unexperienced users normally cannot by mistake end up at 'advanced search'.			
The default search engine only uses one data entry form (like Google).			
There is a „new search“ button.			
In case even the default search uses filters default is „all“.			

[7] http://www.nngroup.com/reports/ecommerce/search.html

4.3 Processing the data input

4.3.1 Fault tolerance

Fault tolerance			
	Yes	No	Please substantiate
The search engine detects and negotiates typos.			
The search engine assists in finding alternative search options.			
A well written algorithm (e.g. data entry is interpreted as phrase, then as AND-connection, then as OR-connection).			
Frequent enquiries: client can go to a list with commented 'browsable links'.			
The cursor is in the search. The users does not have to click into the search field first.			
The enter key can be used to send off the search enquiry.			

4.4 Result presentation

4.4.1 Result list

Result list			
	Yes	No	Please substantiate
The response time is less than 10 seconds.			
The user realizes right away that an answer was given: the results are presented on a new page or in a new window.			
The result page gives feedback about the used search criteria.			
Number of results is indicated.			
The results list is sorted by relevance.			
Users can re-arrange the result-list according to their needs.			
The result list contains no doublets.			
Highlighting helps the user to identify the most relevant results.			
A short summary helps the user to identify the most relevant results.			
No dead llinks (404-messages).			

4.4.2 Too many results

Too many results			
	Yes	No	Please substantiate
In case of too many results: easy-to-use, easy-to-understand filters.			
After filtering the results are presented in a functional/appropiate order.			

4.4.3 Zero-results message

Zero results message			
	Yes	No	Please substantiate
The zero results message is is clearly visible, short and understandable.			
It is distinguishable from the sites with results.			
The user doesn't get the feeling that he did something wrong but a short and polite explanation appears.			
There are recommendations what to do next to solve the problem.			
The zero results page is linked to a FAQ page or to a page with recommendations and examples.			
The zero results page contains a field for a new search.			

4.5 Assistance and feedback

4.5.1 Transparent interaction design

Transparent interaction design			
	Yes	No	Please substantiate
The language used for buttons, labels, system feed-back is generally understandable. (little text, easily scannable short sentences).			
Support/Help is context sensitive, short, well structured (easily scannable) and uses language appropriate for the visitor.			
Help(support contains easy-to-use and easy-to-understand language.			
Error messages are polite and constructive.			
The visitor always knows:			
which way he took			
which options he can choose from			
how he can use them			
what is going to happen when he uses them			
Options (e.g. filters) are context sensitive. They are only available when it is appropriate for the research situation.			
After every action users get an easy-to-understand system response, so that he knows how the system interpreted his query and what happened because of his action.			
The search engine supports the user with plausible search termini/options/criteria/words.			
There is a FAQ site.			
A contact person can quickly and easily be reached, and, if necessary, gives individual advice/support.			

4.6 Additional general usability standards

Additional general usability standards			
	Yes	No	Please substantiate
Generally accepted web standards are implemented (e.g. search field at the upper right side, links are underlined, sans serif fonts, compliant to different browsers).			
The design is attractive and inviting.			

5 BASICS: PRESENTATION OF INFORMATION ELEMENTS

The way in which information is displayed on screen in a Web site has a considerable impact on the site's usability:

- if elements on the screen are difficult to see
- if text is difficult to read
- if the organizational structure of the information the site contains is difficult to discern
- or if the visual elements are difficult to interpret

then the effectiveness of the site suffers!

i. Before they can convey any meaning, elements in a display must first be legible. Important elements in a display can't contribute to a Web site's message unless they can be seen. That means that they must be large enough to convey necessary detail and different enough from their backgrounds to visually stand out from them.

ii. Visual patterns in the arrangement of site elements should reflect the logical organization of information in the site. People attach meaning to the visual patterns they detect in an information display. It is consequently important to create patterns in the arrangements of elements on a screen that mirror the logical patterns of relationships that exist among the elements or blocks of content displayed in the site.

iii. Text is not generally as readable on screen as on paper, so not all the normal "rules" of typographical design apply. Screens present some special problems for the display of text, primarily because of their lower resolutions. Using larger fonts, sans serif typefaces, and generous line spacing, however, goes a long way toward mitigating those problems.

iv. Pictures can convey some kinds of ideas much more efficiently than can text. Pictures should be used to communicate rather than decorate a Web site.

