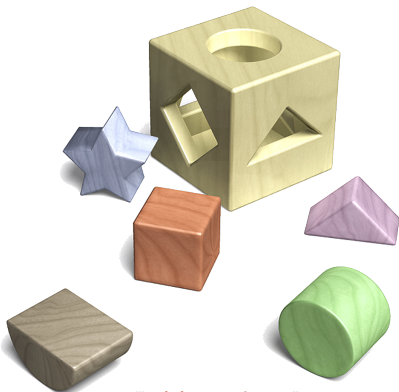


How to use Beamer

Tobias Philipp

International Center for Computational Logic
Technische Universität Dresden
Germany

- ▶ **What is Beamer?**
- ▶ **How to produce a presentation?**
- ▶ **How to create overlays?**



"Logic is everywhere ..."



Introduction

- ▶ **What is Beamer?**
 - ▷ **Beamer is a LaTeX document class for producing slides created by Til Tantau at the Universität zu Lübeck**
- ▶ **Why should you care?**
 1. **LaTeX based (all common LaTeX commands can be used), thus reuse already written up material**
 2. **can also be used to create reports from presentations**
 3. **easy overlays**
 4. **no external programs needed other than what you already use for LaTeX**



Beamer example

1. The basic structure is the standard in LaTeX. But:

```
\documentclass{beamer}
\usetheme{Warsaw}
% additional options here

\begin{document}

\section{Section 1}
\begin{frame}
\frametitle{title}

% slide content in standard LaTeX

\end{frame}

\subsection{Subsection 1}

\end{document}
```



Beamer example

1. The basic structure is the standard in LaTeX. But:

- ▷ Indicate that this document is of the Beamer class.

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Beamer example

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- ▷ Indicate that this document is of the Beamer class.
- ▷ alternative themes: Frankfurt, Berlin, Bergen, Boadilla, Madrid, AnnArbor, Pittsburgh, Rochester, Antibes, ...

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- ▷ Indicate that this document is of the Beamer class.
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- ▷ Main document

```

\documentclass{beamer}
\usetheme{Warsaw}
% additional options here

\begin{document}

\section{Section 1}
\begin{frame}
\frametitle{title}

% slide content in standard LaTeX

\end{frame}

\subsection{Subsection 1}

\end{document}
  
```



Beamer example

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- ▷ Indicate that this document is of the Beamer class.
- ▷ alternative themes: Frankfurt, Berlin, Bergen, Boadilla, Madrid, Ann Arbor, Pittsburgh, Rochester, Antibes, ...
- ▷ Main document
- ▷ Declare each slide (*frame*) you want to create.

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Beamer example

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- ▷ Indicate that this document is of the Beamer class.
- ▷ alternative themes: Frankfurt, Berlin, Bergen, Boadilla, Madrid, Ann Arbor, Pittsburgh, Rochester, Antibes, ...
- ▷ Main document
- ▷ Declare each slide (*frame*) you want to create.
- ▷ Sections are used outside of the frame environment.

```

\documentclass{beamer}
\usetheme{Warsaw}
% additional options here

\begin{document}

\section{Section 1}
\begin{frame}
\frametitle{title}

% slide content in standard LaTeX

\end{frame}

\subsection{Subsection 1}

\end{document}
  
```



Titlepage

Howto: Introduction to Beamer

Tobias Philipp

TU Dresden

October 8, 2014

```
1 \documentclass{beamer}
2 \usetheme{Montpellier}
3 \usepackage{array}
4 \usepackage{graphicx}
5
6 \title{Howto: Introduction to Beamer}
7 \author{Tobias Philipp}
8 \institute{TU Dresden}
9 \date{October 8, 2014}
10
11 \begin{document}
12 \maketitle
13
14 \end{document}
```



Overlays



Pause

`\pause` creates stopping points so one frame can be uncovered piecewise.

```
\begin{itemize}
  \item This item first \pause
  \item This item second \pause
  \item This item third
\end{itemize}
```



