The **moloch** package (v0.5.0)

Johan Larsson   Matthias Vogelgesang[*]

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Contents

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[*]Matthias wrote the original version of this manual for the Metropolis theme, which has since been modified by Johan Larsson.

1 Introduction

Beamer is a great way to make presentations with LaTeX, but its theme selection is surprisingly sparse. The stock themes share an aesthetic that can be a little cluttered, while the few distinctive custom themes available are often specialized for a particular corporate or institutional brand.

The goal of moloch is to provide a simple, modern Beamer theme suitable for anyone to use. It tries to minimize noise and maximize space for content; the only visual flourish it offers is an (optional) progress bar added to each slide or to the section slides.

moloch's codebase is maintained at https://github.com/jolars/moloch. If you have any issues, find mistakes in the manual or want to help make the theme even better, please get in touch there.

moloch is a fork of the popular Metropolis theme by Matthias Vogelgesang. The motivation for the fork was to fix some longstanding bugs in Metropolis and also simplify the codebase to make it easier to maintain and less fragile to changes in the underlying Beamer code.

2 Getting Started

2.1 Installing from CTAN

For most users, we recommend installing moloch from CTAN. If you keep your TeX distribution up-to-date, chances are good that moloch is already installed. If it is not, you need to update your packages. If your distribution is TeX Live (or MacTeX on OS X), the following command updates all packages.

```
tlmgr update --all
```

If this results in an error, you may need to run it with administrative privileges:

```
sudo tlmgr update --all
```

MacTeX on OS X also provides a graphical interface for `tlmgr` called TeX Live Utility.

For any other distribution please refer to its documentation on how to update your packages.

2.2 Installing from Source

If you want to use the development version of moloch, you can install it manually. You only need a recent LaTeX distribution which includes **l3build**. Then simply follow the steps below.

Download the source with a `git clone` of https://github.com/jolars/moloch

Install the package by running `l3build install` inside the downloaded directory.

2.3 A Minimal Example

The following code shows a minimal example of a Beamer presentation using moloch.

```
\documentclass{beamer}
\usetheme{moloch}
\title{A Minimal Example}
\date{\today}
\author{Johan Larsson}
\institute{Some University}
\begin{document}
  \maketitle
  \section{First Section}
  \begin{frame}{First Frame}
    Hello, world!
  \end{frame}
\end{document}
```

2.4 Dependencies

moloch depends on the `beamer` class and the following standard packages:

- `tikz`
- `pgfopts`
- `etoolbox`
- `calc`

2.5 Pandoc

To use this theme with Pandoc-based presentations, you can run the following command

```
$ pandoc -t beamer -V theme:moloch -o output.pdf input.
    md
```

3   Customization

3.1   Package options

The theme provides a number of options, which can be set using a key=value
interface. The primary way to set options is to provide a comma-separated list of
option-value pairs when loading moloch in the preamble:

```
\usetheme[option1=value1, option2=value2, ...]{moloch}
```

Options can be changed at any time—even mid-presentation—with the `\molochset`
macro.

```
\molochset{option1=newvalue1, option2=newvalue2, ...}
```

The list of options is structured as shown in the following example.

option key *list of possible values* . . . . default

A short description of the option.

3.1.1   Main theme

titleformat *regular, smallcaps, allsmallcaps, allcaps* . . . . regular

Changes the format of titles, subtitles, section titles, frame titles, and the text on
"standout" frames. The available options produce Regular, SMALLCAPS, ALLS-
MALLCAPS, or ALLCAPS titles. Note that these commands do not affect math
and numbers, so may not work as you expect if your titles contain these.

titleformat plain *regular, smallcaps, allsmallcaps, allcaps* . . . . regular

Changes the format of "standout" frames (see `titleformat`, above).

3.1.2   Inner theme

sectionpage *none, simple, progressbar* . . . . progressbar

Adds a slide at the start of each section (`simple`) with an optional thin progress
bar below the section title (`progressbar`). The `none` option disables the section
page.

subsectionpage *none, simple, progressbar* . . . . none

Optionally adds a slide at the start of each subsection. If enabled with the `simple` or `progressbar` options, the style of the `section page` will be updated to match the style of the `subsection page`. Note that section slides and subsection slides can appear consecutively if both are enabled; you may want to use this option together with `sectionpage=none` depending on the section structure of your presentation.

3.1.3 Outer theme

numbering *none, counter, fraction* . . . .

This option is deprecated and will be removed in a future version. Please use Beamer's `page number in head/foot` template instead. Controls whether the frame number at the bottom right of each slide is omitted (`none`), shown (`counter`) or displayed as a fraction of the total number of frames (`fraction`).

progressbar *none, head, frametitle, foot* . . . . none

Optionally adds a progress bar to the top of each frame (`head`), the bottom of each frame (`foot`), or directly below each frame title (`frametitle`).