5.1 Making information elements legible

5.1.1 Size of information elements

Size of the information elements			
	Yes	No	Please substantiate
Can you decipher all the elements in the display easily?			

5.1.2 Contrast of information elements

Contrast of information elements			
	Yes	No	Please substantiate
For an element on a screen to be legible, it must contrast sufficiently with its background.			
Consequently, "busy" or distracting backgrounds are avoided			

5.2 Designing (arranging) display elements

5.2.1 Information structure

Good design reveals to the reader the structure of an information display, whether a web site, a screen, or a page.

Information structure			
	Yes	No	Please substantiate
Are visual patterns selected that reflect the pattern of logical or functional relationships that exist between and among the things being symbolically represented in the display?			

5.2.2 Grouping

Grouping			
	Yes	No	Please substantiate
Are related items grouped through the use of space; graphical boundaries; or similarities in lightness, color, texture, or orientation.			
Are unrelated elements be visually different or spatially separated from one another?			

5.2.3 Relative importance

Relative importance			
	Yes	No	Please substantiate
Is the author's view of the relative levels of importance among elements or groups of elements revealed in a display graphically?			
Among those perceptual attributes that have been found to draw disproportionate attention are color, position, size, isolation, complexity, and tonal contrast.			

5.2.4 Consistency and predictability

Consistency and predictability			
	Yes	No	Please substantiate
Is the design consistent and predictable (unified)?			
Are elements that are equivalent logically or functionally visually treated the same?			
Is consistency apparent in the pattern or arrangement imposed on the elements on a screen?			
Does the background always look the same?			

5.2.5 Sequence

Sequence			
	Yes	No	Please substantiate
Does the design of the display reveal the intended sequence (if any) in which the reader is expected to process it?			

5.3 Ensuring text is readable

5.3.1 Typeface choice

Typeface choice			
	Yes	No	Please substantiate
Are sans serif typefaces or serif typefaces used that were designed specifically for display on screen?			

5.3.2 Type size

Type size			
	Yes	No	Please substantiate
Is 10- to 12-point type used for text intended for continuous reading?			

5.3.3 Bold and italics

Bold and italics			
	Yes	No	Please substantiate
Overuse of bold and italics is avoided.			

5.3.4 All caps

All caps			
	Yes	No	Please substantiate
setting type in all caps is avoided.			

5.3.5 Alignment

Alignment			
	Yes	No	Please substantiate
Set type intended for extended reading flush left, and ragged right.			
Readability is decreased by non-uniform spacing between words and text that starts irregularly.			

5.3.6 Line length

Line length			
	Yes	No	Please substantiate
Avoid lines of type shorter than 40 characters and longer than 60 characters.			

5.3.7 Paragraph boundaries

Paragraph boundaries			
	Yes	No	Please substantiate
Mark the boundaries between paragraphs with blank lines			

rather than indentation to help the reader see each paragraph as a "visual chunk."			

5.3.8 Leading

Leading			
	Yes	No	Please substantiate
Provide extra space (leading) between lines of type, typically between 50 and 100 percent of the type size.			

5.3.9 Headings

Überschriften			
	Yes	No	Please substantiate
Use headings and subheadings to visually reveal the relationships among text elements they label.			
Use differences in size, boldness, case, and position of headings and subheadings to suggest different hierarchical levels.			

5.4 Using pictures and illustrations

5.4.1 Ensuring that images you choose to display do communicate something of value

Ensuring that images you choose to display do communicate something of value			
	Yes	No	Please substantiate
Do the images have a communicative value/function?			

