Communication Accessibility

Good Practice Guidelines for Accessible Information and Communication

1. Communication Accessibility – Technical Features
   1.1. Accessible fonts/typefaces
   1.1.1. Choice of fonts
   1.1.2. Examples
   1.1.3. Some basic rules to set up a text
   1.1.4. Mediums that restrict users from specifying the typeface
   1.2. Contrasting Colours
   1.3. Graphs / Pictures / Tables - Alternative texts
2. Practical example: Business Cards
3. Language / Content
   3.1. Plain English or Plain Language
   3.2 Content
4. E-Mail
5. Presentations / PowerPoints (PPT)
6. Accessible PDFs
   6.1 PDF is for printing, not for the web
   6.2 PDFs and screen reader technology
   6.3 Basics for accessible PDFs
7. Alternative Formats (alt formats)
   7.1. Braille
   7.2. Tactile Diagrams
   7.3. Large Print
   7.4. Audio
   7.5. DAISY (Digital Accessible Information System)
   7.6 Dolphin Pen
   7.7. Other Alt Formats
8. Web
   8.1. Internet Accessibility Criteria
   8.2. Some Web Standards
      8.2.1. Browsers
      8.2.2. PDFs
      8.2.3. Alternative Texts

Footnote: The guidelines have been developed by CBM’s working group on accessibility and with advice from NeumannConsult. Please do not hesitate to contact CBM’s inclusion unit for questions and comments (christiane.noe@cbm.org).
9. Read more about accessible E-communication on the Web........... 21
Annex I Accessible PDFs............................................................... 23
Annex II Assistive Technologies .................................................... 23
Introduction

Communicating via print or electronic media is daily business to all of us. Nowadays our so called “Information Age” allows us to send and receive information easily along high speed information highways. At the same time, this requires respective hardware, software and skills to make best use of the constantly developing technologies and modes of communication.

Obviously the field of communication is very complex and not everyone is able to communicate in the same “language” and with the same means. There are inequalities with regard to access, affordability and availability of various kinds of communication systems and technologies which hence can restrict access to information if this is not provided in alternative ways.

Therefore minimum standards for accessible communication are to be set to ensure equal participation in communication structures and processes as well as equal access to information. This implies different kinds of technical provisions directed to composition and layout of text bodies, the use of language in electronic and printed correspondence or for publications (e.g. font size, colour contrast, alternative text for images and graphs, accessible PDF formats).

The following guidelines provide basic minimum standards for enhancing accessible communication and - with adherence to those - allow the widest range of users and communication partners to make use of the information to be transferred. Since the field of information technology is constantly developing, the presented guidelines are a progressing document and any recommendations and feedback are more than welcome.

With using the guidelines for your daily printed and electronic communication and while applying the standards to your best possibilities YOU contribute to an improved access to information for everyone.
1. Communication Accessibility – Technical Features

The standards in this section are recommended for all printed and electronic communication, whether text documents, Emails, websites, any other kind of written communication material, etc. Special requirements apply to some formats, which are explained further below.

1.1. Accessible fonts/typefaces

1.1.1. Choice of fonts

The choice of font or typeface family used for rendering text can improve or worsen the readability of information. There are generally two types of fonts: Serif and Sans-Serif. Serifs are the small flourishes added to letters. Times New Roman is a common serif font. Sans-Serif means without-serifs, so sans-serif fonts do not have flourishes and look quite plain. Tahoma, Verdana and Trebuchet MS are examples of sans-serif fonts.

Readers will often find reading information in a particular typeface makes it easier to read. Sometimes individuals will recognise their preferred typeface and will want information to be presented to them in that font. Persons with dyslexia can be particularly vocal in their preference as some fonts will make reading very difficult.

The matter is confused somewhat because not all people with dyslexia will have the same typeface preferences for all mediums. It is therefore important to allow users, whenever possible, to specify their own typeface. It is hence important to offer an electronic format where the fonts are adaptable in type and size.

1.1.2. Examples

Accessible fonts should make it easy to distinguish between similar characters.