3.1.4 Color theme

block *transparent, fill* . . . . transparent

Optionally adds a light grey background to block environments like `theorem` and `example`.

background *dark, light* . . . . light

Provides the option to have a dark background and light foreground instead of the reverse.

3.1.5 Font theme

titleformat title *regular, smallcaps, allsmallcaps, allcaps* . . . . regular
titleformat subtitle
titleformat section Individually controls the format of titles, subtitles, section titles, and frame titles (see `titleformat`, above).
titleformat frame

3.2 Color Customization

The included moloch color theme is used by default, but its colors can be easily changed to suit your tastes. All of the theme's styles are defined in terms of three

beamer colors:

- `normal text` (dark fg, light bg)
- `alerted text` (colored fg, should be visible against dark or light)
- `example text` (colored fg, should be visible against dark or light)

An easy way to customize the theme is to redefine these colors using

```
\setbeamercolor{ ... }{ fg= ... , bg= ... }
```

in your preamble. For greater customization, you can redefine any of the other stock beamer colors. In addition to the stock colors the theme defines a number of moloch specific colors, which can also be redefined to your liking.

```
\setbeamercolor{progress bar}{ ... }
\setbeamercolor{title separator}{ ... }
\setbeamercolor{progress bar in head/foot}{ ... }
\setbeamercolor{progress bar in section page}{ ... }
```

For low-light situations moloch it might be helpful to use the `moloch-highcontrast` color theme. It is enabled like any other color theme:

```
\usecolortheme{moloch-highcontrast}
```

3.3   Commands

3.3.1   Standout frames

The moloch inner theme offers a custom frame format with large, centered text and an inverted background—perfect for focusing attention on single sentence or image. To use it, add the key `standout` to the frame:

```
\begin{frame}[standout]
    Thank you!
\end{frame}
```

4   Known Issues

4.1   Title Formats

Be aware that not every font supports small caps, so the `smallcaps` or `allsmallcaps` options may not work for all fonts. In particular, the Computer Modern sans-serif

typeface, which is used by default when moloch is compiled with pdfLaTeX, does not have a small-caps variant.

Note that title format options `allsmallcaps` and `allcaps` do not affect the sizes of numerals, punctuation, and math symbol, and are probably best avoided if your titles contain these characters.

4.2   Interactions with other color themes

moloch can be used along with any other Beamer color theme, such as `crane` or `seahorse`. If you wish to do this, it is usually best to include the moloch subpackages individually so the moloch color theme is never loaded. This will prevent conflicts between the moloch color theme and your preferred theme.

For example, overriding the color theme as follows may not work as expected because \usetheme{moloch} loads the moloch color theme, which defines a relationship between the frametitle background and the primary palette of the theme. Since `seahorse` assumes a different relationship between its palettes, the result is a grey, rather than periwinkle, frametitle background.

```
\usetheme{moloch}
\usecolortheme{seahorse}
```

The correct colors are chosen if the moloch outer, inner, and font themes are loaded seperately:

```
\useoutertheme{moloch}
\useinnertheme{moloch}
\usefonttheme{moloch}
\usecolortheme{seahorse}   % or your preferred color
    theme
```

Please note that moloch may not use all the colors defined in your favourite Beamer color theme. In particular, moloch does not set a background color for the title; this will cause issues when using color themes like `whale` which set a white foreground for the title.

4.3   Notes on second screen

If you use the `[show notes on second screen]` option built in to Beamer and compile with X⤳LaTeX, text on slides following the first section slide may be rendered in white instead of the regular colour. This is due to a bug in Beamer or

X_ƎL^AT_EX itself. You can work around it either by compiling with LuaT_EX or by adding the following code to your preamble to reset the text color on each slide.

```
\makeatletter
\def\beamer@framenotesbegin{% at beginning of slide
    \usebeamercolor[fg]{normal text}
     \gdef\beamer@noteitems{}%
     \gdef\beamer@notes{}%
}
\makeatother
```

4.4   Standout frames with labels

Because the `standout` frame option creates a group to restrict the colour change to a single slide, labels defined after calling `standout` will stay local to the group. In other words, the following may result in a "label undefined" error.

```
\begin{frame}[standout, label=conclusion]{Conclusion}
  Awesome slide
\end{frame}
```

To fix this problem, change the order of the keys in the frame.

```
\begin{frame}[label=conclusion, standout]{Conclusion}
    Awesome slide
\end{frame}
```

This error can be unwittingly triggered if you export your slides from Emacs Org mode, which automatically adds labels after frame options. Alex Branham offers the following solution for Org mode users, using `org-set-property`.

```
* Start of a frame
  :PROPERTIES:
  :BEAMER_opt: label=conclusion,standout
  :END:
```

4.5   Standout frames with Pandoc

With Pandoc versions prior to 1.17.2 it was not possible to create standout frames because Pandoc only supported a specific list of frame attributes thus ignoring

additional attributes such as `{.standout}`.