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```
\begin{itemize}
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  \item This item second \pause
  \item This item third
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```

▶ **This item first**



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- ▶ **This item first**
- ▶ **This item second**



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- ▶ **This item first**
- ▶ **This item second**
- ▶ **This item third**



Lists

```
\begin{itemize}  
\item<1-> This item first  
\item<3-> This item third  
\item<2-> This item second  
\end{itemize}
```



Lists

```
\begin{itemize}  
\item<1-> This item first  
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▶ **This item first**



Lists

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\item<3-> This item third  
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▶ This item first

▶ This item second



Lists

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\begin{itemize}  
\item<1-> This item first  
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- ▶ **This item first**
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- ▶ **This item second**



Lists

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\begin{itemize}  
\item<1-> This item first  
\item<3-> This item third  
\item<2-> This item second  
\end{itemize}
```

- ▶ **This item first**
- ▶ **This item third**
- ▶ **This item second**

Note that the order is given by

- ▶ Show <1> *only* on slide 1
- ▶ Show <1-> on slide 1 onwards
- ▶ Show <1-4,6-8> on every slide except 5



Emphasize text

Parts of the slides can be emphasized using overlays with alerts or color specifications.

```
\begin{itemize}
\item \alert{important item}
\item item
\item item
\end{itemize}
```



Emphasize text

Parts of the slides can be emphasized using overlays with alerts or color specifications.

```
\begin{itemize}
```

```
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```

```
\item item
```

```
\item item
```

```
\end{itemize}
```

▶ **important item**

▶ **item**

▶ **item**



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\item item
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```

- ▶ **important item**
- ▶ **item**
- ▶ **item**

```
\begin{itemize}
\item \alert<1>{first important item}
\item {\color<3>{blue}{third item}}
\item \alert<2>{second important item}
\end{itemize}
```



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- ▶ **first important item**
- ▶ **third item**
- ▶ **second important item**



Overlays for non-lists

`\only`

```
\only<1>{Initial text.}
```

```
\only<2>{Replaced by this on second slide.}
```

```
\only<3>{Replaced again by this on third slide.}
```



Overlays for non-lists

`\only`

```
\only<1>{Initial text.}
```

```
\only<2>{Replaced by this on second slide.}
```

```
\only<3>{Replaced again by this on third slide.}
```

Initial text.



Overlays for non-lists

`\only`

```
\only<1>{Initial text.}
```

```
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```

```
\only<3>{Replaced again by this on third slide.}
```

Replaced by this on second slide.



Overlays for non-lists

`\only`

```
\only<1>{Initial text.}
```

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```

```
\only<3>{Replaced again by this on third slide.}
```

Replaced again by this on third slide.



Overlays for non-lists

`\only`

```
\only<1>{Initial text.}
```

```
\only<2>{Replaced by this on second slide.}
```

```
\only<3>{Replaced again by this on third slide.}
```

`\uncover`

```
\uncover<1>{Text shown on slide 1.}
```

```
\uncover<2>{Text shown on slide 2.}
```

```
\uncover<3>{Text shown on slide 3.}
```



Overlays for non-lists

`\only`

```
\only<1>{Initial text.}  
\only<2>{Replaced by this on second slide.}  
\only<3>{Replaced again by this on third slide.}
```

`\uncover`

```
\uncover<1>{Text shown on slide 1.}  
\uncover<2>{Text shown on slide 2.}  
\uncover<3>{Text shown on slide 3.}
```

Text shown on slide 1.



Overlays for non-lists

`\only`

```
\only<1>{Initial text.}
\only<2>{Replaced by this on second slide.}
\only<3>{Replaced again by this on third slide.}
```

`\uncover`

```
\uncover<1>{Text shown on slide 1.}
\uncover<2>{Text shown on slide 2.}
\uncover<3>{Text shown on slide 3.}
```

Text shown on slide 2.



