

Introduction to Beamer

Graduate Student Seminar Series on LaTeX

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Outline

Introduction

- Motivation for using Beamer

- Approach to Presentation-Making

Short Tutorial

- Configuration in header

- Making slides

- Beyond basics

LaTeX versus Power Point for Presentations

Features of Beamer	Features of Power Point
Professional layout and typeset of \LaTeX	Easily customizable layout
Highly portable owing to its simplicity and ubiquity of PDF viewers	Animation/Special effects-rich
Familiar \LaTeX -coded design	What You See Is What You Get design ease
Natural transfer of EPS plots or equations from papers	Easy vector-graphic diagrams right on the slide

...the approach is up to you, but I trust you will be convinced.

Let's see if I succeed.

Presentation design in Beamer: the concept

Here are the main concepts in Beamer presentation structure

- ▶ Think of Beamer presentations as traditional video animations: every new slide or transition within a slide is a new page.
- ▶ L^AT_EX-style document organization:
 - ▶ sections, subsections, appendices (e.g. for backup sided)
 - ▶ centrally maintained properties like author, title and date for later use in footers etc.
 - ▶ themes and color palettes set in style sheets; selected with special Beamer commands.
- ▶ Optional/recommended hyper-linked navigation bars show presentation progress based on section/subsection definitions

Package definition/configuration

Here is the key part of my header for this presentation:

```
\documentclass[10pt]{beamer}

% Beamer settings -----
\usepackage{beamerthemesplit}
\usecolortheme{beaver}
\usefonttheme[onlymath]{serif}

% Packages -----
\usepackage{graphicx}
\usepackage{wrapfig}
\usepackage{amsmath}
\usepackage{sidecap}
\usepackage{verbatim}
...
```

Front matter

Then we add some definitions for the front matter (title page), footers or anywhere else we want to use it.

```
\title{Introduction to Beamer}  
\subtitle{Graduate Seminar Series on LaTeX}  
\author{Igor Senderovich}  
\date{April 30, 2010}  
\institute{  
  \includegraphics[width=.30\textwidth]{UConnLogo.eps} \\  
  { \textcolor{blue!55!black}{\normalsize  
  \fontfamily{dayrom}\selectfont Department of Physics}}}
```

Now, with

```
\begin{document}
```

we are ready to roll...

Frame declaration

Slides are referred to as “frames” and are declared as a new environment like so:

```
\begin{frame}  
  \frametitle{My first beamer frame!}  
  My content...  
\end{frame}
```

Or you can use a shortcut command:

```
\frame{  
  \frametitle{My first beamer frame!}  
  My content...  
}
```

Selective compilation

One concern you may have is the annoying turnaround time between adjusting your code and viewing the results. Try:

```
\documentclass[draft]{beamer}
```

This bypasses proper headline/footline updating.

Frame option:

```
\frame[label=Ansatz]{...}
```

gives you a handle on the frame for later reference or for compilation control using header command:

```
\includeonlyframes{Ansatz}
```

- ▶ compile only the frame you are tweaking at the moment to save time.
- ▶ quickly change the scope of your presentation and cut down the talk to key slides.

Special frames

There are certain special frames that Beamer will automatically generate for you, such as the title and outline:

```
\frame  
{\titlepage}
```

```
\frame  
{  
  \frametitle{Outline}  
  \tableofcontents  
}
```

Nice options are available for the `\tableofcontents` command that define numbering, style and outline focus (e.g. if you want to introduce a single section's outline later in the talk)

Animation!

Tasteful use of animation can help you deliver your point and has a place in a professional presentation. (Ok, the last transition was frivolous.)

Here, with the pause command, I suspended the display of the rest of the slide.

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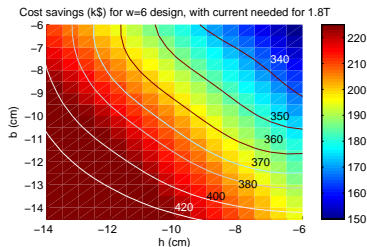


Figure: A sample graphic: this too can be uncovered selectively. Note the nice wrapping through `wrapfig` package.

Simple overlay animation

The most basic and commonly desired effect is the incremental introduction of bullet points. Here is some code from previous slide

```
\begin{enumerate}[<+>]
\item {\it Slide transitions}: simple to implement with commands
      like ‘‘transdissolve’’ used at top of this slide
\item {\it Overlays} allow indexing of frame content
      to specify display order
\item External movies, sounds etc. (viewer/platform dependent)
\end{enumerate}
```

Several commands hide content until the given slide index arrives. For the graphic earlier, I used:

```
\uncover<5>{\includegraphics...
```

Tips

- ▶ With frequent inspections of your PDF, a \LaTeX suite such as TeXnicCenter is convenient.
- ▶ Aside from native LaTeX coloring, `alert` and `structure` give you theme-integrated emphasis with color.
- ▶ You are not designing a printed page anymore: relative measurements are convenient: `[width=0.3\textwidth]`
- ▶ Internal hyper-linking brings navigation between concepts e.g. a question you are prepared for can quickly be answered by jumping to a backup slide. Nice, right?

Conclusion

Hopefully I have shown that Beamer provides:

- ▶ Professional design language
 - ▶ Styles predefined by skilled designers
 - ▶ Clear, easy to follow and navigate
 - ▶ Portable: embarrassing/disappointing technical snags are less likely.
- ▶ Easy extension of your \LaTeX skills
- ▶ Natural import of code from papers, wikis etc.
- ▶ This talk will be posted for reference on my department web page:
www.phys.uconn.edu/~senderovich