5.4.2 Supplemental text

Supplemental text			
	Yes	No	Please substantiate
Supplement all visuals with explanatory text or text labels to ensure that visuals are interpreted as intended.			

5.4.3 Information structure

Information structure			
	Yes	No	Please substantiate
Use visuals to reveal the structure or organization of things or ideas—particularly when the structure is not linear.			

5.4.4 Appearance and perceptual qualities

Appearance and perceptual qualities			
	Yes	No	Please substantiate
Use visuals (photos or illustrations) when it is necessary to show what something looks like or to depict a perceptual			

quality such as color, texture, pattern, shape, relative size, spatial location, orientation, arrangement, or appearance.			

5.4.5 Icons

Icons, simply because they are pictorial, are neither necessarily easy to interpret nor interpreted uniformly. Consequently, consider the following strategies when using icons.

Icons			
	Yes	No	Please substantiate
When possible, use "conventional" icons—icons whose use and meaning the user is already likely to be familiar with.			

5.4.6 Labelling icons

Beschriftung			
	Yes	No	Please substantiate
Are all icons labeled and provided with alt-tags?			

6 TARGET GROUP

How can the target group be defined?

What is the target group's main purpose to visit the website?

Which personal attributes does the target group have?	
Salary:	
Profession:	
Educational background:	
Miscellaneous:	

What is the target group's benefit to (re)visit the website?

Which service does the target group expect?

What kind of additional information or services could be interesting for the target group?

How can the target group's expectations be met?

How can the web site be used to improve the company's image?

6.1 Competitors

Who are the main competitors?

Which services offer the main competitors?

Which information about the main competitors is available?

Which services do the competitors offer in the competing market segments?

What are the future strategies of the main competitors?

Could the company stand out from the competitors through additional services?

7 BASICS: WEB ACCESSIBILITY

This page outlines design principles for creating accessible Web content. When these principles are ignored, individuals with disabilities may not be able to access the content at all, or they may be able to do so only with great difficulty. When these principles are employed, they also make Web content accessible to a variety of Web-enabled devices, such as phones, handheld devices, kiosks, network appliances. By making content accessible to a variety of devices, that content will also be accessible to people in a variety of situations.[8]

The overall goal is to create Web content that is perceivable, operable and understandable by the broadest possible range of users and compatible with their wide range of assistive technologies, now and in the future. The basic principles include:

- Content must be **perceivable** .
- Interface elements in the content must be **operable** .
- Content and controls must be **understandable** .
- Content must be **robust** enough to work with current and future technologies.

Shortlist

- Images & animations: Use the **alt** attribute to describe the function of each visual.
- Image maps: Use the client-side **map** and text for hotspots.
- Multimedia: Provide captioning and transcripts of audio, and descriptions of video.
- Hypertext links: Use text that makes sense when read out of context. For example, avoid "click here."
- Page organization: Use headings, lists, and consistent structure. Use **CSS** for layout and style where possible.
- Graphs & charts: Summarize or use the **longdesc** attribute.
- Scripts, applets, & plug-ins: Provide alternative content in case active features are inaccessible or unsupported.
- Frames: Use the **noframes** element and meaningful titles.
- Tables: Make line-by-line reading sensible. Summarize.
- Check your work: Validate. Use tools, checklist, and guidelines at http://www.w3.org/TR/WCAG

CHECKLIST FOR WEB CONTENT ACCESSIBILITY

Priorities

Each checkpoint has a priority level assigned based on the checkpoint's impact on accessibility.[9]

Priority I
A Web content developer **must** satisfy this checkpoint. Otherwise, one or more groups will find it impossible to access information in the document. Satisfying this checkpoint is a basic requirement for some groups to be able to use Web documents.

Priority II
A Web content developer **should** satisfy this checkpoint. Otherwise, one or more groups will find it difficult to access information in the document. Satisfying this checkpoint will remove significant barriers to accessing Web documents.

