BEAMER

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WHAT AND WHY?

LaTeX class for creating presentations

Particularly helpful for typesetting mathematics

Offers automated structure (ToC, Navigation) + great flexibility

Lot of community support

Rich overlay and transition effects

Navigational bars and symbols

Device independence

Reusability of content between reports and presentations

BASIC TEMPLATE

```
\documentclass{beamer}
...
\usetheme{Berkeley}
...
\begin{document}
\begin{frame}
...
\end{frame}
\end{document}
```

TITLEPAGE

```latex
\documentclass{beamer}
...
\usetheme{Berkeley}
...
\title{Beamer}
\author{Miklos Z. Racz}
\subtitle{{\small A \LaTeX\ class for making presentations}}
\date{Berkeley, January 28, 2011.}
\institute{UC Berkeley}
...
\begin{document}
\frame{\titlepage}
\begin{frame}
...
\end{frame}
\end{document}
```

TABLE OF CONTENTS

```latex
...
\begin{document}
\frame{\titlepage}
\frame{\tableofcontents}
\section{Intro}
...
\section{Model}
\subsection{2 particles}
...
\subsection{3 particles}
...
\section{Results}
...
\end{document}
```

FRAMES

Basic building blocks of presentations

Each frame may be rendered as one or more page(s) in the final PDF slides

Vertical alignment

```
\begin{frame}[options]{title}{subtitle}
<content>
\end{frame}
```

PRESENTATION THEMES

Old themes

- bars, boxes, classic, default, lined, plain, shadow, sidebar, sidebardark, sidebardarktab, sidebartab, split, tree, treebars

New themes (v3.0)

- W/o navigation bar
  - default, boxes, Bergen, Madrid, Pittsburgh, Rochester
- With a treelike navigation bar
  - Antibes, JuanLesPins, Montpellier
- With a TOC sidebar
  - Berkeley, PaloAlto, Goettingen, Marburg, Hannover
- With a mini frame navigation
  - Berlin, Ilmenau, Dresden, Darmstadt, Frankfurt, Singapore, Szeged
- With section and subsection titles
  - Copenhagen, Luebeck, Malmoe, Warsaw

COLOR THEMES

```
\usecolortheme[option]{name}
```

Complete color themes

- albatross, beetle, crane, dove, fly, seagull, wolverine, beaver

Inner color themes

- lily, orchid, rose

Outer color themes

- whale, seahorse, dolphin

FONT THEMES

```
\usefonttheme[option]{name}
```

Options
- default
- professionalfonts
- serif
- structurebold
- structureitalicserif
- structuresmallcapsserif
- structureitalicserif

INNER THEME

```
\useinnertheme[options]{}
```

Options
- `default, circles, rectangles, rounded, inmargin`

Affects
- title and part pages
- itemize, enumeration & description environment
- block, theorem & proof environment
- figures and tables
- footnotes
- bibliography entries

OUTER THEME

```
\useoutertheme[options]{}
```

Options

- default, infolines, miniframes, smoothbars, sidebar, split, shadow, tree, smoothtree

Affects

- head- and footline
- sidebars
- logo
- frame title

COLUMNS

```
\begin{columns}
\column{0.5\textwidth}
\begin{center}
...left column...\\
...left column...\\
...left column...
\end{center}
\column{0.5\textwidth}
\begin{center}
...right column...\\
...right column...\\
...right column...
\end{center}
\end{columns}
\vfill
\begin{center}
This is in the middle at the bottom.
\end{center}
```

BLOCKS

Types

- Block

- Alert block

- Theorem, Proof, Lemma, Corollary, Definition

- Example block

GRAPHICS

Importing figures
- \includegraphics

Creating figures and animations
- PSTricks

TABLES

Dynamic display
- `\onslide` – column by column
- `\pause` – row by row

HYPERLINKS & BUTTONS

Navigation bar

To jump from one slide to another

SLIDE TRANSITION

`\transblindshorizontal`	Horizontal blinds pulled away
`\transblindsvertical`	Vertical blinds pulled away
`\transboxin`	Move to center from all sides
`\transboxout`	Move to all sides from center
`\transdissolve`	Slowly dissolve what was shown before
`\transglitter`	Glitter sweeps in specified direction
`\transslipverticalin`	Sweeps two vertical lines in
`\transslipverticalout`	Sweeps two vertical lines out
`\transhorizontalin`	Sweeps two horizontal lines in
`\transhorizontalout`	Sweeps two horizontal lines out
`\transwipe`	Sweeps single line in specified direction
`\transduration{2}`	Show slide specified number of seconds

DISPLAYING CODE

`\fragile`

`\verbatim`

`\semiverbatim`

DISPLAYING MATHS

Same as LaTeX

LISTS

Same as in LaTeX

- itemize, enumerate, description

With additional capability to control timing of each bullet

- Using overlay specifications

OVERLAYS

Stepwise viewing

- `\pause`
- `\item<slide #>`
  - `<+->`
- `\onslide<n->`

Replace

- `\only<n>{..}`
- `\uncover<n>{..}`
- `\visible<n>{..}, \invisible<n>{..}`
- `\alt<n>{at n}{not at n}`
- `\temporal<n>{before}{at n}{after}`

Highlighting

- `<+-| alert@+>`
- `\item<n->\alert<n>{stuff}`
  - **Same as** `\item<n-|alert@n> {stuff}`
- `\alt<n>{\color{col1}..}{\color{col2}..}`

Subtleties

- Environments, `\textbf`, `\textit`, `\textsl`, `\textrm`, `\textsf`, and `\color` **also understand overlays.**
- `\setbeamercovered{}`
- `\only` **vs.** `\uncover` **vs.** `\visible` **vs.** `\onslide`

REFERENCES

http://tug.ctan.org/macros/latex/contrib/beamer/doc/beameruserguide.pdf

http://tug.ctan.org/info/symbols/comprehensive/symbols-a4.pdf

https://mpetroff.net/files/beamer-theme-matrix/

http://latexcolor.com/

https://detexify.kirelabs.org/

http://www.cpt.univ-mrs.fr/~masson/latex/Beamer-appearance-cheat-sheet.pdf

THANK YOU

Communication channels
- Google classroom
- Lecture feedback (anonymous)