Making PDF files accessible:
guidelines for the DTP creation phase

Date	Version	Author	Status / comments
17/01/11	1.1	Atalan	Document available on www.accede.info/en/manuals/.

In partnership with:

Air Liquide – AREVA – BNP Paribas – Capgemini – LVMH – SNCF – Société Générale – SPIE – Thales

With the cooperation of:

Association des Paralysés de France (APF) – Association Valentin Haüy (AVH) – Coopérative AccessibilitéWeb (Quebec) – Institut Nazareth et Louis Braille (Quebec) – ParisTech – Télécom ParisTech

Acknowledgements

Sébastien Delorme
Sylvie Goldfain
Atalan - AcceDe

Contents

1.1 Background and objectives

By default PDF documents are not accessible to certain disabled users. The affected users include:

- Blind users:
  Blind persons use a screen reader to access their computer. These devices use software which either reads the information displayed on the screen (with a speech synthesizer) or converts it to Braille (with a Braille terminal). With this type of software, it is difficult to understand the contents of a PDF file if it is not structured with tags. The reading order is not always logical, the information contained in images is not read, and the absence of a heading structure makes navigating a document long and complicated.

- Partially sighted users:
  Customizing the display of a PDF document in Adobe Reader often poses difficulties. Changing the text or background colour in order to improve readability does not always work. For example, some background colours cannot be modified.

- Users with a motor disability:
  The rigid linear navigation imposed on those who read PDF documents exclusively with the aid of a keyboard makes it difficult to navigate the document. For example, the tab order of links or form fields is not always logical.

The solution for making PDF documents accessible is to structure them with the appropriate tags. Currently, this solution is rarely implemented, specifically for the following reasons:

- The concept of a structured or tagged document is not widely known by those who produce PDF files.

- There is no good documentation on how to tag documents.

In France, as part of their policy for the disabled, more and more large companies want the PDF documents they publish to be accessible. For this reason nine French companies came together to form the AcceDe initiative to increase the accessibility of PDF documents.

One of the objectives of AcceDe[1] was to create how-to guides and manuals for those who want to make their PDF documents accessible.

This document describes the guidelines to follow when creating a publishable file with DTP software in order to optimize the tagging to be carried out once the PDF is generated.

---

[1] The three objectives of the AcceDe initiative are to:

- Create, and freely distribute, guides and manuals for those who wish to make their PDF documents accessible.

- Increase awareness among communication professionals of PDF document accessibility and of the growing interest of companies in this area.

- Offer an initial directory of communication professionals who are committed to and capable of producing tagged PDFs from the documents they create.

1.2 Who should read this guide? How should you use it?

This guide is aimed at:

- all persons who create documents with DTP software such as InDesign, Quark Xpress or Scribus.

- graphic designers and lay-out artists who create documents that subsequently require tagging.

These guidelines are part of a set of documents made up of:

- **Making PDF documents accessible: guidelines for the DTP creation phase**
  (this document)

- Making PDF documents accessible with Adobe Acrobat Pro
  (available on www.accede.info/en/manuals/)

1.3 Use licence

This document is subject to the terms of the Creative Commons BY-NC-SA license.

You are free to:

- Copy, distribute, display, and perform the work

- To make derivative works

Under the following conditions:

- **Mention of the authorship** if the document is modified:
  On the cover of the document you must include the Atalan and AcceDe logos and references, indicate that the document has been modified, and add a link to the original work at www.accede.info/en/manuals/.

  You must specify the reuse of the document by sending an email to accede@atalan.fr including the link to download the modified document.

  You must not in any circumstances cite the name of the original author in a way that suggests that he or she endorses you or supports your use of the work.

  You must not in any circumstances cite the name of the partner companies (Air Liquide, AREVA, BNP Paribas, Capgemini, LVMH, SNCF, Société Générale, SPIE et Thales), or the organizations which have supported this initiative (Association des Paralysés de France (APF), Association Valentin Haüy (AVH), Coopérative AccessibilitéWeb, Institut Nazareth et Louis Braille, ParisTech, Télécom ParisTech).

- **No commercial use**: you may not use this work for commercial purposes.

- **Share alike**: if you alter, transform, or build upon this work, you may distribute the resulting work only under a licence identical to this one.

The Atalan and AcceDe logos and trademarks are registered and are the exclusive property of Atalan.

