

Make Slides Using Beamer

Beamer - The \LaTeX Document Class

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Part I

Slides Tools



Outline

1 Tools Like Powerpoint

2 T_EXTools



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 used images is not free
- ② It depend on the software
- ③ It's hard for much formula



Tools Like Powerpoint

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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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T_EX Slide Tools

Beamer A standard L^AT_EX Document class,
Need no other post process program
Work with other L^AT_EX packages smoothly

foiltex Work with most of the available L^AT_EX
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 L^AT_EX style *texpower.sty*



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Part II

Guidelines on Making Slides



Outline

- 3 Guidelines on What to Put on a Frame
- 4 Guidelines on Titles
- 5 Guidelines on the Body Text
- 6 Guidelines on Graphics
- 7 Guidelines on Colors
- 8 Guidelines on Animations and Special Effects



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.



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Guidelines on Titles

- 1 Put a title on each frame
- 2 The title should really explain things.
- 3 Ideally, titles on consecutive frames should “tell a story” all by themselves.
- 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.



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Guidelines on the Body Text

- ❶ Never use a smaller font size to “fit more on a frame”
- ❷ Prefer enumerations and itemize environment over plain text. Do not use long sentences.
- ❸ Do not hyphenate words. If absolutely necessary, hyphenate words “by hand”, using the command \-
- ❹ Break lines “by hand” using the command \\ . Do not rely on automatic line breaking.
- ❺ Text and numbers in figures should have the *same size* as normal text. Illegible numbers on axes usually ruin a chart and its message.



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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 same 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==highlighted parts, green==examples, blue==structure)
- 5 Like text, you should explain everything that is shown on a graphic
- 6



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Guidelines on Colors

- 1 Use colors sparsely. The prepared themes are already quite colorful
- 2 Be careful 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 percentage of the presentation area is light up by the beamer. Inverse video is harder to reproduce on printouts and on transparencies.



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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

9 The Features of Beamer

10 Installation

11 Workflow



The Features of Beamer

Beamer is standard \LaTeX document class, it has following features:

- 1 Only \LaTeX and pdf\LaTeX is need
- 2 Retain section structures
- 3 Themes and content and indenpent
- 4 Easy to use



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Outline

9 The Features of Beamer

10 **Installation**

11 Workflow



Installation

- 1 First, copy xcolor, pgf, beamer files in preper texmf directory
- 2 Second, Rehash the $\text{T}_{\text{E}}\text{X}$ configuration



Outline

9 The Features of Beamer

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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}
\title{Example Presentation Created with Beamer}
\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}
```



Part IV

Step by Step



Outline

12 Frames and Overlays

- Overlays
- Frames

13 Color Management

14 Graphics, Animations, sounds, and Slide Transitions

15 Customization



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
- 3
- 4
- 5 invisible



Action of Overlays

- ① alert
- ② uncover
- ③ only
- ④
- 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
`\action < action-specification > {< text >}`
- Set the default action using following command
`\beamerdefaultoverlayspecification{< default – overlay – specification >}`



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Frames

Theorem

$$A = B$$

Proof.

- Clearly,

$$A = \int_0^{\infty} e^{x^2} dx$$

- As shown earlier,

$$\int_0^{\infty} e^{x^2} dx = B$$

-



Frames

Theorem

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- Thus $A = B$



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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.



Components of a Frame

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



Hyperlink and Navigation Bars

- Use **hypertarget** add hyper link.

`\hypertarget < overlay-specification > {target-name{text}}`

▶ Jump to second slide

- beamerbutton

- ⇨ beamerskipbutton

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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



Graphics, Animations, sounds, and Slide Transitions

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Graphics, Animations, sounds, and Slide Transitions

- Graphics



- Animations

- Sound [Here's some music](#)



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
- 0 transduration



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16 Tips and (Dirty) Tricks



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