

How to create accessible documents with L^AT_EX.

Jérôme Gilles - jgilles@sdsu.edu
SDSU - Dept of Mathematics and Statistics

October 2, 2020

1 What is accessibility?

From Wikipedia, the definition that interest us is the following one: “*Accessibility can be viewed as the ”ability to access” and benefit from some system or entity. The concept focuses on enabling access for people with disabilities, or special needs, or enabling access through the use of assistive technology; however, research and development in accessibility brings benefits to everyone.*”

If different softwares like Word or LibreOffice are capable of generating accessible documents, what’s about creating accessible documents from L^AT_EX which is widely used among scientists?

Fortunately, some people have written a L^AT_EX package which permits to generate accessible PDF documents. It is worth to notice that the current package does not support all accessibility standards but covers most of what we need.

Note: this tutorial is based on my understanding of the official documentation written in German (which of course I don’t speak but used the help of Google translate) and some example I found on the internet. The package has certainly more options that are not explored here.

2 How to use the *accessibility* package?

The first thing to do is to have the accessibility style files (`accessibility.dtx` and `accessibility.ins`) properly installed either in the same directory as your document or at the system level (so you can call the package like any other, i.e. without copying the files in each document directory). This files can be downloaded via the CTAN website¹

The next thing to do in your L^AT_EX document is to declare the use of the *accessibility* package, this is done by adding

```
\usepackage[tagged, highstructure]{accessibility}
```

at the beginning of your L^AT_EX file (of course after the `\documentclass` command). Other options than `tagged` and `highstructure` are available but these ones are the ones corresponding to the level of accessibility we want to reach.

Setting up the title. We need to setup the title twice: using the classic `\title` command but we also need to setup the appropriate PDF Tag that is required to be accessible. I suggest to setup a single variable, called `\acctitle` which is then used to setup the standard title and the PDF tag. To do this, add the following lines in the preamble (i.e. before the `\begin{document}` command)

¹<https://ctan.org/pkg/accessibility?lang=en>

```

\newcommand{\acctitle}{PUT YOUR TITLE HERE.}

\usepackage{hyperref}
\hypersetup{%
  pdftitle={\acctitle},
  pdfdisplaydoctitle=true,
  pdflang={en-US}
}
\title{\acctitle}

```

Note: the `pdflang={en-US}` flag permits to properly set up the correct used language PDF tag, also required to pass the accessibility test. Here, it is set up as U.S. English but of course other languages are available (see documentation of the `hyperref` package).

These lines are sufficient to obtain accessible documents where correct tags are created for the structure of your document, i.e you can use the `\section`, `\subsection`, ... commands, or create itemized or enumerated lists.

Alternative text for figures, table and equations Figures, tables and equations should have an “alternative text”, i.e. a text that describes the content of such object (note that the testing tool on canvas seems to accept the lacking of alternating text but it is highly recommended to add some).

To add some alternative text, the `\alt{}` command is defined for this purpose. For instance Figure 1 has the text “This is the San Diego State University logo” set up using the following `LATEX` code

```

\begin{figure}[H]
\alt{This is the San Diego State University logo}
\centering \includegraphics[scale=0.05]{sdsu.pdf}
\caption{SDSU Logo}\label{fig1}
\end{figure}

```



**SAN DIEGO STATE
UNIVERSITY**

Figure 1: SDSU Logo

The same command can be used within a Table environment or within an equation. For instance, the equation

$$\|\mathbf{u}\| = \sqrt{x^2 + y^2} \tag{1}$$

is generated by

```

\begin{equation}
\alt{the euclidean norm of u equals the square root of x squared plus y squared}
\|\mathbf{u}\| = \sqrt{x^2 + y^2}
\end{equation}

```

and has the alternative text “the euclidean norm of u equals the square root of x squared plus y squared”.

What’s about Beamer presentations? Unfortunately, the beamer class is not compatible with the *accessibility* package...