1.4 Contact

For any comment about this document, please contact Atalan, the coordinator of the AcceDe initiative, at the following email address: accede@atalan.fr.

You can also find more information about the AcceDe initiative manuals at www.accede.info/en/manuals/.

AcceDe initiative – www.accede.info		Page : 5
	Making PDF files accessible: guidelines for the DTP creation phase	
Published by Atalan – accede@atalan.fr		*January 2011*

2.1 Text and general structure

2.1.1 Avoid content which straddles two pages

Several cases and solutions exist:

This example is not allowed

Tagging a table which straddles two pages is extremely complex, and in some cases impossible. This layout should not be used.

There are two possible solutions:

- **Solution 1: Make the table fit on a single page.**
- **Solution 2: Use an A3 page format for this double page (two pages on the same plate).**

The same guideline applies to images and paragraphs that are spread vertically over two different pages.

Example only allowed for titles or short phrases

A title or a phrase may straddle two pages. Nonetheless, the tagging of this element will be longer than if it were on a single page. (Note that automatic tagging cannot make this element accessible; the tagging must be done manually).

Note: text that straddles two pages will also be more difficult to read for people who display one page at a time, or those who use software to magnify part of the screen.

Note:

Blind people read documents with screen readers, with either a speech synthesiser and/or Braille output. These devices read page by page while following a logical reading order (footer, header, and then page contents). Therefore, screen readers cannot cope with content that straddles two pages.

This example is allowed

This rule does not concern paragraphs which begin on one page and end on another. These elements can be used without any problem.

2.1.2 Do not delete space characters between words

Do not delete space characters between words in order to achieve a visual effect, or in the case of a forced line break.

For example:

- To visually bring words nearer together, use fine spaces or kerning[2] with a negative value instead of deleting space characters.

- In the case of a forced line break between two words, keep the space at the end of the first word.

Note:

Speech synthesisers interpret several words without spaces as a single word. In the same way, if space characters are deleted, they cannot be restored by Braille terminals, nor displayed by users who customize the display of the PDF document.

---

[2] Kerning controls the amount of white space between letter pairs.

AcceDe initiative – www.accede.info		Page : 8
	Making PDF files accessible: guidelines for the DTP creation phase	
Published by Atalan – accede@atalan.fr		January 2011

2.1.3 Keep accents on capital letters

All accented characters should be accented even when they appear as capitals (an exception can be made for company names).

Not recommended:	Recommended
(French) "BON APPETIT", "CAFE"	"BON APPÉTIT", "CAFÉ"
(Spanish) "ESPANA"	"ESPAÑA"

Note:

If the accent is missing, a speech synthesizer will not correctly pronounce the word which is incorrectly spelt.

2.1.4 Do not manually hyphenate a word at the end of a line

If hyphenation is absolutely necessary, do not force it by manually entering a dash and then a carriage return, but use the hyphenation functionality in your DTP software.

2.1.5 Do not use superimposed text for shadow effects

To implement shadow text effects, use the features in your DTP software for creating this effect rather than using two superimposed texts.

2.1.6 Explain abbreviations, acronyms, and initials

When abbreviations are present in the content, it is advisable to explain each one by showing its expanded form, either next to the first occurrence of the abbreviation, or in a footnote or glossary entry.

2.2 Pictures and graphics

2.2.1 Do not convey information just with colours

It is important not to use colour alone to communicate information. This is especially important with keys or legends for maps, charts, and other graphics.

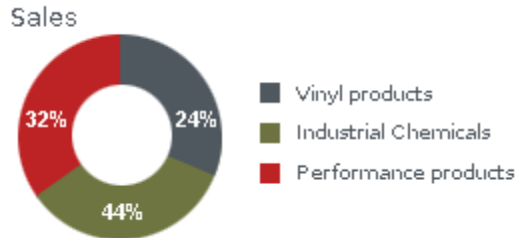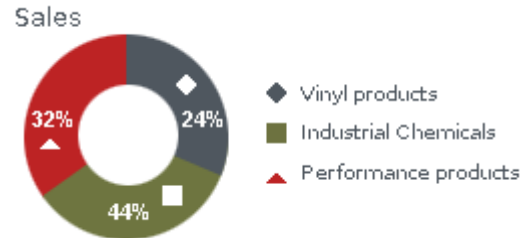| Inaccessible version	Accessible version
On this map, the coloured spots indicate the different company activities in each country. Only the difference in colours enables users to identify the activity. This information is therefore not accessible.	On this version of the map, the colour association with an activity has been combined with a shape association. Each activity can be identified by a colour and by a shape.

