

Documents and presentations with org-mode

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0.1 The Emacs series

This is fifth in a series on Emacs and org-mode.

This blog post was generated from an org-mode source and is available as: a blog page, slides (PDF format), and a PDF document.

1 About org-mode exporting

1.1 Background

org-mode isn't just an agenda-making program. It can also export to lots of formats: L^AT_EX, PDF, Beamer, iCalendar (agendas), HTML, Markdown, ODT, plain text, man pages, and more complicated formats such as a set of web pages.

This isn't just some afterthought either; it's a core part of the system and integrates very well.

One file can be source code, automatically-generated output, task list, documentation, and presentation, all at once.

Some use org-mode as their preferred markup format, even for things like L^AT_EX documents. The org-mode manual has an extensive section on exporting.

1.2 Getting started

From any org-mode document, just hit `C-c C-e`. From there will come up a menu, letting you choose various export formats and options. These are generally single-key options so it's easy to set and execute. For instance, to export a document to a PDF, use `C-c C-e 1 p` or for HTML export, `C-c C-e h h`.

There are lots of settings available for all of these export options; see the manual. It is, in fact, quite possible to use L^AT_EX-format equations in both L^AT_EX and HTML modes, to insert arbitrary preambles and settings for different modes, etc.

1.3 Add-on packages

ELPA contains many addition exporters for org-mode as well. Check there for details.

2 Beamer slides with org-mode

2.1 About Beamer

Beamer is a L^AT_EX environment for making presentations. Its features include:

- Automated generating of structural elements in the presentation (see, for example, the Marburg theme). This provides a visual reference for the audience of where they are in the presentation.
- Strong help for structuring the presentation
- Themes
- Full L^AT_EX available

2.2 Benefits of Beamer in org-mode

org-mode has a lot of benefits for working with Beamer. Among them:

- org-mode's very easy and strong support for visualizing and changing the structure makes it very quick to reorganize your material.
- Combined with org-babel, live source code (with syntax highlighting) and results can be embedded.
- The syntax is often easier to work with.

I have completely replaced my usage of LibreOffice/Powerpoint/GoogleDocs with org-mode and beamer. It is, in fact, rather frustrating when I have to use one of those tools, as they are nowhere near as strong as org-mode for visualizing a presentation structure.

2.3 Headline Levels

org-mode's Beamer export will convert sections of your document (defined by headings) into slides. The question, of course, is: *which* sections? This is governed by the H export setting (`org-export-headline-levels`).

There are many ways to go, which suit people. I like to have my presentation like this:

```
#+OPTIONS: H:2
#+BEAMER_HEADER: \AtBeginSection{\frame{\sectionpage}}
```

This gives a standalone section slide for each major topic, to highlight major transitions, and then takes the level 2 (two asterisks) headings to set the slide. Many Beamer themes expect a third level of indirection, so you would set H:3 for them.

2.4 Themes and settings

You can configure many Beamer and L^AT_EX settings in your document by inserting lines at the top of your org file. This document, for instance, defines:

```
#+TITLE: Documents and presentations with org-mode
#+AUTHOR: John Goerzen
#+BEAMER_HEADER: \institute{The Changelog}
#+PROPERTY: comments yes
#+PROPERTY: header-args :exports both :eval never-export
#+OPTIONS: H:2
#+BEAMER_THEME: CambridgeUS
#+BEAMER_COLOR_THEME: default
```

2.5 Advanced settings

I like to change some colors, bullet formatting, and the like. I round out my document with:

```
# We can't just +BEAMER_INNER_THEME: default because that picks the theme default.
# Override per https://tex.stackexchange.com/questions/11168/change-bullet-style-formatting-
#+BEAMER_INNER_THEME: default
#+LaTeX_CLASS_OPTIONS: [aspectratio=169]
#+BEAMER_HEADER: \definecolor{links}{HTML}{0000A0}
#+BEAMER_HEADER: \hypersetup{colorlinks=,linkcolor=,urlcolor=links}
#+BEAMER_HEADER: \setbeamertemplate{itemize items}[default]
#+BEAMER_HEADER: \setbeamertemplate{enumerate items}[default]
#+BEAMER_HEADER: \setbeamertemplate{items}[default]
#+BEAMER_HEADER: \setbeamercolor*{local structure}{fg=darkred}
#+BEAMER_HEADER: \setbeamercolor{section in toc}{fg=darkred}
#+BEAMER_HEADER: \setlength{\parskip}{\smallskipamount}
```

Here, `aspectratio=169` sets a 16:9 aspect ratio, and the remaining are standard \LaTeX /Beamer configuration bits.

