# The powersem class*

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## 1 Introduction

The user documentation is found in `manual.tex` and the FAQ. Only the implementation documentation is covered in this document.

Make seminar ready for the Third Millennium ;-) This class loads seminar and tries to fix some problems which occur when trying to create dynamic presentations with the texpower package.

Some new features helpful for dynamic presentations are also added.

This class is part of the TeXPower bundle, to be found at
`http://texpower.sourceforge.net/`

The TeXPower bundle also contains a package `fixseminar.sty` which applies some more fixes, in particular for hyperref. These can not be applied here because they have to be made after hyperref is loaded.

## 2 Implementation

```
1 \RequirePackage{ifthen}
```

The display option is understood by all relevant classes and packages from the TeXPower bundle. It means that 'dynamic' features are to be turned on. There is a boolean register display (as defined in ifthen.sty) which is set by this option and can be used to differentiate between slides for display and slides for printout. Notes are disabled automatically.

```
2 \newboolean{display}
3 \DeclareOption{display}
4 {\setboolean{display}{true}\PassOptionsToClass{slidesonly}{seminar}}
```

The truepagenumbers option makes powersem count pages with the counter page, independently of the counter slide. This enables proper working of TeXPowers navigation buttons (some of which calculate relative page numbers) even

*This document corresponds to powersem v0.8a, dated 2004/07/27.

when the counter slide is reset frequently (for slide numberings of the type <l>.<n>.<m>).

```
\newboolean{truepn@PS}
\DeclareOption{truepagenumbers}{\setboolean{truepn@PS}{true}}
```

The KOMA option tells powersem to load scrartcl (from the KOMA suite of document classes) instead of article.

```
\newboolean{BaseClass@PS}
\DeclareOption{KOMA}
{\setboolean{BaseClass@PS}{true}\providecommand{\baseclass}{scrartcl}}
```

The UseBaseClass option is more neutral: It tells powersem to load the class \baseclass (initially article) instead of article.

```
\DeclareOption{UseBaseClass}
{\setboolean{BaseClass@PS}{true}\providecommand{\baseclass}{article}}
```

The reportclass option tells powersem to load the class \baseclass (initially report) instead of article.

```
\DeclareOption{reportclass}
{\setboolean{BaseClass@PS}{true}\providecommand{\baseclass}{report}}
```

The bookclass option tells powersem to load the class \baseclass (initially report) instead of article.

```
\DeclareOption{bookclass}
{\setboolean{BaseClass@PS}{true}\providecommand{\baseclass}{book}}
```

We need to redefine the a4paper option which is broken in seminar.cls

```
\DeclareOption{a4paper}{\PassOptionsToClass{a4}{seminar}}
```

The calcdimensions option tells powersem to automatically calculate slidewidth and slideheight from paper dimensions and margins.

```
\newboolean{calcdim@PS}
\DeclareOption{calcdimensions}{\setboolean{calcdim@PS}{true}}
\DeclareOption*{\PassOptionsToClass{\CurrentOption}{seminar}}

\ProcessOptions
```

Now we need to hack a little to make seminar load \baseclass instead of article (if one of the respectice options was given).

```
\let\oldLC@PS=\LoadClass

\ifthenelse{\boolean{BaseClass@PS}}
{%
  \def\article@PS{article}
```

Make \PassOptionsToClass and \LoadClass use \baseclass...

```
  \let\oldPOTC@PS=\PassOptionsToClass
  \def\PassOptionsToClass#1#2%
  {\edef\cls@PS{#2}%
   \ifx\article@PS\cls@PS\oldPOTC@PS{#1}{\baseclass}%
   \else\oldPOTC@PS{#1}{#2}%
   \fi}
```