You should test your font with the following examples:

- Z and 2,
- S and 5,
- I, l and 1 (I, L and One)
You should test your font for appropriate character spacing with the following examples:

m and rn
oa and oo
cl and d

1.1.3. Some basic rules to set up a text

• Font style: use **sans serif fonts**, preferably “Verdana” (others: Verdana, Tahoma, Trebuchet MS)

<table>
<thead>
<tr>
<th>Times New Roman</th>
<th>Arial</th>
<th>Verdana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some example text</td>
<td>Some example text</td>
<td>Some example text</td>
</tr>
<tr>
<td>![X]</td>
<td>![✓]</td>
<td>![✓]</td>
</tr>
</tbody>
</table>

• Use **templates/style sheets**: ensure headings and sub headings are marked up correctly (using index function; `<H1>`, `<H2>`, `<H3>` etc).

• default font size: **12 pt** (minimum) but better prefer **14 pt** (WBU recommendation)

• keep to **left aligned**, unjustified text:

<table>
<thead>
<tr>
<th>Justified text</th>
<th>Unjustified/Left justified text</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is justified text, see how each line is the same width. This is difficult for dyslexic people to read because the gap between each word varies.</td>
<td>This is unjustified text, see how each line can be a different length. This is easier for dyslexic people to read because the gap between each word is the same.</td>
</tr>
<tr>
<td>![X]</td>
<td>![✓]</td>
</tr>
</tbody>
</table>

---

2 Correctly marked up headings will be identified by screen readers, whereas text which solely looks different and acts as a heading, but is not marked up using heading tags will be treated as regular text.
• use **leading space** between lines of **1 to 2 times** the space
• create **logical tabs** and **paragraphs** (avoid dense text)
• avoid the use of capital texts (much harder to read than normal-case continuous text; one or two words in capitals should be o.k.)
• avoid using headers / footers. If the header / footer is important, then this can be either inserted into the text or placed at the start of the document; but: use footnotes rather than endnotes
• avoid using italics, instead use **bold for emphasis**:

<table>
<thead>
<tr>
<th>Using <em>italics</em></th>
<th>Using <strong>bold</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>I read a sign, it said <em>Dangerous, keep out!</em></td>
<td>I read a sign, it said <strong>Dangerous, keep out!</strong></td>
</tr>
</tbody>
</table>

• don't underline large blocks of text as it makes reading harder
• conversely, always underline hyperlinks as users expect to be able to recognise hyperlinked text or images
• Don't hyphenate words that are usually not split in order to fill up line ends, e.g. "continuation"
• hyperlinks should be embedded by using the proper functions provided by MS Word, otherwise when turned into pdf they will not be active links

1.1.4. **Mediums that restrict users from specifying the typeface**

• **PDF** (Portable Document Format) documents generally do not allow the user to change the font. It can also be difficult to copy and paste text from a PDF into a word processor to change the font there.
• Users cannot easily change the typeface on **paper documents**.

Where the user has the ability to change the style of font, it is therefore less of a 'crime' to use a particular font because the user can always change it. However, the **default font** will more than likely not be changed and it could still be argued that making the reader change the font is unreasonable or inconvenient. Where the author has some control over the font used they should use a font that is generally considered readable by the audience and consider readers who have difficulties with certain fonts. Publishers are advised to consider providing prints or PDFs in alternative formats (see Chapter 7).

---

3 Underlining usually indicates hyperlinked text; it can be confusing for users if it is used where no link exists
4 See Annex I: Basics for creating accessible PDFs
1.2. Contrasting Colours\(^5\)

Ensure that foreground and background colour combinations provide **sufficient contrast** when viewed by someone having colour deficits or when viewed on a black and white screen.\(^6\)

<table>
<thead>
<tr>
<th>Bad background 1</th>
<th>Bad background 2</th>
<th>Good background</th>
</tr>
</thead>
<tbody>
<tr>
<td>Here is some text. Can you see it?</td>
<td>Here is some text. Can you see it?</td>
<td>Here is some text. Can you see it?</td>
</tr>
<tr>
<td>✗</td>
<td>✗</td>
<td>✓</td>
</tr>
</tbody>
</table>

- Colour visibility can be determined according to the following algorithm:
  - Two colours provide good colour visibility if the brightness difference and the colour difference between the two colours are greater than a set range.
  - **Colour brightness** is determined by the following formula\(^7\):
    
    $$
    \frac{((\text{Red value X 299}) + (\text{Green value X 587}) + (\text{Blue value X 114}))}{1000}
    $$
    
    The range for colour brightness difference is **125**.

