

# Making Foils with L<sup>A</sup>T<sub>E</sub>X

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## 1 Purpose

By using `foiltex`, `pp4`, and `xfig` it is possible to produce foils for use in lecture.

## 2 Prerequisites

It is necessary to have

- version 6.7 or later of `hyperref.sty`
- `pdftex` and `graphicx.sty` (part of the standard package)
- `foiltex`
- `java1.2`
- `pause.sty`, `background.sty`, and `pp4slide.sty`
- files relating to `xfig` namely `patches` and `mpmulti.sty`

Unless otherwise stated, all tar files are contained in

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

Also, in the following, `$PKGDIR` is the directory that contains style files, something like `/usr/TeX/texmf/tex/latex`, and `$DOCDIR` the directory that contains the corresponding documentation, something like `/usr/TeX/texmf/doc/latex`.

To install `hyperref`, obtain a copy of `hyperref.tar`. Copy the file to a temporary subdirectory and untar it. change to root, and issue the command

```
make install
```

This creates a subdirectory and copies the appropriate files into it. To complete the installation, run `texconfig` and rehash.

To install `foiltex`, obtain a copy of `foiltex.tar` and untar it. As root, make a `foiltex` directory in `$DOCDIR` and copy the files in the `doc` directory of the untared file into it. Make a `foiltex` directory in `$PKGDIR` and copy the files in the `style-files` directory of the untared file into it. To complete the installation, run `texconfig` and rehash.

Instructions for installing Java are contained in

```
facshare/local-installations/Java-blackdown
```

as are the necessary files.

To install `ppower4`, obtain a copy of `ppower4.tar`. Copy it to an temporary directory and untar it. As root, create `ppower4` directories in `$DOCDIR` and `$PKGDIR`. Copy the documentation and style files from the temporary directory to them. To complete the installation, this portion of the installation, run `texconfig` and rehash.

The non-LaTeX directory has two files necessary for the PDF presentation post-processor, pp4. Continuing as root, copy the pp4pb.jar from this directory to the location where java lib files are contained. On my machine this is done by

```
/home/cfdmb/jdk1.2/lib/pp4pb.jar
```

Adjust the executable pp4 script so pp4pb.jar is the file it points to. This file is as shown below:

```
#!/bin/sh
#
# Script for Ppower4
#
# Typical usage:
#
#   pp4 input-file.pdf
#
# (You will need to adjust the location
#   of the pp4pb.jar in the line below.)
#

# Make sure the correct number of arguments was supplied
if test $# -ne 1
then
    echo "Usage: pp4 file.pdf"
    exit 1
fi

# Correct usage, now process...
java -jar /home/cfdmb/jdk1.2/lib/pp4pb.jar $1 junk-pdf-file.pdf
mv -f junk-pdf-file.pdf $1
exit 0
```

Make sure this script has the appropriate execute permissions, then move it to /usr/local/bin/pp4.

Finally, 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.
```

### 3 Processing Directions

Once the file has been created, process it with `pdfLATEX` to produce a PDF document. This result is post-processed with `pp4` and to yield a file which can be viewed using `acroread`.

Thus, the commands needed to process `foilsample.tex` are

```
pdflatex foilsample
pp4 foilsample.pdf
acroread foilsample.pdf
```

### 4 Preamble

The `foilpreamble.tex` contains the preamble information that is needed to include the appropriate packages and make the color definitions described below.

The portion of the preamble of `foilsample.tex` that refers to slide production is

```
\documentclass[30pt,landscape]{foils}
\usepackage{color}
\usepackage{geometry}
\geometry{headsep=3ex,hscale=0.9}
\usepackage{hyperref}
\usepackage{pause}
\usepackage{background}
\usepackage{tabularx}
\usepackage{hyperref}
\usepackage{pp4link}
```

```
\usepackage{mpmulti}
\usepackage{graphicx}
```

For further documentation, see [Guntermann](#) or [Hafner](#).

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

### 5.1 Colors

It is possible to use a variety of colors. To define a new color, you need to know its specification according to one of the different scales - `rgb`, `cmk`, or `gray`. The file `/usr/TeX/tex/latex/graphics/dvipsnam.def` gives the `cmk` encodings of many colors. The named colors are shown in [Goossens](#), color plate X.

In the example `foilsample`, two colors are defined for the background of the slide. `vpagecolor` causes the color of the background to vertically vary from `Lopagecolor` to `Hipagecolor`. Warning: PDF files produced with this option do not seem to display properly on all platforms.

