Presentation with beamer class

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April 23, 2020

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4. Do not feel afraid to change the structure later on as you work on the talk.

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4. Do not feel afraid to change the structure later on as you work on the talk.

In this presentation you will find some tips for using columns and overlays.

Creating columns

The beamer class offers several commands and environments for splitting (perhaps only part of) a frame into multiple columns. These commands have nothing to do with LaTeX's commands for creating columns.

Columns are especially useful for placing a graphic next to a description/explanation.

The main environment for creating columns is called `columns`. Inside this environment, you can either place several column environments, each of which creates a new column, or use the `\column` command to create new columns.

```
\begin{columns}[<options>]
 environment content
\end{columns}
```

The following `<options>` may be given:

- b will cause the bottom lines of the columns to be vertically aligned.
- c will cause the columns to be centered vertically relative to each other. Default, unless the global option t is used.
- t will cause the first lines of the columns to be aligned. Default if global option t is used.
- T is similar to the t option, but T aligns the tops of the first lines while t aligns the so-called baselines of the first lines.
- t `totalwidth=<width>` will cause the columns to occupy not the whole page width, but only `<width>`, all told. Note that this means that any margins are ignored.

Demo – columns

The syntax (for two columns on a slide) is the following

```
\begin{columns}[<options>]
  \begin{column}{.45\textwidth}  % you can also say 5cm
    text content
  \end{column}
  \begin{column}[b]{.45\textwidth}
    text content
  \end{column}
\end{columns}
```

Three columns with option b

Mathematicians prepare presentations primarily for conferences, but you can also prepare a lecture in the form of presentations for students.

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Three columns with option t

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Three columns with option c – default

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Three columns with option T

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Summary

You have noticed that if you want to have a picture in one of the columns, do not use the option t. In this case use only T.

By using columns you can enhance your presentation. It will be more readable and interesting.

Creating layers

\pause

If you say \pause somewhere in a frame, only the text on the frame up to the \pause command is shown on the first slide. On the second slide, everything is shown up to the second \pause, and so forth. You can also use \pause inside environments; its effect will last after the environment.

Creating layers

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However, taking this to extremes and using \pause deeply within a nested environment may not have the desired result.

Creating layers

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However, taking this to extremes and using \pause deeply within a nested environment may not have the desired result.

You can use \pause also for columns to show first column and after a while second one.

```
\begin{block}{}
......
\end{block}
\pause
\begin{block}{}
......
\end{block}
\pause
\begin{block}{}
......
\end{block}
```

```
\begin{block}{}
......
\end{block}
\pause
\begin{block}{}
......
\end{block}
\pause
\begin{block}{}
......
\end{block}
```

```
\begin{columns}[<options>]
  \begin{column}{.45\textwidth}
    text content
  \end{column}
 \pause
  \begin{column}[b]{.45\textwidth}
    picture
  \end{column}
\end{columns}
```

The syntax of (basic) overlay specifications is the following:

- They are comma-separated lists of slides and ranges.
- Ranges are specified like this: 2-5, which means slide two through to five.
- The start or the end of a range can be omitted.
- For example, 3- means “slides three, four, five, and so on” and -5 means the same as 1-5.

For the following commands, adding an overlay specification causes the command to be simply ignored on slides that are not included in the specification:

```
\textbf, \textit, \textsl, \textrm,
\textsf, \color,\alert, \structure
```

If a command takes several arguments, like `\color`, the specification should directly follow the command as in the following example (but there are exceptions to this rule):

```
\color<2-3>[rgb]{1,0,0}{This text is red on slides 2 and 3,
 otherwise black.}
```

```
\textbf<1-2>{This text will be bold on slide 1 and 2
 but on slide 2 it will also be red.}
```

This text is red on slides 2 and 3, otherwise black.

This text will be bold on slide 1 and 2 but on slide 2 it will also be red.

This text is red on slides 2 and 3, otherwise black.