  - **Colour difference** is determined by the following formula:
    
    $$
    (\text{maximum (Red value 1, Red value 2)} - \text{minimum (Red value 1, Red value 2)}) + (\text{maximum (Green value 1, Green value 2)} - \text{minimum (Green value 1, Green value 2)}) + (\text{maximum (Blue value 1, Blue value 2)} - \text{minimum (Blue value 1, Blue value 2)})
    $$
    
    The range for colour difference is **500**.

Quick check online: 
[http://www.snook.ca/technical/colour_contrast/colour.html](http://www.snook.ca/technical/colour_contrast/colour.html)

---

\(^5\) More of colour contrast: [http://www.lighthouse.org/accessibility/effective-color-contrast/](http://www.lighthouse.org/accessibility/effective-color-contrast/)

\(^6\) easy testing: when viewed on a black and white screen or print out/photocopy; or online-testing: [http://www.snook.ca/technical/colour_contrast/colour.html](http://www.snook.ca/technical/colour_contrast/colour.html); [http://www.paciellogroup.com/resources/contrast-analyser.html](http://www.paciellogroup.com/resources/contrast-analyser.html)

\(^7\) Note: This algorithm is taken from a formula for converting RGB values to YIQ values. This brightness value gives a perceived brightness for a colour.
1.3. Graphs / Pictures / Tables - Alternative texts

In electronic documents and PowerPoint presentations as well as for the Web (see chapter 8), alternative texts should be provided for all non-text elements, e.g. graphs, pictures, tables, images, logos, links and any other form of visualised information.

- add **alternative texts** (alt text), which *describe what is shown* on a graph/photo or table (for MS WORD 2007):
  - right click on graph / photo
  - format graph / photo
  - "alternative text": add alt-text

- on the web, include alternative texts as well (see Chapter 8.)
- The alternative texts must be descriptive, giving details, so that a picture is created in the mind of the reader.
- description of graphs or diagrams should be as short as possible but as long as necessary and be structured thus the user can construct a mental image of what is shown. It should contain all relevant information, unnecessary information distracts the reader’s attention.
- use the fewest number of words necessary
- alt texts should present the content and function of an image, not necessarily a description of an image
- if an image has no relevant content or function, then the image should contain empty alt text (alt="" inside the <img> tag). If you have described the content of an image with nearby text, the image should also have empty alt text
- avoid words like "picture of" and "image of"
- in html it is possible to use the description tag in order to describe graphs or diagrams
- Example:

![Image](https://example.com/image.jpg)

**Alt-text**: “A Bangladeshi woman collects water from a well submerged by flood water.”
2. Practical example: Business Cards

Apart from communicating a brand and personal details a business card is a vital marketing tool. It tells potential donors and people you work with more about your organisation than just to make contact. Having an accessible business card demonstrates awareness of people's individual needs and an ability to respond to those needs. Furthermore for a disability and development organisation accessible business cards are to be inherent in their communication concept as a matter of respectful communication and authenticity.

