History of Beamer

“I originally created BEAMER mainly in my spare time as a small private collection of macros to make using the seminar class easier. The first full version was for my PhD defense presentation in February 2003. A month later, I put the package on CTAN at the request of some colleagues. After that, things somehow got out of hand.”
-Till Tantau, 2004
Features of the Beamer Class

1. Can use standard `pdflatex` and `latex+dvips`.

Ryan Siskind (NCSU)

BEAMER

March 30, 2011
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2. Normal LaTeX commands;
   - uses section/subsection/etc. for structuring;
   - commands such as `\tableofcontents` and `align` have the same meaning as in `article` class
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4. No external programs needed other than what you already use for LaTeX

5. Font manipulation, movie files, fun stuff, etc.
BEAMER is hosted at

http://latex-beamer.sourceforge.net/
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1. Files (**BEAMER**, pgf, xcolor);
2. Instructions for installation;
3. **BEAMER** examples.
Installation

2. Choose to download the “LATEX-BEAMER Class”
3. Download the latest version of latex-beamer, pgf, and xcolor

Important Note

The BEAMER user guide is found in the latex-beamer file and is ÜBER helpful.
More Installation

For a permanent installation:

1. Find your local texmf tree (usually found in /usr/local/share/texmf/, c:\localtexmf, or c:\Program Files\TeXLive\texmf-local)
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   /usr/local/share/texmf/, \texttt{c:\localtexmf}, \texttt{or}
   
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2. **In the \texttt{texmf} directory, create the sub-sub-sub-directories;**
   
   \texttt{texmf/tex/latex/beamer},
   
   \texttt{texmf/tex/latex/pgf}, \texttt{and}
   
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3. Place all UNZIPPED files from the packages you already downloaded into these new directories.
4. Rebuild the \TeX\ file database by running the command texhash, mktexlsr, or via menu options (if available)
\documentclass{beamer}

\begin{document}

\begin{frame}
  Hello World!
\end{frame}

\end{document}
Presenting in Style

Themes dictate colors, information bars, and layout of presentation. This presentation uses the theme \usetheme{CambridgeUS}

- Themes, p135-148;
- Templates, p149-158;
- Colors, p162-175.
2 ways to create titles and subtitles for a frame:

1. \begin{frame}\{Frame Title\}\{Frame Subtitle\}
2. \frametitle\{Frame Title\}\framesubtitle\{Frame Subtitle\}
Sectioning

Notice the sections and subsections at the top of each slide.

- \section{Short Section Name}\{Long Section Name\}
- \subsection{Short Subsection Name}\{Long Subsection Name\}
Notice the sections and subsections at the top of each slide.

- \section{Short Section Name} \{Long Section Name\}
- \subsection{Short Subsection Name} \{Long Subsection Name\}

“Short names” go into slide headers;
“Long names” go into outlines.
Sectioning

Notice the sections and subsections at the top of each slide.

\section[Short Section Name]{Long Section Name}
\subsection[Short Subsection Name]{Long Subsection Name}

“Short names” go into slide headers; “Long names” go into outlines.

All sections and subsections automatically added to slideshow outline!
Loooooong Slides

\texttt{BEAMER} does not automatically put what doesn’t fit from one slide onto another slide.

- You must keep track of slide lengths yourself; or
- you can use the frame option
  \begin{frame}[allowframebreaks]

This automatically breaks up the long slide and puts the extra content onto new slides.
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- Most overlay options are not usable.
Why and How Overlays Are Used

- Much like the transitions in PowerPoint
- Allows different information to be shown at different times on same slide
- User defines when information is shown using `<Transparency numbers>`
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If you want information to show up immediately: <1→>
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If you want information to show up only in the third set: \textit{<3>}
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  If you want information to show up immediately: *<1→>*
  If you want information to show up only in the third set: *<3>*
  If you want information to show up only in the second and fourth sets: *<2, 4>*
The Overlay Feature
For Lists

\begin{enumerate}
\item<1-> First item;
\item<2-> Second item;
\ldots
\item<3-> Last item.
\end{enumerate}
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The Overlay Feature
For Non-Lists

You must use \uncover<Transparency numbers>

An Algorithm For Finding Primes Numbers.

\uncover<1->{int main (void)} \uncover<1->{
\uncover<1->{std::vector<bool> is_prime (100, true);} \uncover<1->{ for (int i = 2; i < 100; i++)}
\uncover<2->{\{ if (is_prime[i])\} \uncover<2->{
\{\} \uncover<3->{ std::cout << i << " ";}
\uncover<3->{ for (int j = i; j < 100;}
\uncover<3->{ is_prime [j] = false, j+=i);} \uncover<2->{ \}} \uncover<1->{ return 0;}
\uncover<1->{\}}
```cpp
int main (void) {
    std::vector<bool> is_prime (100, true);
    for (int i = 2; i < 100; i++)
        if (is_prime[i])
            for (int j = i; j < 100; is_prime[j] = false, j+=i)

    return 0;
}
```
int main (void) {
  std::vector<bool> is_prime (100, true);
  for (int i = 2; i < 100; i++)
    if (is_prime[i])
    {

    }

  } return 0;
}
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    std::vector<bool> is_prime (100, true);
    for (int i = 2; i < 100; i++)
        if (is_prime[i])
            { std::cout « i « " ";
              for (int j = i; j < 100;
                   is_prime [j] = false, j+=i);
            }
    return 0;
}
int main (void) {
    std::vector<bool> is_prime (100, true);
    for (int i = 2; i < 100; i++)
        if (is_prime[i]) {
            std::cout « i « " ";
            for (int j = i; j < 100; j+=i) {
                is_prime[j] = false, j+=i;
            }
            return 0;
        }
}
Ordering the Overlays

\begin{enumerate}
\item \uncover<2,6> \{Start at $T \gt T_g$ and deform\}
\item \uncover<3,6> \{Cool below $T_g$\}
\item \uncover<4,6> \{Release applied strain\}
\item \uncover<5,6> \{Heat above $T_g$ and recovery\}
\end{enumerate}
Ordering the Overlays

1. Start at $T > T_g$ and deform
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4 Heat above $T_g$ and recovery
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2. Cool below \( T_g \)
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Overlays

Overlays

In general, \texttt{\includegraphics<set(s) to show graphic>}
To overlay the figures on top of each other, use the command \texttt{\llap}

\texttt{\llap{\includegraphics<1,6>[height=1.3in]{./figures/SMPThermoMechCycle}}%}
\texttt{\llap{\includegraphics<2>[height=1.3in]{./figures/ExpFig1}}%}
\texttt{\llap{\includegraphics<3>[height=1.3in]{./figures/ExpFig2}}%}
\texttt{\llap{\includegraphics<4>[height=1.3in]{./figures/ExpFig3}}%}
\texttt{\llap{\includegraphics<5>[height=1.3in]{./figures/ExpFig4}}%}
Inserting Figures

**.eps or .ps files**

*Only when using LaTeX and dvips*

**.pdf, .jpg, .jpeg or .png files**

*Only when using pdflatex*
\usepackage{multimedia}
Thank You!

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