This text will be bold on slide 1 and 2 but on slide 2 it will also be red.

This text is red on slides 2 and 3, otherwise black.
This text will be bold on slide 1 and 2 but on slide 2 it will also be red.

We can also show one by one items from the lists in all environments (enumerate, itemize, description and more lists). It works like that:

1. First point, shown on all slides.

This will be shown in all slides.

```
\begin{enumerate}
\item<1-> First point, shown on all slides.
\item<2-> Second point, shown on slide 2 and later.
\item<2-> Third point, also shown on slide 2 and later.
\item<3-> Fourth point, shown on slide 3.
\end{enumerate}
```

We can also show one by one items from the lists in all environments (enumerate, itemize, description and more lists). It works like that:

1. First point, shown on all slides.
2. Second point, shown on slide 2 and later.
3. Third point, also shown on slide 2 and later.

This will be shown in all slides.

```
\begin{enumerate}
\item<1-> First point, shown on all slides.
\item<2-> Second point, shown on slide 2 and later.
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\item<3-> Fourth point, shown on slide 3.
\end{enumerate}
```

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1. First point, shown on all slides.
2. Second point, shown on slide 2 and later.
3. Third point, also shown on slide 2 and later.
4. Fourth point, shown on slide 3.

This will be shown in all slides.

```
\begin{enumerate}
\item<1-> First point, shown on all slides.
\item<2-> Second point, shown on slide 2 and later.
\item<2-> Third point, also shown on slide 2 and later.
\item<3-> Fourth point, shown on slide 3.
\end{enumerate}
```

Demo – layers – \only

\only< 1 >

Mathematicians prepare presentations primarily for conferences, but you can also prepare a lecture in the form of presentations for students.

```
\only<1>{
\begin{block}{}
Overlay specifications can only be written behind certain
commands, not every command.
\end{block}}
```

Demo – layers – \only

\only< 2 >

In this case, student's interest in the subject of the lecture is important and it is easier for them to assimilate its content.

```
\only<1>{
\begin{block}{}
Overlay specifications can only be written behind certain
commands, not every command.
\end{block}}
```

Demo – layers – \only

\only< 3 >

Overlay specifications can only be written behind certain commands, not every command.

```
\only<1>{
\begin{block}{}
Overlay specifications can only be written behind certain
commands, not every command.
\end{block}}
```

Demo – layers – \visible

\visible< 1 >

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Demo – layers – \visible

\visible< 2 >

In this case, student's interest in the subject of the lecture is important and it is easier for them to assimilate its content.

Demo – layers – \visible

\visible< 1 >

Mathematicians prepare presentations primarily for conferences, but you can also prepare a lecture in the form of presentations for students.

This text is red on slide 2, otherwise black.

Demo – layers – \visible

\visible< 2 >

In this case, student's interest in the subject of the lecture is important and it is easier for them to assimilate its content.

This text is red on slide 2, otherwise black.

Demo – layers – \onslide

Shown on first slide.

Shown on all slides.

Demo – layers – \onslide

Shown on first slide. Shown on second, third and forth slide.

Shown on all slides.

Demo – layers – \onslide

Shown on first slide. Shown on second, third and forth slide.

- Shown only on third slide.

Shown on all slides.

Demo – layers – \onslide

Shown on first slide. Shown on second, third and forth slide.

- Shown from slide 4 on.

Shown from slide 4 on. Shown on all slides.

How it works?

\visible

```
\visible<1>{Shown only on first slide.}
\visible<2>{Shown only on second slide.}
\color<2>[rgb]{1,0,0} This text is red on slide 2,
 otherwise black.
```

How it works?

\onslide

```
Shown on first slide.
\onslide<2->
Shown on second, third and forth slide.
\begin{itemize}
\item<3>
Shown only on third slide.
\onslide+<4->
\item
Shown from slide 4 on.
\end{itemize}
Shown from slide 4 on.
\onslide
Shown on all slides.
```