Principles on how to set up accessible Business Cards:

a) Format/Dimensions

For reasons of how people keep business cards, e.g. in standardised folders, better stick to ISO standards most used in your national/international context (e.g. 85mm x 55mm).

b) font

Use sans serif font, default font size 12pt better 14pt.

c) colour contrast

Avoid using too many different colours. Ensure enough colour contrast (see chapter 1.2).

d) Braille and/or Logo embossment

- Braille embossment on printed card or extra (blank) flap
- go for Grade 2 Braille as default
- Braille text is much larger than printed text – printed text needs to be checked if all fits in Braille, number of words used might have to be cut down (e.g. leave out physical address)
- Logo can be embossed as well

e) Content

- include a line about what you do. (e.g. “improving the quality of life of persons with disabilities” or "promoting inclusion")
- make sure the basics are included (name, title, company, address, phone numbers, email, URL) and compromise what fits in Braille; NOT only Braille emboss the name (at least job title, company name, phone number, Email address)

• These information should be prioritized: name, company, phone, e-mail, title ... go from top to bottom and find out what fits on the card

f) Cultural Context

• be aware of colour coding that might be inappropriate in different socio-cultural contexts (if necessary, get advice from professional local agencies and/or Disabled People’s Organisations)

Business Card Sample (example):

<table>
<thead>
<tr>
<th>First Page (outside)</th>
<th>First Page (inside)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logo can be embossed</td>
<td>Braille print possible on both sides of the flap</td>
</tr>
<tr>
<td>Company</td>
<td>First Name Family Name</td>
</tr>
<tr>
<td>Address</td>
<td>Jobtitle</td>
</tr>
<tr>
<td>Fax No.</td>
<td>Phone No.</td>
</tr>
<tr>
<td>URL</td>
<td>Email Address</td>
</tr>
<tr>
<td>“Improving the quality of life of persons with disabilities”</td>
<td></td>
</tr>
</tbody>
</table>
3. Language / Content

3.1. Plain English or Plain Language

When providing information to the general public you should give thought to writing in a plain language (or at least as plainly as possible). **Plain Language is a clear, modern, unpretentious language carefully written to ease understanding.**

Plain English is a style of writing that attempts to convey information in the most efficient and unambiguous way possible. E.g. some groups, such as people with reading or learning difficulties, or those for whom English is a second or foreign language may have difficulty understanding written English. Authors who use long, convoluted sentences make it more difficult for such groups to comprehend information.

Example: The Plain English Campaign\(^9\) provides a paid service to check publications and websites to ensure that the language used is understandable. They also provide free guides on writing in Plain English and examples of poor use of English. Similar services exist in other countries, for their respective languages.

3.2 Content

About the contents, authors should always structure it in a logical way, writing chapters with headings, keeping the chapters short, if necessary dividing them in paragraphs. Also adhering to the following criteria:

- create **logical subtexts** and **alt-texts** to photographs, images, graphs, etc. (see 1.3)
- provide **summaries for tables**
- provide a **glossary of terms** to aid understanding
- specify the **expansion of each abbreviation or acronym** in a document where it first occurs
- try to **avoid jargon** and other “special” words as often as possible; if it’s necessary to use them, define them someplace in the document — either with a glossary, or the first time you use them

\(^{9}\) [http://www.plainenglish.co.uk/](http://www.plainenglish.co.uk/)
4. E-Mail

For many people in the world, access to email (or even just to a communication hub) is considered a luxury. Although the costs are dropping, some users pay heavily for every kilobyte of email received. Not all developing countries have good internet connections. Therefore, to make E-mails accessible, it is essential to downsize the file sizes and attachments (e.g. use ZIP\textsuperscript{10} file format or downsize potential graphs, images within the document etc.).\textsuperscript{11}

E-mails can also be difficult to read for persons with visual impairments, if the font size is small and the colour not contrasting to the background. \textbf{A font size of 14 pts (Arial) and black or dark blue on white is best for persons with low vision.} Mostly the end user can adjust its screen to a larger font size, but it is always better to already have pre-installed the required default features.

5. Presentations / PowerPoints (PPT)

\textbf{Principles for setup of (electronic) presentations:} Accessible PowerPoint presentations (PPTs) are presentations available to ALL users. People with different types of impairments, such as blindness, low vision, and learning disabilities, have problems accessing the information in PowerPoint.