Furthermore, seminar redefines \paperheight and \paperwidth, saving their value in \sem@paperheight and \sem@paperwidth. We undo this so the paper dimension calculation of typearea can be used.

```
  \renewcommand{\LoadClass}[2][]%
  {%
    \edef\cls@PS{#2}%
```

```
    \ifx\article@PS\cls@PS
      \let\paperheight\sem@paperheight\let\paperwidth\sem@paperwidth
      \oldLC@PS[#1]{\baseclass}%
      \ifarticle\else\portraittrue\fi
     \else
      \oldLC@PS[#1]{#2}%
    \fi
  }%
}
{}
```

Finally, the seminar class and some bug fixes are loaded.

```
\oldLC@PS{seminar}

\AtBeginDocument
{%
\input{seminar.bug}%
\input{seminar.bg2}%
}

\expandafter\def\expandafter\set@slidesize\expandafter
{\set@slidesize\@colht\vsize}

\g@addto@macro\@arrayparboxrestore\slide@rightskip

\ifthenelse{\boolean{truepn@PS}}{\truepagenumbers}{}

\AtBeginDocument{%
\ifthenelse{\boolean{BaseClass@PS}}{\sliderotation{none}}{}}
```

Make some changes in the seminar kernel to hopefully get better handling of text colors and avoid overfull box warnings when `\slidetopmargin` and `\slidebottommargin` are set too small.

```
\AtBeginDocument{%
\ifarticle
\else
  \def\output@slide{%
    \begingroup
      \hoffset=-\inverseslidesmag in
      \voffset=-\inverseslidesmag in
      \setslidelength\@tempdima{%
        \ifportrait\paperwidth\else\paperheight\fi}%
      \setslidelength\@tempdimb{%
        \ifportrait\paperheight\else\paperwidth\fi}%
      \ifrotateheaders
        \@ifrotateslide{%
          \dimen@=\@tempdima
          \@tempdima=\@tempdimb
          \@tempdimb=\dimen@}%
      \fi
      % \oddsidemargin, \evensidemargin, \headheight, \footheight
      % used for scratch:
      \setslidelength\headheight\slidetopmargin
      \setslidelength\footheight\slidebottommargin
      \ifautoslidemargins
```

```
85        \textwidth=\wd\@slidebox
86        \oddsidemargin=\@tempdima
87        \advance\oddsidemargin-\textwidth
88        \divide\oddsidemargin 2
89      \else
90        \setslidelength\oddsidemargin\slideleftmargin
91        \setslidelength\evensidemargin\sliderightmargin
92        \textwidth=\@tempdima
93        \advance\textwidth-\oddsidemargin
94        \advance\textwidth-\evensidemargin
95      \fi
96      \setbox\@slidebox=\hbox to \@tempdima{{%
```

All double {{ around box contents added for better color handling (STL).

```
97      %
98        \kern\oddsidemargin
99        \vbox to\@tempdimb{{%
100         \ifnum\fancyput@flag>-1
101           \hbox{\kern-\oddsidemargin\do@fancyput}%
102         \fi
103         \let\label\@gobble
104         \let\index\@gobble
105         \let\glossary\@gobble
106         \vbox to\headheight{{%
107           \vfill
108           \color@hbox
109           \normalcolor
110          \slideheadfont\relax%\strut         Removed (STL)
111          \hb@xt@\textwidth{\@oddhead}%
112           \color@endbox
113           \kern\z@}}%
114         \nointerlineskip
115         \vss
116         \hbox to\textwidth{{\hss\box\@slidebox\hss}}%
117         \vss
118         \nointerlineskip
119         \vbox to\footheight{{%
120           \vfill
121             \color@hbox
122             \normalcolor
123            \slidefootfont\relax%\strut         Removed (STL)
124            \hb@xt@\textwidth{\@oddfoot}%
125             \color@endbox
126           \vfill}}%
127       }}\hss}}%
128     \ifrotateheaders\@ifrotateslide\rotate@slide\fi
129     \insert@specials
130     \shipout\box\@slidebox
131   \endgroup
132   \let\firstmark\botmark
133   \ifthenelse{\boolean{truepn@PS}}{\stepcounter{page}}{}%
```

