Advanced Beamer Techniques

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Outline

1. Transitions
   - Overview
   - Frames
   - Overlays

2. Multimedia
   - movie15
   - Using movie15

3. Drawing in Beamer
   - Intro to pgf
   - pgf Examples

4. Handouts
Outline

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4. **Handouts**
Transitions

What are they?

Simply, an animation used to ‘enhance’ the movement from the current frame to the next.
First we need to define the difference between a slide and a frame. With beamer, frames are created with the `\begin{frame}` command. Slides are then created within that frame when using overlays. Transitions are used for frames, but can be applied to overlays if desired (but please don’t).
Ready. Set. Go!

How much wood could a Woodchuck chuck if a Woodchuck could chuck wood?
Transitions
Example-Frame cont.

Answer: 42
Placed on the frame to be revealed by the transition.

**Rather simple**

\transboxin
\begin{block}{Answer:}
\hspace*{40pt} 42
\end{block}
Available transitions

- \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
It’s an overlay!

And another, oh ya!

And a third! Wow, my lucky day!
Transitions

Overlays

- It’s an overlay!
- And another, oh ya!
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Transitions
Overlays

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Transitions
Overlay Syntax

Syntax

\transboxin<1>
\transglitter<2>
\transwipe<3>
\begin{itemize}
\item It’s an overlay!\\ \pause
\item And another, oh ya!\\ \pause
\item And a third! Wow, my lucky day!\\
\end{itemize}
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movie15.sty should be included with the MiKTeX package.

\usepackage{movie15}
\usepackage{hyperref}
Movie Files

.mp4
Relatively simple

\begin{figure}[ht]
\include{movie15}
\end{figure}
Movie Files
Flash
Movie Files

Flash syntax

Basically the same.

\begin{figure}[h!]
\includemovie[
  poster=pcb.jpg,
  text={\Large\bf\color{white}\text{Start}\ \hspace*{40pt}}
]{6cm}{6cm}{blendone.swf}
\end{figure}

Files and TeX courtesy of http://www.uoregon.edu/~noeckel/PDFmovie.html
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pgf package
Overview

Used to create basic shapes within beamer.

Can be used to create tables, graphs, flowcharts and anything that you have the patience to create when you don’t have an image to import.

pgf package is included with MiKTeX.
\usepackage{pgf,pgfarrows,pgfnodes}

Please see the following document for more info:
pgf package

Example1

Syntax

\begin{pgfpicture}{0cm}{0cm}{5cm}{5cm}
% (0cm,0cm) is the lower left corner,
% (5cm,2cm) is the upper right corner.
\pgfrect[stroke]{\pgfpoint{0cm}{0cm}}{\pgfpoint{2cm}{10pt}}
% Paint a rectangle (stroke it, do not fill it)
% The lower left corner is at (0cm,0cm)
% The rectangle is 2cm wide and 10pt high.
\pgfcircle[fill]{\pgfpoint{3cm}{1cm}}{10pt}
% Paint a filled circle
% The center is at (3cm,1cm)
% The radius is 10pt
\end{pgfpicture}
pgf package
Example2

Result

Syntax
\begin{pgfpicture}{.2cm}{.2cm}{5cm}{5cm}
\pgfsetstartarrow{\pgfarrowto}
\pgfsetendarrow{\pgfarrowsingle}
\pgfxycurve(0,0.25)(0.5,0.5)(1,0)(1.5,0.25)
\end{pgfpicture}
pgf package
Example3

hello  world  lovely
\begin{pgfpicture}{0cm}{0cm}{5cm}{5cm}
\pgfnodebox{Node1}[stroke]\{\pgfxy(1,0.5)}{hello}{2pt}{2pt}
\pgfnodebox{Node2}[stroke]\{\pgfxy(4,.5)}{world}{2pt}{2pt}
\pgfnodebox{Node3}[stroke]\{\pgfxy(7,.5)}{lovely}{2pt}{2pt}
\pgfnodeconncurve{Node1}{Node2}\{0\}{90\}{1cm\}{1cm}
\pgfnodeconncurve{Node1}{Node2}\{0\}{90\}{1cm\}{1.5cm}
\pgfnodeconncurve{Node1}{Node2}\{0\}{90\}{1cm\}{2cm}
\pgfnodeconncurve{Node1}{Node2}\{0\}{90\}{1cm\}{2.5cm}
\pgfnodeconncurve{Node2}{Node3}\{-10\}{80\}{1cm\}{1cm}
\pgfnodeconncurve{Node2}{Node3}\{-20\}{70\}{1cm\}{1cm}
\pgfnodeconncurve{Node2}{Node3}\{-30\}{60\}{1cm\}{1cm}
\pgfnodeconncurve{Node2}{Node3}\{-40\}{50\}{1cm\}{1cm}
\end{pgfpicture}
pgf package
Example4

\[ \int_0^\infty x \, dx \]
\begin{pgfpicture}{0cm}{0cm}{5cm}{2cm}
\pgfputat{\pgfxy(1,1)}{\pgfbox[center,center]{Hi!}}
% pgfputat places something at a certain position
% pgfbox shows the text hi!. The horizontal alignment
% is centered (other options: left, right). The vertical
% alignment is also centered (other options: top, bottom, base)
\pgfcircle[stroke]{\pgfxy(1,1)}{0.5cm}
\pgfsetendarrow{\pgfarrowto}
% In the following, all lines will end with an arrow that
% looks like the arrow of TeXs \to command
\pgfline{\pgfxy(1.5,1)}{\pgfxy(2.2,1)}
\pgfputat{\pgfxy(3,1)}{
\begin{pgfrotateby}{\pgfdegree{30}}
% You can rotate things like this
\pgfbox[center,center]{$\int_0^\infty xdx$}
\end{pgfrotateby}}
\pgfcircle[stroke]{\pgfxy(3,1)}{0.75cm}
\end{pgfpicture}
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4 Handouts
Handouts
Printable Handouts

Slides + Notes field
For those times when you actually want to take notes...

\usepackage{handoutWithNotes}
\pgfpagesuselayout{3 on 1 with notes}[a4paper, border shrink=5mm]
Or
\pgfpagesuselayout{1 on 1 with notes landscape}[a4paper, border shrink=5mm]

Several options, see http://www.guidodiepen.nl/2009/07/creating-latex-beamer-handouts-with-notes/