\textbf{Some principle to enhance accessibility of PPTs:}

- when you start a PowerPoint presentation or insert a new slide, always choose the frame structure (auto layout) that best fits your purpose; by choosing one of the auto layouts (with the exception of the blank page), you will automatically generate an outline of the slide
- when using design templates (e.g. stylish backgrounds and/or colours), be sure to use \textbf{colours with enough contrast} that people with colour blindness or low vision have access to all of the information in the presentation\textsuperscript{12} (see Chapter 1.2)
- use large font, \textbf{at least 24 point (sans serif typeface)}
- avoid the use of capital texts (see Chapter 1.1.3.)
- avoid the use of red-green combinations
- use a \textbf{good amount of blank space} in your presentation
- \textbf{add alternative texts} for photos, logos, graphs, etc. (see Chapter 1.3.)

\textsuperscript{10} a popular data compression and archival format; http://en.wikipedia.org/wiki/ZIP_%28file_format%29
\textsuperscript{11} Further information on internet connectivity: www.nsrc.org
\textsuperscript{12} see Chapter 1.2. “contrasting colours”
• **avoid blue elements**, hard to determine if people are not very close to the front

People should also be familiar with PPT and its structure i.e. text entry fields etc. because a lot of visual impaired people prefer to convert PPTs into text when reading at the office or at home; there exist very good documentations how to create ppts as a visual impaired / blind user – if one follows these guidelines, one can be sure that they are accessible. Nevertheless alt-tags for visual elements i.e. images, graphs etc. are absolutely necessary if they contain important information.

**While presenting:**

make sure that all necessary and fundamental information is being read out and all graphs are being explained verbally

- when speaking it is important to face the audience; people who lip read cannot understand spoken information if the speaker is talking whilst facing the screen or covers his mouth
- if reasonable it is helpful to record presentations or lectures on video and audio and give users access to these files and transcripts e.g. via the web after the presentation
- make sure there is someone available to communicate information aurally, where possible in various languages including sign language or tactile signing
- do not overload the slide with text, speak slowly, well pronouncing the complete sentences

**Posting PowerPoints on the Web:**

- PowerPoint presentations can be posted on the web in their original format. However, you must **also** post an HTML-based version to ensure maximum accessibility.
- The University of Illinois has created an add-on to PowerPoint that does a good job of converting PowerPoint slides into an accessible HTML format: [http://www.webaim.org/techniques/powerpoint/convert.php](http://www.webaim.org/techniques/powerpoint/convert.php)
- Alternatives: if you don't mind giving up PowerPoint's interface, you could try an HTML-based slide show tool such as **Opera Show** and **S5**. When using these programs, you don't have to worry about converting them to HTML because that's their native format. You will not have to make alternate versions of any of your presentations. You would just have to make sure that the HTML is accessible by adding all of the appropriate alt text for images and so on.

---

13 This should happen in a natural way, not in a way too patronising.
14 This is the only format that can be considered reliably accessible to the various brands of screen readers on the market. Some screen readers can read PowerPoint slides on the web to some degree, but not well enough to be considered truly "accessible."
15 S5: Simple Standards-Based Slide Show System
6. Accessible PDFs

PDFs are increasingly being used for on-screen information presentation on the web because of their uniform appearance and because they appear to be very much easier to produce than accessible (X)HTML web pages. However, many PDF files are inaccessible to users living with a disability because they have not been designed with accessibility in mind.

There are two main issues to do with PDF accessibility:

6.1 PDF is for printing, not for the web

- in general, PDF is not suitable for reading on-screen information
- PDF content behaves differently within a browser to HTML content: it uses non-standard controls to navigate and adjust the size of text
- PDF severely limits user control over how information is presented and therefore limits accessibility; it breaks the normal flow of web browsing.

In nearly all cases where PDF is used on the web, it could and should be replaced with (X)HTML
- In most cases where the original content is available, HTML should be used.

6.2 PDFs and screen reader technology

The readability of a PDF file always depends on its context and its structure i.e. columns can not be distinguished by screen readers if not tagged, while a lot of PDF files are quite well readable with screen readers if properly tagged.

It is also helpful to download free fonts which are very well readable and embed them in the document, this ensures that the pdf document looks everywhere the same, independent from the operating system etc.; aida is quite good to read (www.fontsy.com/de/theme_28.html).