The above will seriously upset notes! (STL)

```
134   }%
135 \@ifundefined{fancyput@flag}{\def\fancyput@flag{-1}}{}%
```

```
\fi
}
```

When producing slides to be displayed interactively, we must make absolutely sure that interactive building of slides doesn't move text which has already been set. So slides are not to be centered.

```
\ifthenelse{\boolean{display}}
{%
  \centerslidesfalse
  \extraslideheight{0pt}%
  \renewcommand{\slideshrink}{0}%
  \def\@makeslide{%
    \ifcenterslides
      \setbox\@slidebox\vbox{{%
        \@begindvi % added 1997/04/15 SPQR
        \unvbox\@cclv
        \ifvoid\slide@footins\else
          \vskip\skip\slide@footins
          \footnoterule
          \unvbox\slide@footins
        \fi
        \vskip\z@}}
     \else
      \setbox\@slidebox\vbox to \slide@vsize{{%
        \@begindvi % added 1997/04/15 SPQR
        \unvbox\@cclv
        \ifvoid\slide@footins\vfil\else
          \vfil\vskip\skip\slide@footins
          \footnoterule
          \unvbox\slide@footins
        \fi
        \vskip\z@}}%
    \fi
    }%
  }
{}
```

If powersem is asked to calculate the slide dimensions...

```
\def\relax@PS{\relax}

\ifthenelse{\boolean{calcdim@PS}}
{%
  \AtBeginDocument
  {%
    \setlength{\slidewidth}{\paperwidth}%
    \advance\slidewidth by -\slideleftmargin\relax
    \advance\slidewidth by -\sliderightmargin\relax
    \ifx\theslideframe\relax@PS
     \else
      \advance\slidewidth by -2\slideframewidth\relax
      \advance\slidewidth by -2\slideframesep\relax
    \fi
    \setlength{\slideheight}{\paperheight}%
    \advance\slideheight by -\slidetopmargin\relax
    \advance\slideheight by -\slidebottommargin\relax
```

```
    \ifx\theslideframe\relax@PS
     \else
      \advance\slideheight by -2\slideframewidth\relax
      \advance\slideheight by -2\slideframesep\relax
    \fi
    }%
  }
{}

\AtBeginDocument
{%
  \@ifundefined{headwidth}{}
  {%
    \setslidelength{\headwidth}{\paperwidth}%
    \addtoslidelength{\headwidth}{-\slideleftmargin}%
    \addtoslidelength{\headwidth}{-\sliderightmargin}%
  }%
}
```

# Change History


v0.1

General: First version. So far it doesn't do much more than load seminar. . . . . 1

v0.2

General: Force seminar to treat `\paperwidth` and `\paperheight` in a sensible manner. . . . . 1

v0.3

General: Added option 'calcdimensions'. . . . . 1

v0.4

General: Now separates text from footnotes when option 'display' is given. . . . . 1

v0.5

General: `\@colht` is ignored by seminar, which is bad. Added a patch to `\set@slidesize`. calcdimensions now handles slide frames. . . . . 1

v0.5a

General: The footnote patch with option display effectively disabled setting `\centerslidestrue`. Fixed. . . . 1

v0.6

General: seminar's `\output@slide` kernel copied (from seminar.bg2) and modified for better color handling and to remove some overfull `\vbox` warnings. There was another underfull vbox warning lurking in the footnote patch. Removed. New option truepagenumbers for cooperation with texpower in case 'fragmented' slide numbers (like 3.5.1) are used. Make seminar's form of raggedright lines (controlled by `\raggedslides`) active in parboxes and minipages (and p columns in tables or arrays). . . . . 1

v0.7

General: Inserted `\nointerlineskip` in page building code to heal a slight problem with vertical spacing. A small modification was neccessary wrt the KOMA option because with fixseminar v0.0.4, pdflatex slides can now be rotated. . . . . 1

v0.8a

General: Moved to dtx format. No other code changes. . . . . 1

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