5 License

moloch is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. This means that if you change the theme and re-distribute it, you must retain the copyright notice header and license it under the same CC-BY-SA license. This does not affect any presentations that you create with the theme.

6 Implementation

6.1 moloch parent theme

The primary job of this package is to load the component sub-packages of the moloch theme and route the theme options accordingly. It also provides some custom commands and environments for the user.

6.1.1 Package dependencies

```
1 \RequirePackage{pgfopts}
```

6.1.2 Options

Most options are passed off to the component sub-packages.

```
2 \pgfkeys{/moloch/.cd,
3   .search also={
4       /moloch/inner,
5       /moloch/outer,
6       /moloch/color,
7       /moloch/font,
8     }
9 }
```

titleformat plain Controls the formatting of the text on standout "plain" frames.

```
10 \pgfkeys{
11   /moloch/titleformat plain/.cd,
12   .is choice,
13   regular/.code={%
14       \let\moloch@plaintitleformat\@empty%
15       \setbeamerfont{standout}{shape=\normalfont}%
16     },
17   smallcaps/.code={%
```

```
18        \let\moloch@plaintitleformat\@empty%
19        \setbeamerfont{standout}{shape=\scshape}%
20      },
21    allsmallcaps/.code={%
22        \let\moloch@plaintitleformat\MakeLowercase%
23        \setbeamerfont{standout}{shape=\scshape}%
24      },
25    allcaps/.code={%
26        \let\moloch@plaintitleformat\MakeUppercase%
27        \setbeamerfont{standout}{shape=\normalfont}%
28      },
29 }
```

titleformat Sets a standard format for titles, subtitles, section titles, frame titles, and the text
on standout "plain" frames.

```
30 \pgfkeys{
31   /moloch/titleformat/.code=\pgfkeysalso{
32     font/titleformat title=#1,
33     font/titleformat subtitle=#1,
34     font/titleformat section=#1,
35     font/titleformat frame=#1,
36     titleformat plain=#1,
37   }
38 }
```

Set default values for options.

```
39 \newcommand{\moloch@setdefaults}{
40   \pgfkeys{/moloch/.cd,
41     titleformat plain=regular,
42   }
43 }
```

To avoid generating externalized figures of the progressbar we have to disable
them with "tikzexternalenable" and "tikzexternaldisable". However, if the "ex-
ternal" libray is not loaded we would get undefined control sequence problems,
hence we define them as no-ops if they are not defined yet. We do the same for
the "mmzUnmemoizable" command from the memoize package, in order to avoid
memoization of the progress bars.

```
44 \providecommand{\tikzexternalenable}{}
45 \providecommand{\tikzexternaldisable}{}
46 \providecommand{\mmzUnmemoizable}{}
```

6.1.3 Component sub-packages

Having processed the options, we can now load the component sub-packages of the theme.

```
47 \useinnertheme{moloch}
48 \useoutertheme{moloch}
49 \usecolortheme{moloch}
50 \usefonttheme{moloch}
```

6.1.4 Custom commands

The parent theme defines custom commands as their proper usage may depend on multiple sub-packages.

\molochset Allows the user to change options midway through a presentation.

```
51 \newcommand{\molochset}[1]{\pgfkeys{/moloch/.cd,#1}}
```

\mreducelistspacing

```
52 \newcommand{\mreducelistspacing}{\vspace{-\topsep}}
```

6.1.5 Process package options

```
53 \moloch@setdefaults
54 \ProcessPgfOptions{/moloch}
```

6.2 moloch inner theme

A beamer inner theme dictates the style of the frame elements traditionally set in the "body" of each slide. These include:

- title, part, and section pages;
- itemize, enumerate, and description environments;
- block environments including theorems and proofs;
- figures and tables; and
- footnotes and plain text.

6.2.1 Package dependencies

```
55 \RequirePackage{keyval}
56 \RequirePackage{calc}
57 \RequirePackage{pgfopts}
58 \RequirePackage{tikz}
```

6.2.2 Options

sectionpage Optionally add a slide marking the beginning of each section.

```
59 \pgfkeys{
60   /moloch/inner/sectionpage/.cd,
61   .is choice,
62   none/.code=\moloch@disablesectionpage,
63   simple/.code={%
64       \moloch@enablesectionpage%
65       \setbeamertemplate{section page}[simple]%
66     },
67   progressbar/.code={%
68       \moloch@enablesectionpage%
69       \setbeamertemplate{section page}[progressbar]%
70     },
71 }
```

subsectionpage Optionally add a slide marking the beginning of each subsection.

```
72 \pgfkeys{
73   /moloch/inner/subsectionpage/.cd,
74   .is choice,
75   none/.code=\moloch@disablesubsectionpage,
76   simple/.code={%
77       \moloch@enablesubsectionpage%
78       \setbeamertemplate{section page}[simple]%
79     },
80   progressbar/.code={%
81       \moloch@enablesubsectionpage%
82       \setbeamertemplate{section page}[progressbar]%
83     },
84 }
```