[8] Complete Guidelines & Checklist: http://www.w3.org/TR/2004/WD-WCAG20-20040730/
[9]

Priority III
A Web content developer **may** address this checkpoint. Otherwise, one or more groups will find it somewhat difficult to access information in the document. Satisfying this checkpoint will improve access to Web documents.
Some checkpoints specify a priority level that may change under certain (indicated) conditions.

Priority 1 checkpoints			
In General	**Yes**	**No**	**N/A**
Provide a text equivalent for every non-text element (e.g., via "alt", "longdesc", or in element content). This includes: images, graphical representations of text (including symbols), image map regions, animations (e.g., animated GIFs), applets and programmatic objects, ascii art, frames, scripts, images used as list bullets, spacers, graphical buttons, sounds (played with or without user interaction), stand-alone audio files, audio tracks of video, and video.			
Ensure that all information conveyed with color is also available without color, for example from context or markup.			
Clearly identify changes in the natural language of a document's text and any text equivalents (e.g., captions).			
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.			
Ensure that equivalents for dynamic content are updated when the dynamic content changes.			
Until user agents allow users to control flickering, avoid causing the screen to flicker.			
Use the clearest and simplest language appropriate for a site's content.			
Images and image maps	**Yes**	**No**	**N/A**
Provide redundant text links for each active region of a server-side image map.			
Provide client-side image maps instead of server-side image maps except where the regions cannot be defined with an available geometric shape.			
Tables	**Yes**	**No**	**N/A**
For data tables, identify row and column headers.			
For data tables that have two or more logical levels of row or column headers, use markup to associate data cells and header cells.			
Frames	**Yes**	**No**	**N/A**
Title each frame to facilitate frame identification and navigation.			
Applets and scripts	**Yes**	**No**	**N/A**
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.			
Multimedia	**Yes**	**No**	**N/A**
Until user agents can automatically read aloud the text equivalent of a visual track, provide an auditory description of the important information of the visual track of a multimedia presentation.			
For any time-based multimedia presentation (e.g., a movie or animation), synchronize equivalent alternatives (e.g., captions or auditory descriptions of the visual track) with the presentation.			
Priority 2 checkpoints			
In General	**Yes**	**No**	**N/A**
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.			
When an appropriate markup language exists, use markup rather than images to convey information.			
Create documents that validate to published formal grammars.			
Use style sheets to control layout and presentation.			
Use relative rather than absolute units in markup language attribute values and style sheet property values.			
Use header elements to convey document structure and use them according to specification.			
Mark up lists and list items properly.			
Mark up quotations. Do not use quotation markup for formatting effects such as indentation.			
Ensure that dynamic content is accessible or provide an alternative presentation or page.			
Until user agents allow users to control blinking, avoid causing content to blink (i.e., change presentation at a regular rate, such as turning on and off).			
Until user agents provide the ability to stop the refresh, do not create periodically auto-refreshing pages.			
Until user agents provide the ability to stop auto-redirect, do not use markup to redirect pages automatically. Instead, configure the server to perform redirects.			
Until user agents allow users to turn off spawned windows, do not cause pop-ups or other windows to appear and do not change the current window without informing the user.			
Use W3C technologies when they are available and appropriate for a task and use the latest versions when supported.			
Avoid deprecated features of W3C technologies.			
Divide large blocks of information into more manageable groups where natural and appropriate.			
Clearly identify the target of each link.			
Provide metadata to add semantic information to pages and sites.			
Provide information about the general layout of a site (e.g., a site map or table of contents).			
Use navigation mechanisms in a consistent manner.			
Tables	**Yes**	**No**	**N/A**
Do not use tables for layout unless the table makes sense when linearized. Otherwise, if the table does not make sense, provide an alternative equivalent (which may be a linearized version).			
If a table is used for layout, do not use any structural markup for the purpose of visual formatting.			
Frames	**Yes**	**No**	**N/A**
Describe the purpose of frames and how frames relate to each other if it is not obvious by frame titles alone.			
Forms	**Yes**	**No**	**N/A**
Until user agents support explicit associations between labels and form controls, for all form controls with implicitly associated labels, ensure that the label is properly positioned.			
Associate labels explicitly with their controls.			
Applets and scripts	**Yes**	**No**	**N/A**
For scripts and applets, ensure that event handlers are input device-independent.			
Until user agents allow users to freeze moving content, avoid movement in pages.			
Make programmatic elements such as scripts and applets directly accessible or compatible with assistive technologies.			
Ensure that any element that has its own interface can be operated in a device-independent manner.			

