Making presentations ... with Beamer

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https://github.com/karapa/Beamer.git

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A minimalistic Example

```
\documentclass{beamer}

\begin{document}

\begin{frame}
This is my first slide.
\end{frame}

\begin{frame}
This is my second (and last) slide.
\end{frame}

\end{document}
```

A minimalistic Example

This is my first slide.

A minimalistic Example

This is my second (and last) slide.

The Beamer class

LATEX class for creating presentations

- preamble and body
- body contains sections and subsections, the different slides (called frames).
- support for overlays
- appearance defined by different themes
- disadvantage: have to know LATEX in order to use beamer
- advantage: if you know LATEX, you can use this knowledge when creating a presentation

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Preamble Items

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

Options:

- 8pt, 9pt, 10pt, 11pt, 12pt, 14pt, 17pt, 20pt
- draft - no graphics, footlines, ...
- handout - sets options suitable for handouts - no overlays
- xcolor=x11names or dvipsnames - define more names for colors

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Preamble Items

Titlepage

```
\title{A very long Title \\ over
several lines}
\subtitle{A subtitle}
\date{Latex Workshop 2015}
\author[S.Karapanagiotis]{Solon Karapanagiotis}
\institute[KUL]{Katholieke Universiteit Leuven}
%\logo{\includegraphics[scale=.25]{logo.pdf}}
```

- short versions of title, author,... are used in head- or footlines
- If no date is entered, the current date is automatically entered. If no date is wanted, type
  `\date{}`
- several authors:
  ```
  \author{Solon Karapanagiotis\inst{1} \and Albert Einstein\inst{2}}
  \institute{
  \inst{1}Katholieke Universiteit Leuven \and
  \inst{2}Princeton University}
  ```

A very long Title
over several lines
A subtitle

Solon Karapanagiotis

Katholieke Universiteit Leuven

Latex Workshop 2015

A very long Title
over several lines
A subtitle

Solon Karapanagiotis[1]   Albert Einstein[2]

[1]Katholieke Universiteit Leuven

[2]Princeton University

Latex Workshop 2015

Body Items

A frame defines one "page" of the presentation

```
\begin{frame}[...]{Title}{Subtitle} ... \end{frame}
```

Options:

- plain - no headlines, footlines, sidebars
- squeeze - squeeze all vertical spaces (this frame)
- shrink=0..100 - shrink everything by n percent
- b, c or t - vertically align at bottom, center or top
- fragile - if using macros (like verbatim) which change catcodes (this frame)

Body Items

A frame defines one "page" of the presentation

```
\begin{frame}[...]{Title}{Subtitle} ... \end{frame}
```

Options:

- plain - no headlines, footlines, sidebars
- squeeze - squeeze all vertical spaces
- shrink=0..100 - shrink everything by n percent
- b, c or t - vertically align at bottom, center or top
- fragile - if using macros (like verbatim) which change catcodes (this frame)

Body Items

Environments

- usual LATEX environments: itemize, enumerate, description, ...
- usual AMS-LATEX environments: theorem, corollary, definition,...
- additional block environments: block, alertblock, exampleblock, beamercolorbox, beamerboxesrounded
- multicolumns: columns, column

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Block environments

A block

```
\begin{block}{A block}
...
\end{block}
```

An alertblock

```
\begin{alertblock}{An alert block}
...
\end{alertblock}
```

An exampleblock

```
\begin{exampleblock}{An example block}
...
\end{exampleblock}
```

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beamercolorbox and beamerboxesrounded

Define beamercolors (= pair of colors):

```
\setbeamercolor{set1} {bg=blue!60, fg=green}
\setbeamercolor{set2}{bg=red!40, fg=yellow}
```

Title

```
\begin{beamercolorbox}[rounded=true]{set1}{Title}
....
\end{beamercolorbox}
```

A TITLE

```
\begin{beamerboxesrounded}[lower=set2,upper=set1,
shadow=true] {A TITLE}
...
\end{beamerboxesrounded}
```

Multiple columns

```
\begin{columns}
\begin{column}[b]{5cm}
....
\end{column}

\begin{column}[b]{5cm}
.....
\end{column}
\end{columns}
```

- two columns of 5cm width
- text, blocks other environments

Overlays

```
\begin{itemize}
\item my first item
\item my second item
\item \dots
\end{itemize}
```

- my first item
- my second item
- . . .

Overlays

```
\begin{itemize}
\item my first item
\pause
\item my second item
\pause
\item \dots
\end{itemize}
```

- my first item
- my second item
- ...

Overlays

```
\begin{itemize}
\item my first item
\pause
\item my second item
\pause
\item \dots
\end{itemize}
```

- my first item
- my second item
- ...

Overlays

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\begin{itemize}
\item my first item
\pause
\item my second item
\pause
\item \dots
\end{itemize}
```

- my first item
- my second item
- ...

Overlays

```
\begin{itemize}
\item \only<1> {Text only for first slide}
\pause
\item my first item.
\pause
\item my second item.
\pause
\item \dots
\end{itemize}
```

- Text only for first slide
- my first item.
- my second item.
- ...

Overlays

```
\begin{itemize}
\item \only<1> {Text only for first slide}
\pause
\item my first item.
\pause
\item my second item.
\pause
\item \dots
\end{itemize}
```

-
- my first item.
- my second item.
- ...

Overlays

```
\begin{itemize}
\item \only<1> {Text only for first slide}
\pause
\item my first item.
\pause
\item my second item.
\pause
\item \dots
\end{itemize}
```

-
- my first item.
- my second item.
- ...

Overlays

```latex
\begin{itemize}
\item \only<1> {Text only for first slide}
\pause
\item my first item.
\pause
\item my second item.
\pause
\item \dots
\end{itemize}
```

-
- my first item.
- my second item.
- . . .

Overlays