\moloch@inner@setdefaults Set default values for inner theme options.

```
85 \newcommand{\moloch@inner@setdefaults}{
86   \pgfkeys{/moloch/inner/.cd,
87     sectionpage=progressbar,
88     subsectionpage=none
89   }
90 }
```

6.2.3 Title page

title page Template for the title page. Each element is only typset if it is defined by the user. If \subtitle is empty, for example, it won't leave a blank space on the title slide.

```
91 \setbeamertemplate{title page}{
92   \begin{minipage}[b][\paperheight]{\textwidth}
93     \null%
94     \vfil%
95     \ifx\inserttitlegraphic\@empty\else\usebeamertemplate*{title graphic}\fi
96     \ifx\inserttitle\@empty\else\usebeamertemplate*{title}\fi
97     \ifx\insertsubtitle\@empty\else\usebeamertemplate*{subtitle}\fi
98     \usebeamertemplate*{title separator}
99     \expandafter\ifblank\expandafter{\beamer@andstripped}{}{%
100      \usebeamertemplate*{author}%
101    }
102    \ifx\insertinstitute\@empty\else\usebeamertemplate*{institute}\fi
103    \ifx\insertdate\@empty\else\usebeamertemplate*{date}\fi
104    \vfil%
105    \null
106  \end{minipage}%
107 }
```

Normal people should use \maketitle or \titlepage instead of using the title page beamer template directly. Beamer already defines these macros, but we patch them here to make the title page [plain] by default, remove \@thanks, and ensure the title frame number doesn't count.

\maketitle Inserts the title frame, or causes the current frame to use the title page template.
\titlepage

```
108 \def\maketitle{%
109   \ifbeamer@inframe
110     \titlepage
111   \else
112     \frame[plain,noframenumbering]{\titlepage}
113   \fi
114 }
115 \def\titlepage{%
116   \usebeamertemplate{title page}
117 }
```

title graphic Set the title graphic in a zero-height box, so it doesn't change the position of other elements.

```
118 \setbeamertemplate{title graphic}{
119   \inserttitlegraphic%
120   \par%
121   \vspace*{1em}
122 }
```

title Set the title on the title page.

```
123 \setbeamertemplate{title}{
124   \raggedright%
125   \moloch@titleformat{\inserttitle}%
126   \par%
127   \vspace*{0.2em}
128 }
```

subtitle Set the subtitle on the title page.

```
129 \setbeamertemplate{subtitle}{
130   \vspace*{0.1em}
131   \raggedright%
132   \moloch@subtitleformat{\insertsubtitle}%
133   \par%
134   \vspace*{0.2em}
135 }
```

title separator Template to set the title graphic in a zero-height box. (It won't change the position of other elements.)

```
136 \newlength{\moloch@titleseparator@linewidth}
137 \setlength{\moloch@titleseparator@linewidth}{0.4pt}
138 \setbeamertemplate{title separator}{
139   \tikzexternaldisable%
140   \begin{tikzpicture}
141     \mmzUnmemoizable%
142     \fill[fg] (0,0) rectangle (\textwidth, \moloch@titleseparator@linewidth);
143   \end{tikzpicture}%
144   \tikzexternalenable%
145   \par%
146   \vspace*{0.8em}
147 }
```

author Set the author on the title page.

```
148 \setbeamertemplate{author}{
149   \raggedright%
```

```
150    \insertauthor%
151    \par%
152    \vspace*{0.5em}
153 }
```

institute Set the institute on the title page.

```
154 \setbeamertemplate{institute}{
155    \insertinstitute%
156    \par%
157    \vspace*{1em}
158 }
```

date Set the date on the title page.

```
159 \setbeamertemplate{date}{
160    \insertdate%
161    \par%
162 }
```

