

Screen Presentations, Manuscripts, and Posters from the Same L^AT_EX Source

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1 Introduction

This presentation describes three small packages, *screen.sty*, *manuscript.sty*, and *poster.sty*. The screen package is used to format the output for a screen presentation; the manuscript package for a manuscript; and the poster package for a poster. With a little care, the same input file can be processed with any of the three packages. These packages are used with the *article class*.

Each of these packages loads the *geometry package* and the *T_EXpower package* with options appropriate for the type of output. The package *poster.sty* also loads the *multicol package*. All features of *article class* are available unless there is a conflict with the *T_EXpower*, *geometry*, or *multicol packages*. For example, floats cannot be used with the *multicol package*.

Each of the packages defines two new commands, *newscreen* and *titledscreen*, but in different ways. The article sectioning commands are redefined in *screen.sty* and *poster.sty* to be more pleasing for those types of output.

This presentation gives the implementation details of the *screen*, *manuscript*, and *poster* packages. It will also demonstrate the use of the packages. One demonstration illustrates novel incremental building of PSTricks graphics.

2 Should we do it?

I anticipate the question: Does it make sense to have the same content in a screen presentation and a manuscript? Books on presentation style say there should be just a few talking points on each screen. However, there are some reasons to the contrary.

Different rules apply for scientific presentations. Often technical presentations are not immediately comprehended. If the audience is given a handout having some detail, then the handout can be studied later.

Composing a paper in nearly self-contained segments forces an author to use more structure. A theme and its discussion have to be kept together in a screen presentation. The screen presentation and the corresponding article for publication do diverge, but this happens toward the end of the composition process.

3 The Building Blocks

The packages *T_EXpower*, *geometry*, and *multicol* are the building blocks for the packages *screen*, *manuscript*, and *poster*. Here the building blocks and their options are briefly discussed.

The *T_EXpower* package is used for incremental displays and for color emphasis. Use the *display* option to activate the *pause* and *stepwise* incremental displays used with screen presentations. The *printout* option is used with posters and manuscripts to show only the final result of the incremental build. The option *lightbackground*, by default, gives black text on a pale yellow background. I use the *lightbackground* option for screen presentations and posters and the *whitebackground* option for manuscripts.

There are other options for color emphasis and color math. The user chooses the the options to suit his own taste. For example, he may use the *darkbackground* option which, by default, uses yellow text on a dark blue background.

The *geometry package* is used to set page dimensions, margins, and magnification. Since I live in the USA, I use the *letterpaper* option to specify the paper size for screen presentations and manuscripts. Outside the USA, one would likely use the *a4paper* option.

At the University of Kentucky, the printer used for posters takes rolls of paper that are 36 inches wide. One uses the *paperwidth* and *paperheight* commands for the desired poster size. It may be necessary to adjust these sizes to offset magnification. The *a0paper* option would likely be used for posters outside the USA.

The option `mag=\magstep4` (magnify by a factor of 1.2⁴) for screen presentations and `mag=\magstep3` (magnify by a factor of 1.2³) for posters seem to give pleasing results. Magnification is not used for manuscripts.

The margins I use may be seen in the code listings that follow. The author can set margins to his taste.

The `multicol` package is used to have multiple columns for posters. There are lengths for the amount of space between columns, the width of the rule separating columns, etc. My settings are shown in the listing of `poster.sty`.

4 Sectioning Commands

The `screen` and `poster` packages redefine the `section`, `subsection`, and `subsubsection` commands to make titles centered and colored. The color is `emcolor` defined in `texpower` for color emphasis.

When there is too much material for a single screen the material just spills over to the next screen. The place at which the material breaks across screen boundaries may not be pleasing, and you might want to break the material at a earlier point. The `newscreen` command is defined as `\newpage` in `screen.sty` and is defined to do nothing in the other two styles.

If the text at the beginning of a screen coincides with the beginning of a paragraph you may want to have a screen title that indicates the theme of the paragraph. The command `\titledscreen` has the screen title as its argument. In screen presentations, the title has the appearance of a sectioning command except that it is not numbered and will not appear in a table of contents. For the manuscript and poster styles, `\titledscreen` is defined as `\par`.

5 Switches for Selective Input

The `TeXpower` package loads the `ifthen` package. The packages `screen`, `manuscript`, and `poster` define Boolean strings: `screen`, `manuscript`, and `poster`. In each case, the Boolean with the same name of the file is set to true, and the other two are set to false. The `\ifthenelse` command can be used for selective inclusion of parts of the input file.

6 Listing of Packages and a Sample Application

This section contains listings of `screen.sty`, `manuscript.sty`, `poster.sty`, and an example \LaTeX file.