Links and bookmarks should be created using the proper MS Word methods in order to ensure their functionality in the pdf file.

If the word document contains text entry fields or check buttons etc. it’s possible to help the text by using the property tab for form fields.

Anyhow, even nowadays only the minority of screen readers is capable of handling pdf documents and therefore alternative versions are recommended.

One of the major problems with PDF accessibility is that PDF documents have three distinct views, which, depending on the document’s creation, can be inconsistent with each other. The three views are (i) the physical view, (ii) the tags view, and (iii) the content view. The physical view is displayed and printed (what most people consider a PDF document). The tags view is what screen readers read (useful for people with poor eyesight). The content view is displayed when the document is re-flowed to Acrobat (useful for people
with mobility disabilities). For a PDF document to be accessible, the three views must be consistent with each other.\(^{17}\)

**Some basic principles:**

- Where PDFs are essential they can and should be made as accessible as HTML.
- PDFs can be made more accessible by using mark-up or ‘tags’\(^{18}\) to create a semantic structure that aids navigation. PDF tags are similar to HTML tags and can assist authors in creating a logical structure in their PDF.
- Adobe provides instructions about how to create accessible PDFs in Microsoft Word.\(^{19}\)
- Adobe also offers an online tool for the conversion of PDFs into text or html: [http://www.adobe.com/products/acrobat/access_onlinetools.html](http://www.adobe.com/products/acrobat/access_onlinetools.html)

This works only if the security settings allow it – if not they cannot be converted but are still readable by some screen readers i.e. JAWS\(^{20}\) is currently the most advanced screen reader in handling PDF documents; thus implicating that security features can be used if absolutely necessary. In this case the access to these documents is limited to those who use jaws in a quite modern version.

### 6.3 Basics for accessible PDFs

See Annex I.

---


\(^{18}\) Tags are labels defining a certain structure


\(^{20}\) JAWS (an acronym for Job Access With Speech) is a screen reader, a software program for visually impaired users. Its purpose is to make personal computers using Microsoft Windows accessible to blind and visually impaired users. It accomplishes this by providing the user with access to the information displayed on the screen via text-to-speech or by means of a braille display and allows for comprehensive keyboard interaction with the computer.
7. Alternative Formats (alt formats)

The most common types of alternative formats include: large print, Braille, tactile diagrams, audio versions and DAISY (Digital Accessible Information SYstems). Equally, alt format might just mean converting from one type of file format such as PDF to another such as Word or HTML.

Who will altformat benefit?

People who are either visually or print impaired\(^1\) can have difficulty reading standard print and relate more easily to some of the other formats such as large print, Braille, audio or DAISY (international standard that prescribes how digital talking books are prepared).

7.1. Braille

There are three main types of Braille, Grade I, Grade II and Grade III. Grade I Braille has no contractions, takes a lot of space and is comparatively slow to read. Grade II Braille has contractions that reduce the size of books and makes reading quicker. Grade III Braille, Music Braille and Maths Braille also exist but require some complex and specialist notations. Different languages also have their own versions of Braille. Grade I is to be preferred because it offers accessibility to widest range of Braille readers, also to a lot of non English speakers who are capable of writing and understanding English, but not necessarily capable of reading grade II / III. It must be mentioned also that the greatest part of blind people are not capable of reading Braille at all due to the fact that the highest percentage of blind people is age 60 and more.

7.2. Tactile Diagrams

Diagrams, graphs and other pictorial information are popularly reproduced in a format accessible to visually impaired people. Diagrams are drawn onto special paper which is then heated. Any area that has been drawn on is raised so that a relief diagram is produced. Braille annotations can be added and diagrams are often accompanied by a Braille explanation. However, diagrams may need to be simplified or altered before being produced in tactile form.

\(^{21}\) Print impaired refers to anyone who has a problem accessing printed paper. This includes blind, partially sighted and people with cognitive impairments such as Dyslexia.
Nowadays there exist quite affordable machines for producing tactile graphics which are easy to use and thus can be handled by everyone.