6.2.4   Section page

section page Template for the section title slide at the beginning of each section.

```
163 \defbeamertemplate{section page}{simple}{
164    \begin{center}
165      \usebeamercolor[fg]{section title}
166      \usebeamerfont{section title}
167      \moloch@sectiontitleformat{\insertsectionhead}\par
168      \ifx\insertsubsectionhead\@empty\else
169        \usebeamercolor[fg]{subsection title}
170        \usebeamerfont{subsection title}
171        \insertsubsectionhead
172      \fi
173    \end{center}
174 }
175 \defbeamertemplate{section page}{progressbar}{
176    \centering
177    \begin{minipage}{0.7875\linewidth}
178      \raggedright
179      \usebeamercolor[fg]{section title}
180      \usebeamerfont{section title}
181      \moloch@sectiontitleformat{\insertsectionhead}\\[-1ex]
182      \usebeamertemplate*{progress bar in section page}
183      \par
```

```
184     \ifx\insertsubsectionhead\@empty\else%
185       \usebeamercolor[fg]{subsection title}%
186       \usebeamerfont{subsection title}%
187       \insertsubsectionhead
188     \fi
189   \end{minipage}
190   \par
191   \vspace{\baselineskip}
192 }
193 \newcommand{\moloch@disablesectionpage}{
194   \AtBeginSection{
195     % intentionally empty
196   }
197 }
198 \newcommand{\moloch@enablesectionpage}{
199   \AtBeginSection{
200     \ifbeamer@inframe
201       \sectionpage
202     \else
203       \frame[plain,c,noframenumbering]{\sectionpage}
204     \fi
205   }
206 }
```

subsection page Template for the subsection title slide that can optionally be added to at the beginning of each subsection.

```
207 \setbeamertemplate{subsection page}{%
208   \usebeamertemplate*{section page}
209 }
210 \newcommand{\moloch@disablesubsectionpage}{
211   \AtBeginSubsection{
212     % intentionally empty
213   }
214 }
215 \newcommand{\moloch@enablesubsectionpage}{
216   \AtBeginSubsection{
217     \ifbeamer@inframe
218       \subsectionpage
219     \else
220       \frame[plain,c,noframenumbering]{\subsectionpage}
221     \fi
222   }
223 }
```

17

progress bar in section page Template for the progress bar displayed by default on the section page. This code is duplicated in large part in the outer theme's template `progress bar in head/foot`.

```
224 \newlength{\moloch@progressonsectionpage}
225 \newlength{\moloch@progressonsectionpage@linewidth}
226 \setlength{\moloch@progressonsectionpage@linewidth}{0.4pt}
227 \setbeamertemplate{progress bar in section page}{
228   \pgfmathsetlength{\moloch@progressonsectionpage}{
229     \textwidth * min(1,\insertframenumber/\inserttotalframenumber)
230   }%
231   \tikzexternaldisable%
232   \begin{tikzpicture}
233     \mmzUnmemoizable%
234     \fill[bg]
235     (0,0)
236     rectangle
237     (\textwidth, \moloch@progressonsectionpage@linewidth);
238     \fill[fg]
239     (0,0)
240     rectangle
241     (\moloch@progressonsectionpage, \moloch@progressonsectionpage@linewidth);
242   \end{tikzpicture}%
243   \tikzexternalenable%
244 }
```

The above code assumes that `\insertframenumber` is less than or equal to `\inserttotalframenumber`. However, this is not true on the first compile; in the absence of an `.aux` file, `\inserttotalframenumber` defaults to 1. This behaviour could cause fatal errors for long presentations, as `\moloch@progressonsectionpage` would exceed TeX's maximum length (16383.99999pt, roughly 5.75 metres or 18.9 feet). To avoid this, we increase the default value for `\inserttotalframenumber`; presentations with over 4000 slides will still break on first compile, but users in that situation likely have deeper problems to solve.

```
245 \def\inserttotalframenumber{100}
```

6.2.5   Lists and floats

```
246 \setbeamertemplate{itemize item}{\(\bullet\)}
247 \setbeamertemplate{itemize subitem}{\(\circ\)}
248 \setbeamertemplate{itemize subsubitem}{\textbullet}
249 \setbeamertemplate{caption label separator}{: }
250 \setbeamertemplate{caption}[numbered]
```

6.2.6 Footnotes

```
251 \setbeamertemplate{footnote}{%
252   \parindent 0em\noindent\raggedright \usebeamercolor{footnote}\hbox to
253   0.8em{\hfil\insertfootnotemark}\insertfootnotetext%%%
254   \par%
255 }
```

6.2.7 Text and spacing settings

By default, Beamer frames offer the `c` option to *almost* vertically center the text, but the placement is a little too high. To fix this, we redefine the `c` option to equalize `\beamer@frametopskip` and `\beamer@framebottomskip`. This solution was suggested by Enrico Gregorio in an answer to this Stack Exchange question.

```
256 \define@key{beamerframe}{c}[true]{% centered
257   \beamer@frametopskip=0pt plus 1fil\relax%
258   \beamer@framebottomskip=0pt plus 1fil\relax%
259   \beamer@frametopskipautobreak=0pt plus .4\paperheight\relax%
260   \beamer@framebottomskipautobreak=0pt plus .6\paperheight\relax%
261   \def\beamer@initfirstlineunskip{}%
262 }
```