Overlays for non-lists

`\only`

```
\only<1>{Initial text.}  
\only<2>{Replaced by this on second slide.}  
\only<3>{Replaced again by this on third slide.}
```

`\uncover`

```
\uncover<1>{Text shown on slide 1.}  
\uncover<2>{Text shown on slide 2.}  
\uncover<3>{Text shown on slide 3.}
```

Text shown on slide 3.



Overlays with TikZ

```

\node (l1) [circle, draw];

\uncover<3->{
\node (t2) [left=6mm of l1] ;
\node (l2) [circle,draw,below=3mm of t2];

\node (t3) [right=12mm of l1] ;
\node (l3) [circle,draw,below=3mm of t3];}

\uncover<5->{
\node (t4) [left=6mm of l2] ;
\node (l4) [circle,draw,below=3mm of t4];

\node (t5) [right=6mm of l2] ;
\node (l5) [circle,draw,below=3mm of t5];

\node (t6) [left=6mm of l3];
\node (l6) [circle,draw,below=3mm of t6];
\node (t7) [right=6mm of l3];
\node (l7) [circle,draw,below=3mm of t7];}

\uncover<2->{
\draw (l1) -- (l2); \draw (l1) --(l3);}

\uncover<4->{
\draw (l2) -- (l4); \draw (l2) -- (l5);

\draw (l3) -- (l6); \draw (l3) -- (l7);}
    
```



Overlays with TikZ

```

\node (l1) [circle, draw];

\uncover<3->{
\node (t2) [left=6mm of l1] ;
\node (l2) [circle,draw,below=3mm of t2];

\node (t3) [right=12mm of l1] ;
\node (l3) [circle,draw,below=3mm of t3];}

\uncover<5->{
\node (t4) [left=6mm of l2] ;
\node (l4) [circle,draw,below=3mm of t4];

\node (t5) [right=6mm of l2] ;
\node (l5) [circle,draw,below=3mm of t5];

\node (t6) [left=6mm of l3];
\node (l6) [circle,draw,below=3mm of t6];
\node (t7) [right=6mm of l3];
\node (l7) [circle,draw,below=3mm of t7];}

\uncover<2->{
\draw (l1) -- (l2); \draw (l1) --(l3);}

\uncover<4->{
\draw (l2) -- (l4); \draw (l2) -- (l5);

\draw (l3) -- (l6); \draw (l3) -- (l7);}
    
```



Overlays with TikZ

```

\node (l1) [circle, draw];

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\node (t2) [left=6mm of l1] ;
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\node (t3) [right=12mm of l1] ;
\node (l3) [circle,draw,below=3mm of t3];}

\uncover<5->{
\node (t4) [left=6mm of l2] ;
\node (l4) [circle,draw,below=3mm of t4];

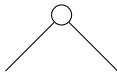
\node (t5) [right=6mm of l2] ;
\node (l5) [circle,draw,below=3mm of t5];

\node (t6) [left=6mm of l3];
\node (l6) [circle,draw,below=3mm of t6];
\node (t7) [right=6mm of l3];
\node (l7) [circle,draw,below=3mm of t7];}

\uncover<2->{
\draw (l1) -- (l2); \draw (l1) --(l3);}

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\draw (l2) -- (l4); \draw (l2) -- (l5);

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```



Overlays with TikZ

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\node (l1) [circle, draw];

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\uncover<5->{
\node (t4) [left=6mm of l2] ;
\node (l4) [circle,draw,below=3mm of t4];

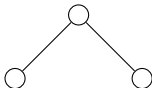
\node (t5) [right=6mm of l2] ;
\node (l5) [circle,draw,below=3mm of t5];

\node (t6) [left=6mm of l3];
\node (l6) [circle,draw,below=3mm of t6];
\node (t7) [right=6mm of l3];
\node (l7) [circle,draw,below=3mm of t7];}

\uncover<2->{
\draw (l1) -- (l2); \draw (l1) --(l3);}

\uncover<4->{
\draw (l2) -- (l4); \draw (l2) -- (l5);

\draw (l3) -- (l6); \draw (l3) -- (l7);}
    
```