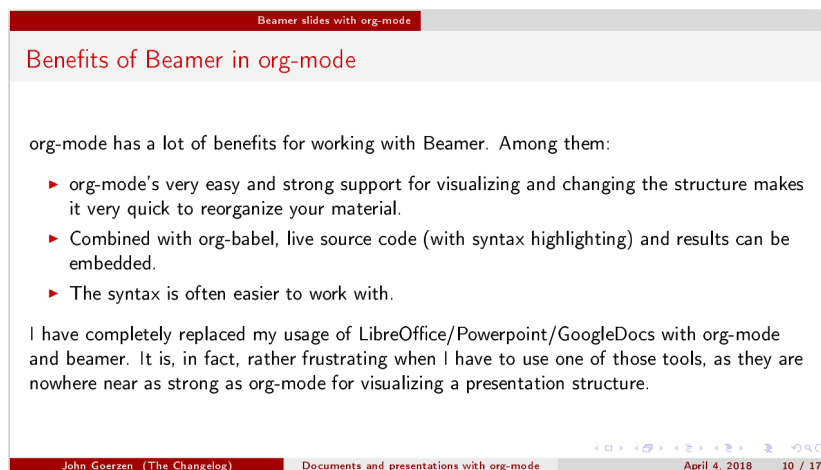
2.6 Shrink (to fit)

Sometimes you've got some really large code examples and you might prefer to just shrink the slide to fit.

Just type `C-c C-x p`, set the `BEAMER_opt` property to `shrink=15`.
(Or a larger value of shrink). The previous slide uses this here.

2.7 Result

Here's the end result:



The screenshot shows a Beamer presentation slide. The title bar at the top is red and says "Beamer slides with org-mode". The slide title is "Benefits of Beamer in org-mode" in red. The main content area has a light gray background and contains the following text:

org-mode has a lot of benefits for working with Beamer. Among them:

- ▶ org-mode's very easy and strong support for visualizing and changing the structure makes it very quick to reorganize your material.
- ▶ Combined with org-babel, live source code (with syntax highlighting) and results can be embedded.
- ▶ The syntax is often easier to work with.

I have completely replaced my usage of LibreOffice/Powerpoint/GoogleDocs with org-mode and beamer. It is, in fact, rather frustrating when I have to use one of those tools, as they are nowhere near as strong as org-mode for visualizing a presentation structure.

The footer of the slide is red and contains the following information:

John Goerzen (The Changelog) Documents and presentations with org-mode April 4, 2018 10 / 17

3 Interactive Slides

3.1 Interactive Emacs Slideshows

With the `org-tree-slide` package, you can display your slideshow from right within Emacs. Just run `M-x org-tree-slide-mode`. Then, use `C->` and `C-<` to move between slides.

You might find `C-c C-x C-v` (which is `org-toggle-inline-images`) helpful to cause the system to display embedded images.

3.2 HTML Slideshows

There are a lot of ways to export org-mode presentations to HTML, with various levels of JavaScript integration. See the non-beamer presentations section of the org-mode wiki for details.

4 Miscellaneous

4.1 Additional resources to accompany this post

- orgmode.org beamer tutorial
- [L^AT_EX](http://www.latex-project.org) wiki
- Generating section title slides
- Shrinking content to fit on slide
- A **great** resource: refcard-org-beamer
 - See its Github repo
 - Make sure to check out both the PDF and the .org file
- A nice Theme matrix

4.2 Up next in my Emacs series...

mu4e for email!