6.2.8 Standout frames

moloch offers a custom frame format with large, centered text and an inverted background. To use it, add the key `standout` to the frame:

`\begin{frame}[standout] ... \end{frame}`.

standout Optional arguments to Beamer's frames are implemented using `\define@key` from the `keyval` package, which will execute code when the defined option is called. For the `standout` option, we begin a group, change the colors and set frame options.

```
263 \providebool{moloch@standout}
264 \define@key{beamerframe}{standout}[true]{%
265   \booltrue{moloch@standout}
266   \begingroup
267   \setkeys{beamerframe}{c}
268   \setkeys{beamerframe}{noframenumbering}
269   \ifbeamercolorempty[bg]{palette primary}{
270     \setbeamercolor{background canvas}{
271       use=palette primary,
272       bg=-palette primary.fg
273     }
274   }{
```

```
275    \setbeamercolor{background canvas}{
276      use=palette primary,
277      bg=palette primary.bg
278    }
279  }
280  \setbeamercolor{local structure}{
281    fg=palette primary.fg
282  }
283  \usebeamercolor[fg]{palette primary}
284 }
```

Then we just have to close the group after the standout slide is finished in order to restore the colours and fonts for the rest of the presentation. Unfortunately, we cannot use or this (see http://tex.stackexchange.com/questions/226319/). Instead, we prepend the `\endgroup` to `\beamer@reseteecodes`, which is run exactly once at the end of each slide.

```
285 \pretocmd{\beamer@reseteecodes}{%
286   \ifbool{moloch@standout}{
287     \endgroup
288     \boolfalse{moloch@standout}
289   }{}
290 }{}{}
```

We set the fonts and the alignment on the inner content, in such a way that the speaker's note layout isn't affected by the custom formatting.

```
291 \AtBeginEnvironment{beamer@frameslide}{
292   \ifbool{moloch@standout}{
293     \centering
294     \usebeamerfont{standout}
295   }{}
296 }
```

6.2.9 Process package options

```
297 \moloch@inner@setdefaults
298 \ProcessPgfPackageOptions{/moloch/inner}
```

6.3 moloch outer theme

A `beamer` outer theme dictates the style of the frame elements traditionally set outside the body of each slide: the head, footline, and frame title.

6.3.1 Package dependencies

```
299 \RequirePackage{calc}
300 \RequirePackage{pgfopts}
```

6.3.2 Options

progressbar Adds a progress bar to the top, bottom, or frametitle of each slide.

```
301 \pgfkeys{
302   /moloch/outer/progressbar/.cd,
303   .is choice,
304   none/.code={%
305       \setbeamertemplate{headline}[plain]
306       \setbeamertemplate{frametitle}[plain]
307       \setbeamertemplate{footline}[plain]
308     },
309   head/.code={\pgfkeys{/moloch/outer/progressbar=none}
310       \addtobeamertemplate{headline}{}{%
311         \usebeamertemplate*{progress bar in head/foot}
312       }
313     },
314   frametitle/.code={\pgfkeys{/moloch/outer/progressbar=none}
315       \addtobeamertemplate{frametitle}{}{%
316         \usebeamertemplate*{progress bar in head/foot}
317       }
318     },
319   foot/.code={\pgfkeys{/moloch/outer/progressbar=none}
320       \addtobeamertemplate{footline}{}{%
321         \usebeamertemplate*{progress bar in head/foot}%
322       }
323     },
324 }
```

\moloch@outer@setdefaults Sets default values for outer theme options.

```
325 \newcommand{\moloch@outer@setdefaults}{
326   \pgfkeys{/moloch/outer/.cd,
327     progressbar=none,
328   }
329 }
```

6.3.3 Deprecated Options

These options are deprecated and will be removed in a future version.

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`numbering` Adds slide numbers to the bottom right of each slide.

```
330 \pgfkeys{
331   /moloch/outer/numbering/.cd,
332   .is choice,
333   none/.code={%
334     \PackageWarning{moloch}{The ''numbering'' option is deprecated.
335       Use beamer's ''page number in head/foot'' template instead}%
336     \setbeamertemplate{page number in head/foot}[default]
337   },
338   counter/.code={%
339     \PackageWarning{moloch}{The ''numbering'' option is deprecated.
340       Use beamer's ''page number in head/foot'' template instead}%
341     \setbeamertemplate{page number in head/foot}[framenumber]
342   },
343   fraction/.code={%
344     \PackageWarning{moloch}{The ''numbering'' option is deprecated.
345       Use beamer's ''page number in head/foot'' template instead}%
346     \setbeamertemplate{page number in head/foot}[totalframenumber]
347   },
348 }
```

