

## Beamer overlays beyond the `\visible`

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Last year, I looked at the `beamer` overlay concept with relative slide specifications to produce dynamic slide structures (Wright, 2014). Prompted by a question on `TEX Stack Exchange` (‘Tarass’, 2014), here I’m going to look at a related area: action keywords.

The ‘standard’ `beamer` overlay system does the same thing as the `\visible` command: makes things appear and disappear, but always keeps space for them on the slide. However, `beamer` also provides `\only`, which completely omits items not visible on a slide. So the question was how to combine this idea with the general overlay concept.

It turns out that this is quite straightforward if you know what to look for. The standard `beamer` overlay syntax, for example

```
\item<+-->
```

supports the inclusion of an action type to specify what the overlay should do. That action is given as a keyword and an `@` before the overlay number(s). So, for example

```
\begin{itemize}
  \item First item
  \item<only@1> Second item
  \item<only@2> Replacement second item
  ...

```

will show `Second item` on the first slide and then replace it entirely with `Replacement second item` on the second slide. That approach can be combined with the idea of relative slide specifications, as I talked about before, to give something like

```
\documentclass{beamer}
\begin{document}
  \begin{frame}
    \begin{itemize}[<+-->]
      \item item 1
      \item item 2
      \item<only@+-.(2)> item 3
      \item item 4
      \item item 5
    \end{itemize}

  \end{frame}
\end{document}
```

to have the ‘normal’ items appear one at a time but with item 3 only on slides 3 and 4.

This doesn’t just apply to `only`: other keywords that work here include `visible` and `alert`. The latter tends to be seen with another syntax element;

namely, `|` to separate out appearance from a second action. A classic example of that is

```
\documentclass{beamer}
\begin{document}
  \begin{frame}
    \begin{itemize}[<+-->]
      \item item 1
      \item item 2
      \item<+--|alert@+(1)> item 3
      \item item 4
      \item item 5
    \end{itemize}
  \end{frame}
\end{document}
```

where item 3 appears on the third slide and is highlighted on the fourth one. (Note that both `+` substitutions in this line use the same value for the pause counter, hence needing the `(1)` offset.) That’s useful even without the ‘one at a time’ effect, for example

```
\documentclass{beamer}
\begin{document}
  \begin{frame}
    \begin{itemize}
      \item item 1
      \item item 2
      \item<alert@+(1)> item 3
      \item item 4
      \item item 5
    \end{itemize}
  \end{frame}
\end{document}
```

highlighting the item on the second slide.

A bit of imagination with this syntax can cover almost any appearance/disappearance/highlight requirement. As I said before: the key thing is not to overdo it!

## References

- ‘Tarass’. “Beamer: including items only some slides using a relative syntax”. [tex.stackexchange.com/q/205625](http://tex.stackexchange.com/q/205625), 2014.
- Wright, Joseph. “The `beamer` class: Controlling overlays”. *TUGboat* **35**, 31–33, 2014. [tug.org/TUGboat/35-1/tb109wright.pdf](http://tug.org/TUGboat/35-1/tb109wright.pdf).

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