7.3. Large Print

Large print is - as the name suggests - somehow enlarged and is provided in a variety of sizes and formats depending on the author. Commercial large print is usually produced in 16 point fonts. The British Royal National Institute of Blind People (RNIB) recommends a minimum of 14 point Arial font in single line spacing, provided on matt white paper.\(^{22}\)

A selection of free largeprint fonts are available at [http://www.tiresias.org/](http://www.tiresias.org/)

7.4. Audio

The provision of audio can range from the older style tape recordings to digital audio provided in MP3 format that can be played on, MP3 players, tapes, four-track-recordings, PCs and some stereos.

7.5. DAISY (Digital Accessible Information System)

A Daisy book is a digital talking book (DTB), structured in such a way to allow the reader to move around the book as someone would use a print book. For instance, enabling the reader to skip to a new chapter, or bookmark a favourite passage.\(^{23}\)

\(^{22}\) For full details of the RNIB Clear print guidelines visit their website at [www.rnib.org.uk](http://www.rnib.org.uk)

\(^{23}\) A full explanation of DAISY, how it is the fastest growing alternative format in the world and examples of how DAISY is being used to improve results in students with print impairments are available from the DAISY section of this website: [http://www.daisy.org/](http://www.daisy.org/).
7.6 Dolphin Pen

The Dolphin Pen benefits any visually impaired computer user that desires the flexibility to work on any standard PC. It provides magnification, speech and Braille to any PC (for a computer to be Pen Friendly the Dolphin interceptor software must be installed) without having to install software or carry CDs.

7.7 Other Alt Formats

Other less popular formats are available and include "Moon" (raised, embossed shapes on paper) and "Giant Print" (print sizes larger than 18 point font). Some students do require access to their learning materials in font sizes of greater than 24 point).

8. Web

People use the Web in very different ways. A site should therefore present information in a way that people can access information regardless of what kind of hardware or software they are using, and regardless of how they navigate through a site. Criteria that make a website accessible are helpful for all users of a website. The concept behind is Design for All, which improves the way of accessing information for all internet users.

To design the internet itself in an accessible way for persons with disabilities is one of the aims of the web accessibility initiative (WAI) – which works with organisations around the world to develop strategies, guidelines, and resources to help make the Web accessible for all.24

Users with disabilities might need assistive devices to go online. Different impairments sometimes require similar accommodations: someone who is blind and someone who cannot use his or her hands both require full keyboard equivalents for mouse commands in browsers and authoring tools, since they both have difficulty using a mouse but can use assistive technologies to activate commands supported by a standard keyboard interface.

24 http://www.w3.org/WAI/
8.1. Internet Accessibility Criteria

In addition to general criteria of web accessibility, which help users to navigate easily – such as clear navigation, design and language, other specific criteria exist, which make a website accessible also for persons with disabilities.

When it comes to the programming of an accessible website, the principle of less is more is often valid: not to define the font size, so that persons with low vision can enlarge the text easier using their browsers or other tools, like magnifiers, not to use frames, and to leave out graphs or features, which are not accessible (e.g. drop down menus with redirections, graphs or videos without alternative texts).

The dual-channel principle, for example, allows the provision of important information by two sensory channel and usability via an alternative method of handing, i.e. as well as the visual channel, the tactile (hands and feet) or auditory channel should be used.

Modern magnifiers and even some built in magnification in browsers can work around set font sizes but it is still better to leave the fontsize undefined.

A Web Accessibility Initiative (WAI) guidelines new version is currently under development but it will take some time to be finalised.

In the meantime screen reader manufacturers could not yet develop a method to handle new technologies, i.e. AJAX.

A short checklist of standards is provided by the web accessibility initiative (WAI).

The WAI also lists criteria to do a short test of the accessibility of a website, e.g.:

- turn off images, and check whether appropriate alternative text for the images is available
- turn off the sound, and check whether audio content is still available through text equivalents
- use browser controls to vary font size: verify that the font size changes on the screen accordingly; and that the page is still usable at larger font sizes
- use a text oriented browser in order to find out how much of the used technology works i.e. lynx for windows

In some countries a lot of people use older Braille displays at home because they cannot afford new ones which support windows or they do not have the money to buy a modern or updated screen reader; especially in poorer countries this might be the case; US Government sites are good examples to show accessible webpages.
8.2. Some Web Standards

Most accessibility features mentioned in the Chapters above are also vital for good web accessibility. Please compare Chapter 1 on technical features, such as contrasts, colours, fonts, etc. as this applies also to the web.