6.3.4 Slide Numbering

Moloch defaults to numbering frames. To modify this, simply copy this line to your preamble and replace `framenumber`.

```
349 \setbeamertemplate{page number in head/foot}[framenumber]
```

6.3.5 Head and footline

All good `beamer` presentations should already remove the navigation symbols, but `moloch` removes them automatically (just in case).

```
350 \setbeamertemplate{navigation symbols}{}
```

`headline` Templates for the head- and footline at the top and bottom of each frame.
`footline`
```
351 \defbeamertemplate{headline}{plain}{}
352 \defbeamertemplate{footline}{plain}{%
353   \begin{beamercolorbox}[
354     leftskip=4pt,%
355     rightskip=5pt,%
356     wd=\textwidth,%
357   ]{footline}%
```

```
358    \usebeamercolor[fg]{page number in head/foot}%
359    \usebeamerfont{page number in head/foot}%
360    \usebeamertemplate*{frame footer}%
361    \hfill%
362    \usebeamertemplate*{page number in head/foot}\vskip4pt%
363  \end{beamercolorbox}%
364 }
```

6.3.6 Frametitle

frametitle Templates for the frame title, which is optionally underlined with a progress bar.

```
365 \newlength{\moloch@frametitle@padding}
366 \setlength{\moloch@frametitle@padding}{2.2ex}
367 \newcommand{\moloch@frametitlestrut@start}{%
368   \rule{0pt}{\moloch@frametitle@padding +%
369     \totalheightof{%
370       \ifcsdef{moloch@frametitleformat}{\moloch@frametitleformat X}{X}%
371     }%
372   }%
373 }
374
375 \newcommand{\moloch@frametitlestrut@end}{%
376   \vphantom{\rule[-\moloch@frametitle@padding]{0pt}{\moloch@frametitle@padding}}
377 }
378 \defbeamertemplate{frametitle}{plain}{%
379   \nointerlineskip%
380   \begin{beamercolorbox}[%
381       wd=\paperwidth,%
382       leftskip=1.6ex,%
383       rightskip=\the\glueexpr 1.6ex plus 1fil\relax,%
384     ]{frametitle}%
385   \usebeamerfont{frametitle}%
386   \moloch@frametitlestrut@start%
387   \moloch@frametitleformat{\insertframetitle}%
388   {%
389     \ifx\insertframesubtitle\@empty%
390       \else%
391       {%
392         \par%
393         \usebeamerfont{framesubtitle}%
394         \vspace{-0.8ex}%
395         \usebeamercolor[fg]{framesubtitle}%
396         \insertframesubtitle%
```

```
397        }%
398      \fi
399    }%
400    \moloch@frametitlestrut@end%
401  \end{beamercolorbox}%
402 }
403 \setbeamertemplate{frametitle continuation}{\romannumeral\insertcontinuationcount}
```

progress bar in head/foot Template for the progress bar optionally displayed below the frame title on each page. Much of this code is duplicated in the inner theme's template `progress bar in section page`.

```
404 \newlength{\moloch@progressinheadfoot}
405 \newlength{\moloch@progressinheadfoot@linewidth}
406 \setlength{\moloch@progressinheadfoot@linewidth}{0.4pt}
407 \setbeamertemplate{progress bar in head/foot}{
408   \nointerlineskip%
409   \pgfmathsetlength{\moloch@progressinheadfoot}{%
410     \paperwidth * min(1,\insertframenumber/\inserttotalframenumber)%
411   }%
412   \begin{beamercolorbox}[wd=\paperwidth]{progress bar in head/foot}
413     \tikzexternaldisable%
414     \begin{tikzpicture}
415       \mmzUnmemoizable%
416       \fill[bg]
417       (0,0)
418       rectangle
419       (\paperwidth, \moloch@progressinheadfoot@linewidth);
420       \fill[fg]
421       (0,0)
422       rectangle
423       (\moloch@progressinheadfoot, \moloch@progressinheadfoot@linewidth);
424     \end{tikzpicture}
425     \tikzexternalenable%
426   \end{beamercolorbox}
427 }
```

6.3.7   Process package options

```
428 \moloch@outer@setdefaults
429 \ProcessPgfPackageOptions{/moloch/outer}
```

6.4   **moloch** font theme

A beamer font theme sets the style of the font used in the document.