The content of `screen.sty` is

```
\NeedsTeXFormat{LaTeX2e}[1994/06/01]
\ProvidesPackage{screen}[2004/04/10 David Allen,%
```

```

                                version 0.0]
\RequirePackage[display,lightbackground,colorhighlight,
                coloremph,colormath]{texpower}
\newboolean{manuscript}
\newboolean{screen}
\newboolean{poster}
\setboolean{manuscript}{false}
\setboolean{poster}{false}
\setboolean{screen}{true}
\RequirePackage[landscape,letterpaper,nohead,mag=\magstep4,
                hmargin=0.5in,vmargin=0.25in,truedimen,footskip=1em]
                                {geometry}
\renewcommand{\section}{\@startsection{section}{1}{0pt}
  {-2ex plus 1ex minus 1ex}{2ex plus 1ex minus 1ex}
  {\color{emcolor}\centering\large\bfseries}}
\renewcommand{\subsection}{\@startsection{subsection}
  {2}{0pt}{-2ex plus 1ex minus 1ex}{2ex plus 1ex minus 1ex}
  {\color{emcolor}\centering\large\bfseries}}
\renewcommand{\subsubsection}{\@startsection{subsubsection}
  {3}{0pt}{-2ex plus 1ex minus 1ex}{2ex plus 1ex minus 1ex}
  {\color{emcolor}\centering\normalsize\bfseries}}
\newcommand{\newscreen}{\newpage}
\newcommand{\titledscreen}[1]{\newpage{\large%
\bfseries\centering\color{emcolor} #1\[\[1ex]] \par}
\setlength{\parindent}{0.0em}
\setlength{\parskip}{1ex plus 0.5ex minus 0.2ex}
\raggedright
\pagestyle{plain}

```

The content of *manuscript.sty* is

```

\NeedsTeXFormat{LaTeX2e}[1994/06/01]
\ProvidesPackage{manuscript}[2004/04/10 David Allen,%
                                version 0.0]
\RequirePackage[printout,whitebackground]{texpower}
\newboolean{manuscript}
\newboolean{screen}
\newboolean{poster}
\setboolean{manuscript}{true}
\setboolean{poster}{false}
\setboolean{screen}{false}
\RequirePackage[letterpaper,nohead,margin=1in,
                footskip=1.5em]{geometry}
\pagestyle{plain}
\newcommand{\newscreen}{}
\newcommand{\titledscreen}[1]{\par}

```

The content of *poster.sty* is

```

\NeedsTeXFormat{LaTeX2e}[1994/06/01]
\ProvidesPackage{poster}[2004/04/10 David Allen,%
                        version 0.0]
\RequirePackage[printout,lightbackground,colorhighlight,
               coloremph,colormath]{texpower}
\newboolean{manuscript}
\newboolean{screen}
\newboolean{poster}
\setboolean{manuscript}{false}
\setboolean{poster}{true}
\setboolean{screen}{false}
\RequirePackage[paperwidth=27.78in,paperheight=20.83in,
margin=0.5in,truedimen,mag=\magstep3,nohead,nofoot]
                        {geometry}

\RequirePackage{multicol}
\setlength{\columnsep}{.75truein}
\setlength{\columnseprule}{2truept}
\raggedcolumns
\pagestyle{empty}
\setlength{\parindent}{0.0em}
\newcommand{\newscreen}{}
\newcommand{\titledscreen}[1]{\par}
\raggedright
\renewcommand{\section}{\@startsection{section}{1}{0pt}
  {-2ex plus 1ex minus 1ex}{2ex plus 1ex minus 1ex}
  {\color{emcolor}\centering\large\bfseries}}
\renewcommand{\subsection}{\@startsection{subsection}
  {2}{0pt}{-2ex plus 1ex minus 1ex}{2ex plus 1ex minus 1ex}
  {\color{emcolor}\centering\large\bfseries}}
\renewcommand{\subsubsection}{\@startsection{subsubsection}
  {3}{0pt}{-2ex plus 1ex minus 1ex}{2ex plus 1ex minus 1ex}
  {\color{emcolor}\centering\normalsize\bfseries}}

```

The source code for an example is shown here. The input file, *body.tex*, is the same for all cases. One of the packages discussed here must be used. The `begin` and `end multicols*` must be active for poster output.

```

\documentclass[12pt]{article}
\usepackage{graphicx}
\usepackage{verbatim}
\usepackage{color}
% Un-comment one of the next three lines
%\usepackage{screen}
\usepackage{manuscript}
%\usepackage{poster}
\pagestyle{plain}
\bibliographystyle{plain}

```

```

\begin{document}
%\title{\color{emcolor}Screen Presentations, Manuscripts,
\title{Screen Presentations, Manuscripts,
and Posters from the Same \LaTeX\ Source}
\author{David M. Allen\University of Kentucky\}
http://www.ms.uky.edu/$\sim$allen/}
\maketitle
\thispagestyle{empty}
\ifthenelse{\boolean{poster}}{\begin{multicols*}{5}}{}
\tableofcontents
\input{body}          % input or include your stuff here
%\newscreen
%\bibliography{latex} % list your bib files here
\ifthenelse{\boolean{poster}}{\end{multicols*}}{}
\end{document}

```

7 Sample output

This is a reduced image of a screen in my \LaTeX tutorial:

Continued fractions

The input

```

\[
a_0 + \frac{1}{a_1 + \frac{1}{a_2 +
\frac{1}{a_3 + \dots}}}
\]

```

gives the continued fraction

$$a_0 + \frac{1}{a_1 + \frac{1}{a_2 + \frac{1}{a_3 + \dots}}}$$

22

The actual size is 11 by 8.5 inches.

