Make Slides With Beamer

Beamer - The LaTeX Document Class

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Part I

Slides Tools

Outline

Tools Like Powerpoint

- Advantage
  1. What you see is what you get
  2. All done in one software
  3. Easy to learn
- Disadvantage
  1. Commonly the software is not free
  2. Incompatible for different software
  3. Not suitable for math formula

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  2. Dependent on the software
  3. Hard to batch for multi-files

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Outline

TeX Tools

1. Base PDF file
2. Deal with mathematic formula easily
3. Professional typeset
4. Plain text, easy to reuse

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Beamer A standard LATEX Document class,
Need no other post progress program
Work with other LATEX packages smoothly

foiltex Work with most of the available LATEX commands and environments
Use Macro \Mylogo put some graphic as the logo

prosper Automatically generated table of contents, Portrait slides support
and possible to include notes in your presentation

pdfscreen Create document both fit to read in computer and for print

TeXPower A LATEX style *texpower.sty*

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Part II

Guidelines on Making Slides

Outline

Guidelines on What to Put on a Frame

1. A frame with too little on it is better than a frame with too much on it.
2. Do not assume that everyone in the audience is an expert on the subject matter.
3. Nerver put anything on a slide that you are not going to explain during the talk.
4. Keep it simple.

Outline

Guidelines on Titles

1. Put a title on each frame
2. The title should really explain things.
3. Idealy, titles on consecutive frames should "tell a story" all by themeselves.
4. In English, you should *either always* capitalize all words in frame title except for words like "a" or "the"(as in a title) *or* you *always* use the normal lowercase letters.
5. In English, the title of the whole document should be capitalized, regardless of whether you capitalize anything else.

Outline

Guidelines on the Body Text

1. Never use a smaller font size to "fit more on a frame"
2. Prefer enumerations and itemize environment over plain text. Do not use long sentences.
3. Do not hyphenate words. If absolutely necessary, hyphenate words "by hand", using the command \-
4. Beak lines "by hand" using the command \\. Do not rely on automatic line breaking.
5. Text and numbers in figures should have the *same size* as normal text. Illegible numbers on axes usually ruin a chart and its message.

Outline

Guidelines on Graphics

1. Put (at least) one graphic on each slide, whenever possible.
2. Usually, place graphics to the left of the text
3. Graphics should have the smae typographic parameters as the text
4. While bitmap graphics, like photos, can be much more colorful than the rest of the text, vector graphics should follow the same "color logic" as the main text (like black==normal lines, red==hilighted parts, green==examples, blue==structure)
5. Like text, you should explain everything that is shown on a graphic
6.

Outline

Guidelines on Colors

1. Use colors sparsely. The prepared themes are already quite colorful
2. Becareful when using bright colors on white background, *especially* when using green.
3. Maximize contrast.Normal text should be black on white or at least something very dark on something very bright.
4. Background shadings decrease the legibility without increasing the information content. Inverse video (bright text on dark background) can be a problem during presentations in bright environments since only a small precentage of the presentaion area is light up by the beamer. Inverse video is harder to reproduce on printouts and on trnasparencies.

Outline

Guidelines on Animations and Special Effects

1. Use animations to explain the dynamics of systems, algorithms, etc.
2. Do not use animations just to attract the attention of your audience. This often distracts attention away from the main topic of the slide
3. Do not use distracting special effects like “dissolving” slides unless you have a very good reason for using them.

Part III

Make Slides Using Beamer Class

Outline

The Features of Beamer

Beamer is standard LaTeXdocument class, it has following features:

1. Only LaTeXand pdflatex is need
2. Retain section structures
3. Themes and content and indenpent
4. Easy to use

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Installation

1. First, copy xcolor, pgf, beamer files in preper texmf directory
2. Second, Rehash the TEXconfiguration

Outline

Workflow

1. Create the structure, using `\part` `\section` `\subsection`
2. Add Frames and Overlays, using `\frame`
3. Apply Themes and templates, using `\usepackage`

A Beginning File of Beamer

```
\documentclass{beamer}
%\usepackage{beamerthemesplit}
\usepackage{beamerthemeshadow}
\title{Example Presentation}
\author{Till Tantau}
\date{\today}
\begin{document}
\frame{\titlepage}
\section*{Outline}
\frame{\tableofcontents}
\section{Introduction}
\subsection{Overview of the Beamer Class}
\frame {
   \frametitle{Features of the Beamer Class}
   \begin{itemize}
       \item<1->  LaTeX class.
       \item<2-> Easy overlays.
       \item<3-> No external programs needed.
   \end{itemize}
}
\end{document}
```

Part IV

Step by Step

Outline

Overlays

Commands of Overlays:

- \onslide<*slide-list*>
- \FromeSlide<*slide-number*>
- \only<*slide-number*>
- slide specifity after other command, e.g.
  \textbf<2>

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Action of Overlays

1. alert
2. uncover
3. invisible

Action of Overlays

1. alert
2. uncover

5. invisible

Action of Overlays

1. alert
2. uncover
3. only

5. invisible

Action of Overlays

1. alert
2. uncover
4. visible
5. invisible

Action of Overlays

1. alert
2. uncover

Action of Overlays II

- You can specific action indendent, e.g
  $\backslash action <$ action-specification $> \{< text >\}$
- Set the default action using following command
  $\backslash beamerdefaultoverlayspecification\{<$
  $deault - overlay - specification >\}$

Action of Overlays II

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Frames

Theorem

$A = B$

Proof.

- Clearly, $A = \int_0^{\infty} e^{x^2}\, dx$
- As show earlier, $\int_0^{\infty} e^{x^2}\, dx = B$
- Thus $A = B$.

Frames

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Frames II I

Options of Frame

- allowdisplaybreaks=<*break-desirability*>
- allowframebreaks=<*fraction*>
  Note: Frame break will has no overlays effects!
- b,c,t – vertically aligned at bottom/center/top
- containsverbatim
  Only one slide of the frame is typeset!
- label=<*name*>
- plain – cause the headlines, footlines and sidebars to be suppressed
- shrink=<*minimum-shrink-percentage*>
- squeeze – squeeze vertical spaces.

Commponents of a Frame

- a headline
- a footline
- a left sidebar
- a right sidebar
- navigation symbols
- a logo
- a frame title, and
- some frame contents

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Hyperlink and Navigation Bars

- Use **hypertarget** add hyper link.
  hypertarget < overlay-specification > {target-name{text}
  - Jump to second slide
- beamerbutton
- beamerskipbutton
- beamerreturnbutton

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Color Management

- Change the main color of navigation and title bar
  \documentclass[red]{*beamer*}
- Change the average background color
  beamersetaveragebackground{red!10}
- Set how to render overlay covered text.
  beamersetunconvermixins{not-yet-list}{once-more-list}
- Set on which slides covered text should have which opaqueness.
  opaqueness < overlay-specification >
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Graphics, Animations, sounds, and Slide Transitions

- Graphics

- Animations

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- Animations

- Sound Here's some music

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Slide Transitions

1. Horizontal blinds
2. Vertical blinds
3. Moving to the center from all four sides
4. Moving from the center to four sides
5. Dissolve
6. Glitter
7. Split verticalin
8. Split verticalout
9. wipe
10. transduration

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