```
\definecolor{Lopagecolor}{cmyk}{0.03,0,0.02,0}
\definecolor{Hipagecolor}{cmyk}{0.24,0,0.06,0}
\vpagecolor[Lopagecolor]{Hipagecolor}
```

Other colors for use in the slide are defined as follows:

```
\definecolor{Textcolor}{cmyk}{0,0,0,1}
% currently black (duh)
\definecolor{Highlight}{cmyk}{0,0.89,0.94,0.1}
% currently BrickRed
\definecolor{Dullness}{cmyk}{0.86,0,0.30,0}
% currently Aquamarine
\definecolor{Emphcolor}{cmyk}{0.05,1,0,0}
% currently Plum
\definecolor{TwoColor}{cmyk}{0,0,0,1}
\pausecolors{TwoColor}{Textcolor}{Highlight}
\newcommand\Text{\color{Textcolor}}
\newcommand\High{\color{Highlight}}
\newcommand\Dull{\color{Dullness}}
\newcommand\Emph{\color{Emphcolor}}
\newcommand\ToCo{\color{TwoColor}}
```

The "color" `TwoColor` is used on slides involving "pause highlighting" - one color, `TextColor`, for normal mode and the other color, `Highlight`, for highlighting. The commands `Text`, `High`, `Dull`, `Emph`, `ToCo` allow the user to change colors just as they change fonts. For example to show the word "Piper" in `BrickRed` in a sentence that it otherwise italicized, include

```
{\it Peter {\High Piper} post-processed PDF presentations.}
```

The color `Black` is predefined and is used for the color of the small number on each slide. By default this is set to white (for dark backgrounds). For light backgrounds, the following `renewcommand` should be included in the file

```
\renewcommand\Black{\color{black}}
```

Finally, the color of title of each slide is in `normalcolor`. The following commands redefine this color to be a pleasing shade of green.

```
\definecolor{Headcolor}{cmyk}{0.92,0,0.59,0.25}
\renewcommand\normalcolor{\color{Headcolor}}
```

## 5.2 Headers and Footers

Headers and footers can be placed on each of the four corners of the slide. To place an EIU logo on the bottom left of each page, with a small number on the bottom right of each page, enter the following in the preamble

```
\MyLogo{\pauselevel{=1 +1}\includegraphics[scale=0.5]{math.png}}
```

and copy the file `math.png` to the current directory.

To turn off the logo, place `\MyLogo{}` after the `\foilhead` of the first slide without a logo.

## 5.3 Simple Slides

Ordinary  $\LaTeX$  commands can be used to create slides. Each slide must begin with the command `\foilhead{foiltitle}` where `foiltitle` may be void. The following commands define a

```
\foilhead{simple slide.}
```

```
\begin{itemize}
```

```

\item \High Ordinary \LaTeX commands
\item \Emph can be used to
\item \Dull produce slides
\item \Text {\bf very} easily
\end{itemize}

```

## 5.4 Slides with Pauses

Placing the command `\pause` at appropriate places in a slide (**including a pause at the end of the slide**), partitions the slide into “chunks”. Each chunk is assigned a “pauselevel”, a number which starts at one and increases for each chunk. Initially, the text at pauselevel 1 is displayed. For each subsequent page of the PDF document, chunks with one higher pauselevel are displayed or highlighted. For example, when displayed the following version of the previous slide will seem to pause at time end of each line.

```

\foilhead{simple slide.}

\begin{itemize}
\item \High Ordinary \LaTeX commands \pause
\item \Emph can be used to \pause
\item \Dull produce slides \pause
\item \Text {\bf very} easily
\end{itemize} \pause

```

Some very fancy things can be done. For example, because of the command `\pauselevel{=1 +1}` in `\MyLogo`, the EIU graphic is in the first chunk and is displayed on level 1 and all higher levels. For more details, see [Guntermann](#).

## 5.5 Highlighting

By default, chunks between pauses appear one at a time with only one color being used. However, two highlight modes are available.

- The lines can either appear one at a time, but highlighted.
- The lines can all appear in one color and then be highlighted one at a time in another color.

To have the lines appear one at a time, but highlighted, enter

```
{\color{TwoColor}\pausebuild
```

at the beginning of the slide and } at the end. To have them all appear, but highlighted one at a time, enter

```
{\color{TwoColor}\pausehighlight
```

at the beginning of the slide and } at the end.

To restore the default highlighting, enter the command

```
\pausecolorreset
```

## 5.6 Graphics Inclusion

Using PNG format it is relatively easy to include graphics in slides. To include screen shots, use `gimp` to capture the screen. Save the result as a `.png` file, say `SSHOT.png`. Include this with

```
\includegraphics[scale=0.6]{SSHOT.png}
```

To include a graphic from `xfig` first draw the diagram in `xfig` and save it as a `.fig` file for possible re-editing. Export it as a `.png` file, say `FILENAME.png` and include it with

```
\includegraphics[scale=0.6]{FILENAME.png}
```

Of course, in both cases, the line

```
\usepackage{graphicx}
```

must be included in the preamble.

## 5.7 Multi-level Graphics

Using the newest version of `xfig` it is possible to export a drawing as a MetaPost file. The resulting file, say `example.mmp`, can then be processed by Metapost by

```
mpost example.mmp
```

Finally, an appropriate `LATEX` file must be composed. This file is now processed in the same manner as any foil producing file. The `doc` directory of `ppower4` contains an example.



## 6 Bibliography

Further information can be found in

1. Michel Goossens, Sebastian Rahtz, and Frank Millelbach, The  $\LaTeX$  Graphics Companion, Addison-Wesley, 1997.
2. Klaus Guntermann, PPower4 Manual, TU Darmstadt Computer Science Department, June 27, 2000.
3. Klaus Guntermann, P<sup>4</sup> (PPower 4) PDF Presentation Post Processor, TU Darmstadt Computer Science Department, September, 1999.
4. Jim Hafner, The Foil $\TeX$  class package, IBM Research Division, 1998.