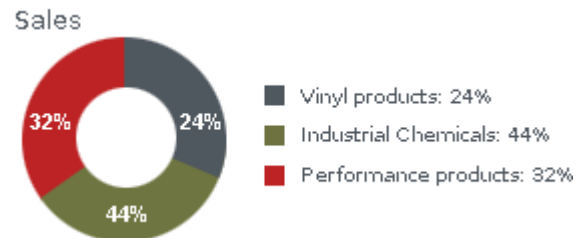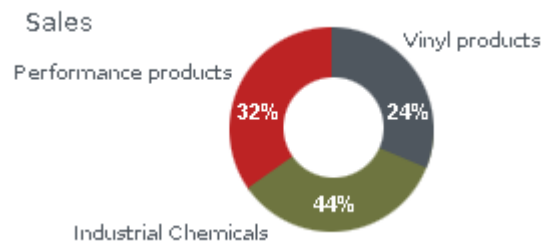| **Inaccessible version**	**Accessible version**
This pie chart uses colour alone to associate values with the descriptions in the legend.	Several solutions exist to avoid using just colour to convey the information:

The legend uses both colours and symbols to identify sections of the chart.

The values in the chart are repeated in the legend.

The legend items are located next to the corresponding part of the chart.

Notes:

Adding a second method of identifying information to colour-coded information also makes it easier to understand, especially for colour-blind users.

It also means that all the information is conveyed when the document is printed in black and white.

2.2.2 Do not insert text which conveys information as images

Apart from decorative items, do not insert text in the form of images, and do not make images from text present in the document, especially the texts and legends in graphics created in other graphics software (such as Illustrator).

The user should be able to highlight the text in the document.

Note:

If a graphic (for example a pie chart) rich in information has a legend and comments that are displayed in images, the screen reader or Braille terminal cannot convey the information properly, and partially sighted users will not be able to customize the contents to any great extent.

2.3 Typefaces

2.3.1 Use typefaces which enable the extraction of characters in text format

When a PDF document is read, for example, with a screen reader (used by blind or partially sighted users), the PDF reader extracts the characters in text format. This extraction fails if the reader cannot define how to map the typeface to Unicode characters.

It is essential to use typefaces that allow the extraction of characters in text format (Adobe recommends using OpenType typefaces).

You can check whether the mapping of characters is correct by generating a PDF file and then exporting it to text format in Adobe Reader or Acrobat. If characters like "????" or "☐☐☐☐" (or other undesirable characters) appear in the text document, then the character mapping has failed. This kind of error is often caused by bullets, dashes and other characters that are used as list item indicators.

In this case you need to use another typeface or regenerate the PDF with either a more recent version of the program or a different program.

2.4 Data tables

Rules	Comments
Create data tables with the DTP software's functionality. Do not use the table functionality of the DTP software for defining page layout.	Tagging a table containing data takes a long time in Adobe Acrobat Pro. When the tables are created with the corresponding functionality in the DTP software, a large part of the tagging can subsequently be automated.
Always enter a character in the empty table cells. The character may be visible (dash, dot…) or hidden (a transparent image, a character with the same colour as the background colour).	Speech synthesizers cannot detect empty cells and do not warn the reader that the cell is empty. Consequently, the rendering of the cells that follow an empty cell will by unsynchronized in a speech synthesizer. The presence of a character in an empty cell will make it possible to provide the empty cell with an alternative and to maintain the cell sequence.

3.1 Display pages in a logical reading order

When creating a PDF document, display the pages in the logical reading order (the cover as the first page, the back cover as the last page).

This is especially important for leaflets, booklets and fold-out brochures. It means you will need one PDF version for printing, and another one for digital publishing.

3.2 Optimize the file size

The PDF document which is to be made accessible is destined to be consulted on a computer or mobile device, possibly sent by email or downloaded from the Web. To reduce download or display times, make sure you reduce the file size by using the corresponding functionality in the DTP software or in Adobe Acrobat Pro.