```
\begin{itemize}
\temporal<3-4> {Shown on 1, 2}{Shown on 3, 4}{Shown 5, ...}
\item my first item
$\rightarrow$ \alt<3>{On slide 3}{Not on slide 3.}
\pause
\item my second item
\pause
\item my third item
\pause
\item my fourth item
\end{itemize}
```

Shown on 1, 2

- my first item → Not on slide 3.
- my second item
- my third item
- my fourth item

Overlays

```
\begin{itemize}
\temporal<3-4> {Shown on 1, 2}{Shown on 3, 4}{Shown 5, ...}
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Overlays

```
\begin{itemize}
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\pause
\item my second item
\pause
\item my third item
\pause
\item my fourth item
\end{itemize}
```

Shown on 3, 4

- my first item → On slide 3
- my second item
- my third item
- my fourth item

Overlays

```
\begin{itemize}
\temporal<3-4> {Shown on 1, 2}{Shown on 3, 4}{Shown 5, ...}
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\item my second item
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\item my third item
\pause
\item my fourth item
\end{itemize}
```

Shown on 3, 4

- my first item → Not on slide 3.
- my second item
- my third item
- my fourth item

Cover parts ...

- default

  `\setbeamercovered{invisible}`
- other possibilities

  `\setbeamercovered{transparent}`

  `\setbeamercovered{transparent=40}   default=15%`

  `\setbeamercovered{dynamic}`

Hyperlinks

Targets

`\hypertarget{bla1}{} into some frame`

Add hyperlinks in order to jump to the targets:

▸ go to bla1

`\hyperlink{bla1}{\beamergotobutton{go to bla1}}`

Buttons

```
go to x \beamerskipbutton{go to x}
go to y \beamerreturnbutton{go to y}
```

▸▸ go to x   ◂ go to y

Themes

Completely define the appearance of the presentation

```
\usetheme{default} - very simple
\usetheme{Madrid} - blueish, no navigation bars
\usetheme{CambridgeUS} - red, no navigation bars
\usetheme{Antibes} - blueish, tree-like navigation bar
\usetheme{Berkeley} - blueish, table of contents
in sidebar
\usetheme{Marburg} - sidebar on the right
\usetheme{Berlin} - navigation bar in the headline
\usetheme{Szeged} - navigation bar in the headline,
 horizontal lines
\usetheme{Malmoe} - section/subsection in the headline
```

Themes

inner theme specifies appearance of blocks, enumerations and other environments inside the frame

outer theme specifies head- and footlines, sidebar, logo, frame title

color theme specifies colors, can be complete, inner or outer

font theme specifies fonts

This defines the Madrid presentation theme:

```
\usecolortheme{whale} % outer color
\usecolortheme{orchid} % inner
\useinnertheme[shadow]{rounded}
\useoutertheme{infolines}
\usefonttheme{default}
```

Themes

inner theme

- default, circles, rectangles, rounded, inmargin

outer theme

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

font theme

- default, serif, structurebold, structureitalicserif, structuresmallcapsserif

color theme

- complete: albatross, beetle, crane, fly, seagull, wolferine, beaver
- inner: lily, orchid, rose
- outer: shale, seahorse, dolphin

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Animations and Movies

```
\usepackage{multimedia}
\movie [...]{banner}{movie filename}
```

Any movie file that can be displayed with QuickTime should work but the file must be in the same folder as the source file. Clicking the banner in the slide will run the movie, but the pdf file must be opened in Acrobat.
The movie will not be embedded into the pdf file unless explicitly specified.

Animations and Movies

```
\movie[height=5cm,width=8cm, showcontrols]
{HopeItWorks}{2513.m4v}
```

HopeItWorks

Animations and Movies

Show the middle stage

Figures

```
\begin{figure}
\includegraphics[height=3cm]{dragon}
\caption{This caption is placed below the figure.}
\end{figure}
```


Figure: This caption is placed below the figure.

Zooming Figures

- (x,y): Upper left coordinate point
- (w,h): Width and height for zooming

```
\begin{figure}
\framezoom<1><2>[border](3cm,1cm)(3cm,3cm)
\framezoom<1><3>[border](3cm,2cm)(4cm,4cm)
\framezoom<1><4>[border](3cm,2cm)(3cm,5cm)
\includegraphics{dragon}
\caption{This caption is placed below the figure.}
\end{figure}
```
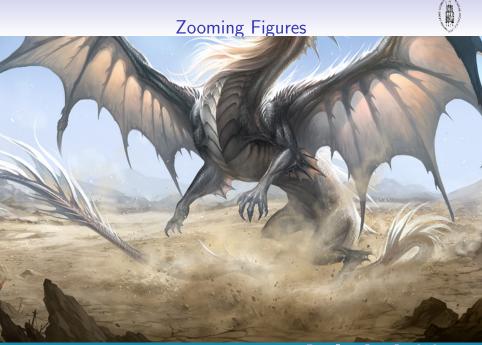
Zooming Figures

Figure: This caption is placed below the figure.

This caption is placed below the figure.

Getting Help

- Read the User's Guide
  http://mirror.ox.ac.uk/sites/ctan.org/macros/
  latex/contrib/beamer/doc/beameruserguide.pdf
- Google "latex beamer"
- Try searching TeX-sx (tex.stackexchange.com). Perhaps someone has already reported a similar problem and someone has found a solution. Ask !

Final Thoughts

Till Tantau:

- "I created beamer mainly in my spare time."
- "I created the first version of beamer for my PhD defense presentation"
- "After that, things somehow got out of hand."

https://bitbucket.org/rivanvx/beamer/wiki/Home

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