

# Presentation using L<sup>A</sup>T<sub>E</sub>X Beamer

Tao Ma

Electrical and Computer Engineering  
Auburn University

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# Outline

- ① Introduction
- ② Document Structure
  - Example
  - Preamble
  - Body
- ③ Frame Structure
  - Column
  - Block
  - Lists
- ④ Overlays

# Outline

- 1 Introduction
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- 4 Overlays

# About Beamer

- Beamer - a LaTeX class for creating presentations.
- Different from WYSWYG programs.
- A Beamer presentation is like any other LaTeX document:
  - It has a preamble and a body.
  - The body contains sections and subsections.
  - The different slides are put in environments.
  - Slides are structured using itemize and enumerate environments, or plain text.

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# A Simple Example

```
\documentclass{beamer}
\title{\LaTeX{} Beamer Class Introduction}
\author{Tao Ma}
\institute{Electrical and Computer Engineering \Auburn University}
\date{\scriptsize{\today}}

\begin{document}
\maketitle
\section{Section 1}
\begin{frame}
\frametitle{Frame 1 Name}
\Here is one slide.
\end{frame}
\section{Section 2}
\frame{
\frametitle{Frame 2 Name}
\Here is another slide.
}
\end{document}
```

# A Simple Example

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\section{Section 1}
\begin{frame}
\frametitle{Frame 1 Name}
\Here is one slide.
\end{frame}
\section{Section 2}
\frame{
\frametitle{Frame 2 Name}
\Here is another slide.
}
\end{document}
```



# Preamble

```
\documentclass[10pt]{beamer}  
\usetheme{Warsaw}  
\setbeamertemplate{footline}[frame number]
```

```
\usefonttheme[]{serif}  
\usepackage{amsmath, latexsym, color, graphicx}  
\usepackage{epsf, epsfig, subfigure}  
\usepackage{amsfonts, multicol}
```

```
\newcommand{\tbs}{\textbackslash}  
\definecolor{cRed}{rgb}{1, 0, 0}
```

# Preamble

```
\documentclass[10pt]{beamer}  
\usetheme{Warsaw}  
\setbeamertemplate{footline}[frame number]
```

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\usefonttheme[]{}  
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# Preamble

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```
\usefonttheme[]{}  
\usepackage{amsmath, latexsym, color, graphicx}  
\usepackage{epsf, epsfig, subfigure}  
\usepackage{amsfonts, multicol}
```

```
\newcommand{\tbs}{\textbackslash}  
\definecolor{cRed}{rgb}{1, 0, 0}
```

# Preamble

## Choosing a Theme

Different themes can be selected by changing the

```
\usetheme{Warsaw}
```

### Themes

Antibes	Bergen	Berlin	Madrid
Paloalto	Pittsburgh	Rochester	Singapore

# Body

```
\begin{document}

\maketitle

\section{Section 1}
\begin{frame}
\frametitle{Frame 1 Name}
\Here is one slide.
\end{frame}

\section{Section 2}
\frame{
\frametitle{Frame 2 Name}
\Here is another slide.
}

\end{document}
```

# Making the Title Frame

Use the following commands in your preamble:

## Commands for the title frame

```
\title{...}  
\subtitle{...}  
\author{...}  
\institute{...}  
\date{...}
```

and the command `\maketitle`,

## Generating the title frame in the body

```
\begin{document}  
\maketitle  
:  
:  
\end{document}
```

# Creating a Frame

Creating a frame use with commands:

```
\begin{frame}  
\frametitle{...}  
\framesubtitle{...}  
...  
\end{frame}
```

Or,

```
\frame{  
\frametitle{...}  
\framesubtitle{...}  
...  
}
```



# Section and Subsections

Section specifications are declared between the frames.

```
...  
\end{frame}  
  
\section{section name}  
\subsection{subsection name}  
\subsubsection{subsubsection name}  
  
\begin{frame}  
...
```

# Generating the Outline Frame

The outline of your presentation can be added as follows,

## manually

```
...
\end{frame}
\begin{frame}
\frametitle{Outline}
\tableofcontents[currentsection]
\end{frame}
\begin{frame}
...
```

## automatically

```
...
\AtBeginSection[] {
\begin{frame}{Outline}
\tableofcontents[currentsection]
\end{frame}}
...
```

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# Column

## Example: two columns

```
\begin{columns}
\column{.4\textwidth}
Left column
\column{.4\textwidth}
Right column
\end{columns}
```

# Column

## Example: two columns

```
\begin{columns}
\column{.4\textwidth}
Left column
\column{.4\textwidth}
Right column
\end{columns}
```

Left column

Right column

# Block

```
\begin{block}{Beamer Introduction}  
Beamer is a {\LaTeX} class.  
\end{block}
```

# Block

```
\begin{block}{Beamer Introduction}  
Beamer is a {\LaTeX} class.  
\end{block}
```

## Beamer Introduction

Beamer is a  $\text{\LaTeX}$  class.

