Beamer

Beamer is a LaTeX class to create powerful, flexible and nice-looking presentations and slides. This article explains the most common features to create a presentation: make the title page, add a logo, highlight important points, make a table of contents and add effects to the presentation.

Introduction:

A minimal working example of a simple **beamer** presentation is presented below.

```
\documentclass{beamer}

\usepackage[utf8]{inputenc}

%Information to be included in the title page:
\title{Sample title}
\author{Anonymous}
\institute{ShareLaTeX}
\date{2014}


\begin{document}

\frame{\titlepage}

\begin{frame}
\frametitle{Sample frame title}
This is a text in first frame. This is a text in first frame.
This is a text in first frame.
\end{frame}

\end{document}
```

After compilation, a two-page PDF file will be produced. The first page is a titlepage, the second one contains sample content.

The first statement in the document declares this is a Beamer slideshow: `\documentclass{beamer}`

The first command after the preamble, `\frame{\titlepage}`, generates the title page. This page may contain information about the author, institution, event, logo, and so on. See the title page section for a more complete example.

The *frame* environment creates the second slide, the self-descriptive command `\frametitle{Sample frame title}` is optional.

It is worth to notice that in beamer the basic container is **frame**. Frame is not exactly equivalent of slide, one frame may contain more than one slides.

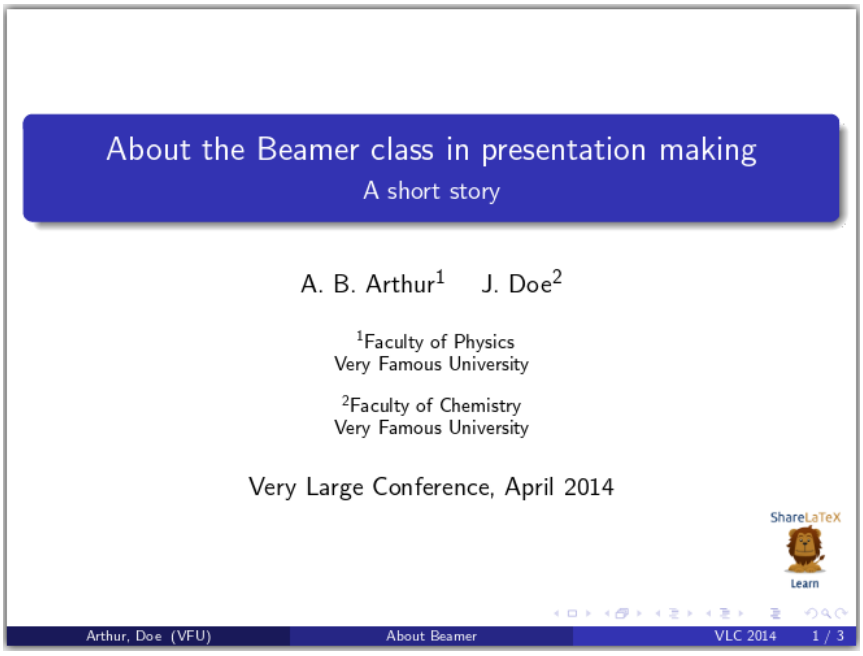
Beamer main features:

Beamer class offers some useful features to bring your presentation to life and make it more attractive. The most important ones are listed below.

The title page:

There are some more options for the title page than the ones presented in the introduction. The next example is a complete one, most of the commands are optional.

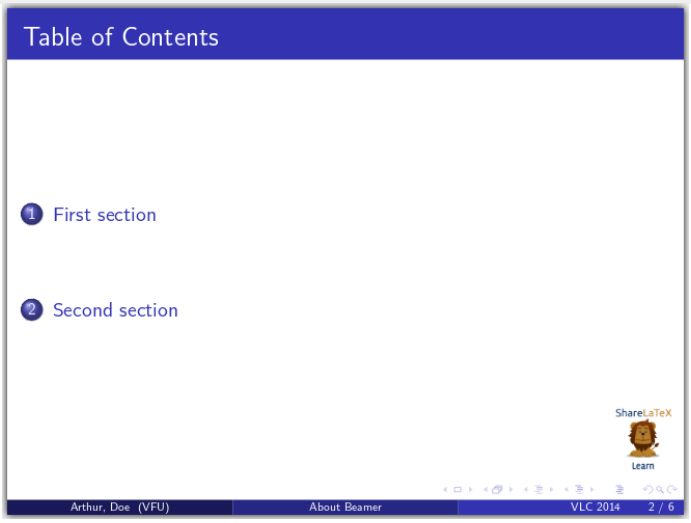
```
\title[About Beamer] %optional
{About the Beamer class in presentation making}

\subtitle{A short story}

\author[Arthur, Doe] % (optional, for multiple authors)
{A.~B.~Arthur\inst{1} \and J.~Doe\inst{2}}

\institute[VFU] % (optional)
{
  \inst{1}%
  Faculty of Physics\\
  Very Famous University
  \and
  \inst{2}%
  Faculty of Chemistry\\
  Very Famous University
}

\date[VLC 2013] % (optional)
{Very Large Conference, April 2013}

\logo{\includegraphics[height=1.5cm]{lion-logo.png}}
```



Creating a table of contents:

Usually when you have a long presentation, it's convenient to divide it into sections or even subsections. If this is the case, it's also recommended to add a table of contents at the beginning of the document. Below is an example of how to do it:

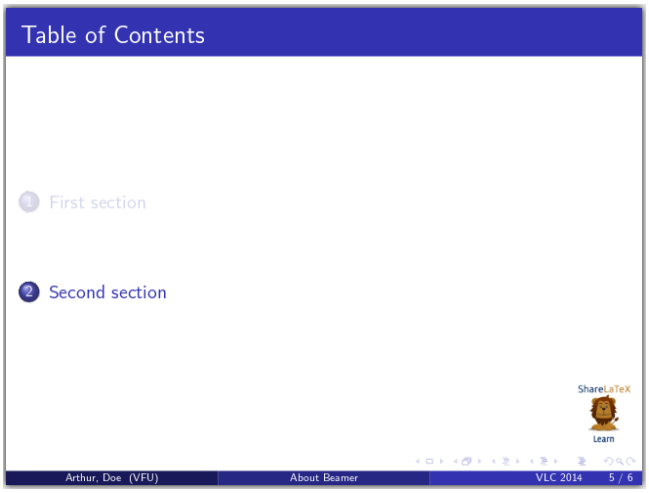
```
\begin{frame}
\frametitle{Table of Contents}
\tableofcontents
\end{frame}
```



As you see, is simple. Inside the *frame* environment you set the title and add the command `\titlepage`.

It's also possible to put the table of contents at the beginning of each section and highlight the title of the current section. Just add the code below to the ***preamble*** of your LaTeX document:

```
\AtBeginSection[]
{
  \begin{frame}
    \frametitle{Table of Contents}
    \tableofcontents[currentsection]
  \end{frame}
}
```



If you use `\AtBeginSubsection[]` instead of `\AtBeginSection[]` the table of contents will appear at the beginning of each subsection.

Adding effects to a presentation:

In the introduction was presented a simple slide using the `\begin{frame} \ end{frame}` delimiters. It was mentioned that *frame* is not equivalent to *slide*, the next example will illustrate why, by adding some cool effects to the slideshow.

```
\begin{frame}
\frametitle{Sample frame title}
This is a text in second frame.
For the sake of showing an example.

\begin{itemize}
 \item<1-> Text visible on slide 1
 \item<2-> Text visible on slide 2
 \item<3> Text visible on slide 3
 \item<4-> Text visible on slide 4
\end{itemize}

\end{frame}
```

In the final PDF file this code will generate 4 slides. This is intended to provide a visual effect in the presentation.
In the code there's a list, declared by the `\begin{itemize} \end{itemize}` commands, and next to each `item` is a number enclosed in two special characters: `< >`. This will determine in which slide the element will appear, if you append a `-` at the end of the number, the *item* will be shown in that and the subsequent slides of the current **frame**, otherwise it will appear only in that slide. Check the animation for a better understanding of this.

The effects can be applied to a any type of text, not only to the *itemize* environment.

There's a second command whose behaviour is similar, but it's simpler since you don't have to specify the slides where the the text will be unveiled.

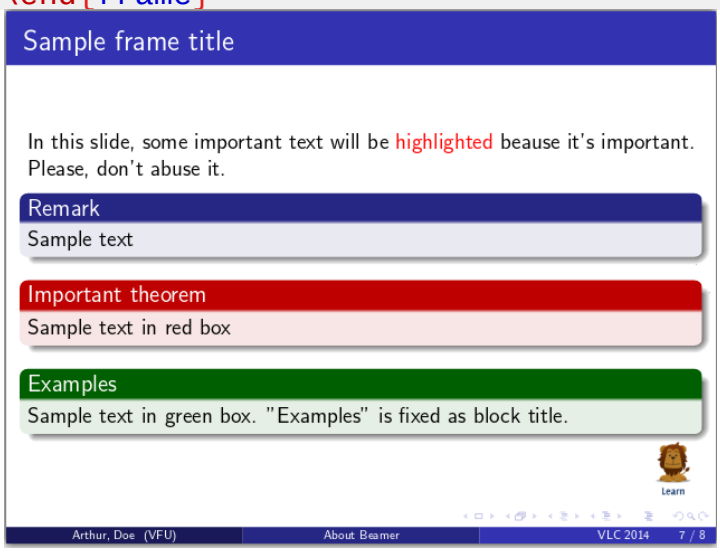
```
{
\begin{frame}
 In this slide \pause
```

```
 the text will be partially visible \pause

 And finally everything will be there
\end{frame}
}
```

This code will generate three slides to add a visual effect to the presentation. `\pause` will prevent the text below this point and above the next `\pause` declaration to appear in the current slide.

HIGHLITING TEXT IN SLIDES:

```
\begin{frame}
\frametitle{Sample frame title}

In this slide, some important text will be
\alert{highlighted} beause it's important.
Please, don't abuse it.

\begin{block}{Remark}
Sample text
\end{block}

\begin{alertblock}{Important theorem}
Sample text in red box
\end{alertblock}

\begin{examples}
Sample text in green box. "Examples" is fixed as block title.
\end{examples}
\end{frame}
```



If you want to highlight a word or a phrase within a paragraph, the command `\alert{}` will change the stile of the word inside the braces. The way the highlighted text will look depends on the theme you are using.

To highlight a paragraph with, concepts, definitions, theorems or examples; the best option is to put it inside a box. There are three types of boxes and is up to you to decide which one better fits in your presentation. Below a description of the commands:

Themes and colorthemes:

To use a different themes in your slideshow is really easy.

`\usetheme{Madrid}`

Below are are two more examples:

The themes can be combined with a **colortheme**. This changes the colour used for different elements.

```
\documentclass{beamer}
\usepackage[utf8]{inputenc}
\usetheme{Madrid}
\usecolortheme{beaver}
```

You must put the `\usecolortheme` statement below the `\usetheme` command.