Priority 3 checkpoints			
In General	**Yes**	**No**	**N/A**
Specify the expansion of each abbreviation or acronym in a document where it first occurs.			
Identify the primary natural language of a document.			
Create a logical tab order through links, form controls, and objects.			
Provide keyboard shortcuts to important links (including those in client-side image maps), form controls, and groups of form controls.			
Until user agents (including assistive technologies) render adYescent links distinctly, include non-link, printable characters (surrounded by spaces) between adYescent links.			
Provide information so that users may receive documents according to their preferences (e.g., language, content type, etc.)			
Provide navigation bars to highlight and give access to the navigation mechanism.			
Group related links, identify the group (for user agents), and, until user agents do so, provide a way to bypass the group.			
If search functions are provided, enable different types of searches for different skill levels and preferences.			
Place distinguishing information at the beginning of headings, paragraphs, lists, etc.			
Provide information about document collections (i.e., documents comprising multiple pages.).			
Provide a means to skip over multi-line ASCII art.			
Supplement text with graphic or auditory presentations where they will facilitate comprehension of the page.			
Create a style of presentation that is consistent across pages.			
Images and image maps	**Yes**	**No**	**N/A**
Until user agents render text equivalents for client-side image map links, provide redundant text links for each active region of a client-side image map.			
Tables	**Yes**	**No**	**N/A**
Provide summaries for tables.			
Provide abbreviations for header labels.			
Until user agents (including assistive technologies) render side-by-side text correctly, provide a linear text alternative (on the current page or some other) for *all* tables that lay out text in parallel, word-wrapped columns.			
Forms	**Yes**	**No**	**N/A**
Until user agents handle empty controls correctly, include default, place-holding characters in edit boxes and text areas.			

8 LITERATURE

Web Site Guidelines

- IBM web design guidelines
  http://www-3.ibm.com/ibm/easy/eou_ext.nsf/Publish/572

- Research-Based Web Design and Usability Guidelines
  (PDF format, 128 pages, 29.2 MB)
  http://usability.gov/pdfs/guidelines.html

- Research-Based Web Design and Usability Guidelines (HTML)
  http://usability.gov/guidelines/index.html

- Web Style Guide
  http://www.webstyleguide.com/index.html
  Presents an online manual on interface design, site design, page design, Web graphics, and Web multimedia and animation

Writing for the Web Guidelines

- Writing for the Web
  http://www.sun.com/980713/webwriting/
  Provides guidelines for writing for the Web, including scannability, navigation, and the difference between paper and online presentations

Web Site Credibility

- Stanford Guidelines for Web Credibility
  http://www.webcredibility.org/guidelines/
  Provides a 10-point plan for boosting Web credibility
  Based on three years of research

Checklists

- Web Accessibility Initiative (WAI) Quick Tips Reference Card
  http://www.w3.org/WAI/References/QuickTips/
  Presents an accessibility quick tips checklist
  Provides key concepts of accessible Web site design

- www.useit.com/ :Yeskob Nielsen's Homepage
- www.usableweb.com: Collection of links/ressources about web usability.
- www.uiweb.com: Portal for web usability
- www.usabilityfirst.com: Introduction to human-machine communication and usability
- www.uie.com: User Interface Engineering

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