

# Making clickable PDF documents with L<sup>A</sup>T<sub>E</sub>X

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## 1 Purpose

By using the PDF format it is fairly simple to produce a clickable document. When processed, the output will be a PDF document which will be displayed with Acrobat Reader. There will be a “left window” which will contain a listing of the bookmarks and the section titles. Clicking on one of these will cause the corresponding text to be displayed in the “right window”.

## 2 Prerequisites

It is necessary to have version 6.7 or later of `hyperref.sty`. A tarred version of the necessary files can be obtained from

```
facshare/local-installations/latex-packages.
```

To install this, copy it to a temporary subdirectory, change to root, and issue the command

```
make install
```

This does the usual of creating a subdirectory and copying the appropriate files into it. Running `texconfig` and rehashing should complete in installation.

## 3 Processing Directions

Once the file has been created, it is necessary to  $\LaTeX$  the file twice (to ensure bookmarks are handled correctly). The `dvi` file is then converted to a PDF document with `dvi2pdf`. The resulting document can be viewed using `acroread`.

Thus the complete, command line processing for this file is

```
latex pdfdoc
latex pdfdoc
dvi2pdf pdfdoc
acroread pdfdoc.pdf
```

To have pull-down menu choices for the various packages for foils, webpages, and PDF documents, you might add the following lines to `~/elisp/tex-site.el`

```
(list "Dvi2Pdf" "dvi2pdf %s" 'TeX-run-shell nil t)
(list "LaTeX4ht Interactive" "ht latex %s" 'TeX-run-interactive nil t)
(list "PdfLaTeX Interactive" "pdflatex %s" 'TeX-run-interactive nil t)
(list "PP4" "pp4 %s.pdf" 'TeX-run-shell nil t)
(list "Acrobat Reader" "acroread %s.pdf" 'TeX-run-interactive nil t)
;; Not part of standard TeX.
```

## 4 Preamble

The portion of the preamble of this document that refers to hyperref is

```
\usepackage[ps2pdf,
            bookmarks=true,
            bookmarksnumbered=false, % true means bookmarks in
                                     % left window are numbered
            bookmarksopen=false,    % true means only level 1
                                     % are displayed.
            colorlinks=true,
            linkcolor=webred]{hyperref}
\definecolor{webgreen}{rgb}{0, 0.5, 0} % less intense green
\definecolor{webblue}{rgb}{0, 0, 0.5} % less intense blue
\definecolor{webred}{rgb}{0.5, 0, 0} % less intense red
```

Some of the options are explained above. Also see the documentation by [Gossens et al](#), [Oberdeik](#), [Rahtz](#), or [Story](#).

## 5 L<sup>A</sup>T<sub>E</sub>X Samples

### 5.1 Title

To insert a title at the beginning of the paper, it is necessary to define, in the preamble, the title of the paper and, if desired, the authors of the paper. In this paper, this was done with the commands

```
\title{Making clickable PDF documents with \LaTeX\}
\author{Duane Broline and Bill Slough}
```

Then, immediately after the `\begin{document}`, the command `\maketitle` is included to output the information.

### 5.2 Table of Contents

The preamble given above causes a listing of the bookmarks, section, subsection, and subsection titles to appear in the left window. **However, it is necessary to use numbered sections!**

This table is inserted into the document where the command

```
\tableofcontents
```

is inserted. The title for this table is Contents.

It is often helpful to have an entry for the table of contents in the left window. This is done by adding a bookmark (see below).

The entries in the table of contents in the right window are displayed in red and can be used for navigation through the document.

Additional “navigational tools” can be added as hyperlinks and hyper-targets (see below).

### 5.3 Bookmarks

A bookmark adds an entry to the left window. Clicking on this will cause the page of the PDF document containing this bookmark to appear. For example, to add a bookmark for the table of contents, enter

```
\pdfbookmark[1]{Contents}{table}
```

The syntax for a bookmark is

```
\pdfbookmark[level]{bookmarktext}{anchorname}
```

Level 1 is the section level, level 2 is the subsection level, etc. The level determines the display in the left window. The *bookmarktext* will be displayed in the left window. Finally, *anchorname* is a unique label that is (I think) used internally.

The “full” internal name of a bookmark is *anchorname.level*. These names are used by hyperlinks. For example, if it was desired to have a link at the end of the document which would allow the user to move back to the top, the following line would be added at the end of the  $\LaTeX$  document

```
Go \hyperlink{table.1}{back} to the contents.
```

This would cause

```
Go back to the contents.
```

to be displayed in the document, with the word back in red. Clicking on this word will cause the table of contents to be displayed.

For convenience, it is good practice to enter bookmarks with a comment giving their full name. With the example above, this would mean entering

```
\pdfbookmark[1]{Contents}{table}%table.1
```

## 5.4 Hyperlinks and Hypertargets

Hyperlinks and hypertargets are used in this document to link names of authors given in the text with entries in the bibliography. For example, the text above

Some of the options are explained above. Also see the documentation et al, Oberdiek, Rahtz, or Story.

is entered in the  $\LaTeX$  source as

```
Some of the options are explained above. Also see the documentation by
\hyperlink{gossens}{Gossens et al}, \hyperlink{oberdiek}{Oberdiek},
\hyperlink{rahtz}{Rahtz}, or \hyperlink{story}{Story}.
```

The words Gossens et al, Oberdiek, Rahtz, Story appear in red in the right window and when one of these entries is clicked the display goes to the page containing the bibliography. The  $\LaTeX$  source defining the hypertarget for Oberdiek is

```
\hypertarget{oberdiek}{Heiko Oberdiek}, PDF information and
navigation elements with hyperref, pdf\TeX, and thumbdf, EuroTeX
'99 Proceedings.
```

The text which appears at this target is simply,

```
Heiko Oberdiek, PDF information and navigation elements with
hyperref, pdf\TeX, and thumbdf, EuroTeX '99 Proceedings.
```

The syntax for a hyperlink is

```
\hyperlink{targetname}{displayedtext-atlink}
```

while the syntax for the corresponding hypertarget is

```
\hypertarget{targetname}{displayedtext-attarget}
```

Hypertargets and hyperlinks do not influence the display in the left window.

## 6 Bibliography

Further information can be found in

1. Michel Goossens, and Sebastian Rahtz, The  $\LaTeX$  Web Companion, Addison-Wesley.
2. Heiko Oberdiek, PDF information and navigation elements with hyperref, pdf $\TeX$ , and thumbdf, EuroTeX '99 Proceedings.
3. Sebastian Rahtz, Hypertext marks in  $\LaTeX$  : the hyperref package, CTAN.
4. D. P. Story, Using  $\LaTeX$  to Create Quality PDF Documents for the World Wide Web, Mathematics and Computer Science Department, The University of Akron