In addition, one should highlight aspects as follows:

8.2.1. Browsers

Provide guidance on browser adjustment: people may wish to customise their internet browser to display web pages in their own preferred format. Therefore provide guidance on how to adjust browsers defaults such as font type and font size.

8.2.2. PDFs

Avoid the use of PDF files, as their font sizes cannot be adapted by a user with low vision and blind users cannot navigate in not-tagged PDF files (see Chapter 6).

8.2.3. Alternative Texts

Every non-text element needs a text alternative (alt text) that describes its content and function.

- an image that is a link (including image map hotspots) must always have an alt text that describes the function of the link
- also include alternative texts for links, if they are graphically designed; make link texts descriptive, so that people know, which pages they reach, when they click on a link (see Chapter 1.3)
- text aligned to links should be long enough to get the meaning i.e. “click HERE to get to latest news” should all be included instead of only HERE;
- screen readers should offer web navigation structuring the webpage like a word document, instead by links, therefore use html-tags only in their appropriate manner i.e. do not use heading tag for highlighting.
9. Read more about accessible E-communication on the Web

General E-Accessibility

http://www.un.org/esa/socdev/enable/disacc00.htm
http://www.rnib.org.uk/xpedio/groups/public/documents/code/InternetHome.hcsp
http://www.skillsforaccess.org.uk/
http://www.w3.org/TR/WCAG20/
http://www.tiresias.org
http://www.access-board.gov/508.htm (Section 508 Rehabilitation Act)
http://www.w3.org/
http://www.w3.org/TR/WAI-WEBCONTENT/
http://www.adobe.com/resources/accessibility/best_practices/bp_fp.html

Accessible fonts

http://www.webaim.org/techniques/fonts/#readability
http://www.vp.is.ed.ac.uk/disability/resources/makinginformationaccessible/textandlanguage
www.tiresias.org

Colour Contrast

http://www.lighthouse.org/accessibility/effective-color-contrast/
http://www.snook.ca/technical/colour_contrast/colour.html (online testing)
http://www.paciellogroup.com/resources/contrast-analyser.html

Alt text

http://www.jimthatcher.com/webcourse2.htm
http://www.webaim.org/techniques/images/alt_text.php#overview

Use of Language/Content

http://www.plainlanguagenetwork.org/
http://www.dyslexic.com/
http://www.atpm.com/10.02/web-accessibility.shtml

E-mail

http://www.nsrc.org/codes/country-codes.html
http://smartech.gatech.edu/handle/1853/7333
Presentations/PowerPoints

http://www.vp.is.ed.ac.uk/disability/resources/makinginformationaccessible/presentations
http://www.webaim.org/techniques/powerpoint/

Accessible PDFs

http://www.adobe.com/accessibility/
http://www.adobe.com/enterprise/accessibility/pdfs/acro7_pg_ue.pdf
http://www.vp.is.ed.ac.uk/disability/resources/makinginformationaccessible/accessiblepdfs
http://www.webaim.org/techniques/acrobat/
http://www.essex.ac.uk/wag/guides/accessibility/pdf-files.htm

AltFormat

http://www.altformat.com/
http://www.yourdolphin.com/dolphin.asp?id=22
http://www.daisy.org/

Web

http://www.w3.org/WAI/
www.webstyleguide.com/
http://www.useit.com/jakob/

E-Accessibility for deaf-blind persons

http://www.deafblindinfo.org/accessibility.asp

Assistive Technologies

http://www.assistivetech.com/
http://atwiki.assistivetech.net/ATWiki_Home
http://www.assistivetechologies.com/
http://www.abilityhub.com/
Annex I Accessible PDFs
Annex II Assistive Technologies