Overlays with TikZ

```

\node (l1) [circle, draw];

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\node (t2) [left=6mm of l1] ;
\node (l2) [circle,draw,below=3mm of t2];

\node (t3) [right=12mm of l1] ;
\node (l3) [circle,draw,below=3mm of t3];}

\uncover<5->{
\node (t4) [left=6mm of l2] ;
\node (l4) [circle,draw,below=3mm of t4];

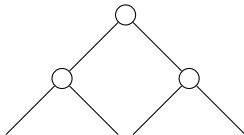
\node (t5) [right=6mm of l2] ;
\node (l5) [circle,draw,below=3mm of t5];

\node (t6) [left=6mm of l3];
\node (l6) [circle,draw,below=3mm of t6];
\node (t7) [right=6mm of l3];
\node (l7) [circle,draw,below=3mm of t7];}

\uncover<2->{
\draw (l1) -- (l2); \draw (l1) --(l3);}

\uncover<4->{
\draw (l2) -- (l4); \draw (l2) -- (l5);

\draw (l3) -- (l6); \draw (l3) -- (l7);}
    
```



Overlays with TikZ

```

\node (l1) [circle, draw];

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\node (t2) [left=6mm of l1] ;
\node (l2) [circle,draw,below=3mm of t2];

\node (t3) [right=12mm of l1] ;
\node (l3) [circle,draw,below=3mm of t3];}

\uncover<5->{
\node (t4) [left=6mm of l2] ;
\node (l4) [circle,draw,below=3mm of t4];

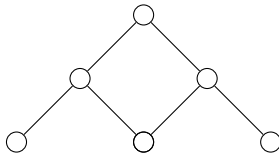
\node (t5) [right=6mm of l2] ;
\node (l5) [circle,draw,below=3mm of t5];

\node (t6) [left=6mm of l3];
\node (l6) [circle,draw,below=3mm of t6];
\node (t7) [right=6mm of l3];
\node (l7) [circle,draw,below=3mm of t7];}

\uncover<2->{
\draw (l1) -- (l2); \draw (l1) --(l3);}

\uncover<4->{
\draw (l2) -- (l4); \draw (l2) -- (l5);

\draw (l3) -- (l6); \draw (l3) -- (l7);}
    
```



Other stuff

- ▶ **Suppress navigation symbols**

```
\setbeamertemplate{navigation symbols}{}
```

- ▶ **Suppress the headlines, footlines, and sidebars**

```
\begin{frame}[plain]
```

- ▶ **Add “handout” parameter for slides without overlays (e.g. for printout)**

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

- ▶ **Include blank black slide**

```
\bgroup  
\setbeamercolor{background canvas}{bg=black}  
\begin{frame}[plain]{}  
\end{frame}  
\egroup
```



Further Information

- ▶ **Till Tantau, Joseph Wright, Vedran Miletić: The BEAMER class**
<http://www.ctan.org/tex-archive/macros/latex/contrib/beamer/doc/beameruserguide.pdf>
- ▶ **Charles T. Batts: A Beamer Tutorial in Beamer**
<http://www.scribd.com/doc/47716986/Charles-Batts-Beamer-Tutorial>



References

- ▶ **Charles T. Batts: A Beamer Tutorial in Beamer**
<http://www.scribd.com/doc/47716986/Charles-Batts-Beamer-Tutorial>
- ▶ **Matthias Gerdts: Introduction to Beamer**
<http://www.unibw.de/lrt1/gerdts/lehre/zusatzmaterial-und-links/beamer-intro.pdf>
- ▶ **Gonzalo Rivero: Presentations in \LaTeX , Introduction to the BEAMER class**
www.nyu.edu/projects/politicsdatalab/latex/beamer_nyu.pdf
- ▶ **Till Tantau, Vedran Miletić, Joseph Wright: Creating Overlays**
<http://get-software.net/macros/latex/contrib/beamer/doc/beamerug-overlays.tex>