# Block

```
\begin{block}{Beamer Introduction}  
Beamer is a {\LaTeX} class.  
\end{block}
```

## Beamer Introduction

Beamer is a  $\text{\LaTeX}$  class.

Other choices: example, lemma, proof.



# List-itemize

```
\begin{itemize}  
\item The first one.  
\item The second one.  
\begin{itemize}  
\item The larger one.  
\item The smaller one.  
\end{itemize}  
\item The third one.  
\end{itemize}
```

# List-itemize

```
\begin{itemize}
\item The first one.
\item The second one.
\begin{itemize}
\item The larger one.
\item The smaller one.
\end{itemize}
\item The third one.
\end{itemize}
```

- The first one.
- The second one.
  - The larger one.
  - The smaller one.
- The third one.

# List-enumerate

```
\begin{enumerate}  
\item The first one.  
\item The second one.  
\begin{enumerate}  
\item The large one.  
\item The small one.  
\end{enumerate}  
\item The third one.  
\end{enumerate}
```

# List-enumerate

```
\begin{enumerate}
\item The first one.
\item The second one.
\begin{enumerate}
\item The large one.
\item The small one.
\end{enumerate}
\item The third one.
\end{enumerate}
```

- ① The first one.
- ② The second one.
  - ① The large one.
  - ② The small one.
- ③ The third one.

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# Simple Overlays Using pause

- Beamer overlay frame 1
- Beamer overlay frame 2
- Beamer overlay frame 3

```
\begin{frame}[fragile]
\frametitle{Simple Overlays Using {\tt pause}}
\setbeamercovered{dynamic}
\begin{itemize}
\item Beamer overlay frame 1\\ \pause
\item Beamer overlay frame 2\\ \pause
\item Beamer overlay frame 3\\
\end{itemize}
```

# Simple Overlays Using pause

- Beamer overlay frame 1
- Beamer overlay frame 2
- Beamer overlay frame 3

```
\begin{frame}[fragile]
\frametitle{Simple Overlays Using {\tt pause}}
\setbeamercovered{dynamic}
\begin{itemize}
\item Beamer overlay frame 1\\ \pause
\item Beamer overlay frame 2\\ \pause
\item Beamer overlay frame 3\\
\end{itemize}
```

# Simple Overlays Using pause

- Beamer overlay frame 1
- Beamer overlay frame 2
- Beamer overlay frame 3

```
\begin{frame}[fragile]
\frametitle{Simple Overlays Using {\tt pause}}
\setbeamercovered{dynamic}
\begin{itemize}
\item Beamer overlay frame 1\\ \pause
\item Beamer overlay frame 2\\ \pause
\item Beamer overlay frame 3\\
\end{itemize}
```

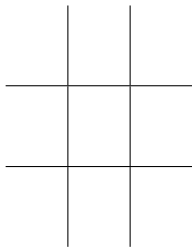


# Simple Overlays Using pause

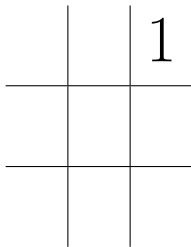
- Beamer overlay frame 1
- Beamer overlay frame 2
- Beamer overlay frame 3

```
\begin{frame}[fragile]
\frametitle{Simple Overlays Using {\tt pause}}
\setbeamercovered{dynamic}
\begin{itemize}
\item Beamer overlay frame 1\\ \pause
\item Beamer overlay frame 2\\ \pause
\item Beamer overlay frame 3\\
\end{itemize}
```

# Advanced Overlays Using onslide



# Advanced Overlays Using onslide



# Advanced Overlays Using onslide

		1
	2	

# Advanced Overlays Using onslide

		1
	2	
		3

# Advanced Overlays Using onslide

		1
	2	4
		3

# Advanced Overlays Using onslide

		1
5	2	4
		3

# Advanced Overlays Using onslide

		1
5	2	4
	6	3



# Advanced Overlays Using onslide

	7	1
5	2	4
	6	3

# Advanced Overlays Using onslide

8	7	1
5	2	4
	6	3

# Advanced Overlays Using onslide

8	7	1
5	2	4
9	6	3

# Questions?