6.4.1 Package dependencies

```
430 \RequirePackage{etoolbox}
431 \RequirePackage{pgfopts}
```

6.4.2 General font definitions

```
432 \setbeamerfont{title}{size=\Large, series=\bfseries}
433 \setbeamerfont{author}{size=\small}
434 \setbeamerfont{date}{size=\small}
435 \setbeamerfont{section title}{size=\Large, series=\bfseries}
436 \setbeamerfont{block title}{size=\normalsize, series=\bfseries}
437 \setbeamerfont{block title alerted}{size=\normalsize, series=\bfseries}
438 \setbeamerfont*{subtitle}{size=\large}
439 \setbeamerfont{frametitle}{size=\large, series=\bfseries}
440 \setbeamerfont{framesubtitle}{size=\small}
441 \setbeamerfont{caption}{size=\small}
442 \setbeamerfont{caption name}{series=\bfseries}
443 \setbeamerfont{description item}{series=\bfseries}
444 \setbeamerfont{standout}{size=\Large, series=\bfseries}
```

6.4.3 Title format options

titleformat title Controls the format of the title.

```
445 \pgfkeys{
446   /moloch/font/titleformat title/.cd,
447   .is choice,
448   regular/.code={%
449       \let\moloch@titleformat\@empty%
450       \setbeamerfont{title}{shape=\normalfont}%
451     },
452   smallcaps/.code={%
453       \let\moloch@titleformat\@empty%
454       \setbeamerfont{title}{shape=\scshape}%
455     },
456   allsmallcaps/.code={%
457       \let\moloch@titleformat\lowercase%
458       \setbeamerfont{title}{shape=\scshape}%
459       \PackageNote{beamerthememoloch}{%
460         Be aware that titleformat title=allsmallcaps can lead to problems%
461       }
462     },
463   allcaps/.code={%
464       \let\moloch@titleformat\uppercase%
465       \setbeamerfont{title}{shape=\normalfont}
```

```
466      \PackageNote{beamerthememoloch}{%
467        Be aware that titleformat title=allcaps can lead to problems%
468      }
469    },
470 }
```

titleformat subtitle   Control the format of the subtitle.

```
471 \pgfkeys{
472   /moloch/font/titleformat subtitle/.cd,
473   .is choice,
474   regular/.code={%
475      \let\moloch@subtitleformat\@empty%
476      \setbeamerfont{subtitle}{shape=\normalfont}%
477    },
478   smallcaps/.code={%
479      \let\moloch@subtitleformat\@empty%
480      \setbeamerfont{subtitle}{shape=\scshape}%
481    },
482   allsmallcaps/.code={%
483      \let\moloch@subtitleformat\MakeLowercase%
484      \setbeamerfont{subtitle}{shape=\scshape}%
485      \PackageNote{beamerthememoloch}{%
486        Be aware that titleformat subtitle=allsmallcaps can lead to problems%
487      }
488    },
489   allcaps/.code={%
490      \let\moloch@subtitleformat\MakeUppercase%
491      \setbeamerfont{subtitle}{shape=\normalfont}%
492      \PackageNote{beamerthememoloch}{%
493        Be aware that titleformat subtitle=allcaps can lead to problems%
494      }
495    },
496 }
```

titleformat section   Controls the format of the section title.

```
497 \pgfkeys{
498   /moloch/font/titleformat section/.cd,
499   .is choice,
500   regular/.code={%
501      \let\moloch@sectiontitleformat\@empty%
502      \setbeamerfont{section title}{shape=\normalfont}%
503    },
```

```
504   smallcaps/.code={%
505       \let\moloch@sectiontitleformat\@empty%
506       \setbeamerfont{section title}{shape=\scshape}%
507     },
508   allsmallcaps/.code={%
509       \let\moloch@sectiontitleformat\MakeLowercase%
510       \setbeamerfont{section title}{shape=\scshape}%
511       \PackageNote{beamerthememoloch}{%
512         Be aware that titleformat section=allsmallcaps can lead to problems%
513       }
514     },
515   allcaps/.code={%
516       \let\moloch@sectiontitleformat\MakeUppercase%
517       \setbeamerfont{section title}{shape=\normalfont}%
518       \PackageNote{beamerthememoloch}{%
519         Be aware that titleformat section=allcaps can lead to problems%
520       }
521     },
522 }
```

frametitleformat Control the format of the frame title.

```
523 \pgfkeys{
524   /moloch/font/titleformat frame/.cd,
525   .is choice,
526   regular/.code={%
527       \let\moloch@frametitleformat\@empty%
528       \setbeamerfont{frametitle}{shape=\normalfont}%
529     },
530   smallcaps/.code={%
531       \let\moloch@frametitleformat\@empty%
532       \setbeamerfont{frametitle}{shape=\scshape}%
533     },
534   allsmallcaps/.code={%
535       \let\moloch@frametitleformat\MakeLowercase%
536       \setbeamerfont{frametitle}{shape=\scshape}%
537       \PackageNote{beamerthememoloch}{%
538         Be aware that titleformat frame=allsmallcaps can lead to problems%
539       }
540     },
541   allcaps/.code={%
542       \let\moloch@frametitleformat\MakeUppercase%
543       \setbeamerfont{frametitle}{shape=\normalfont}
544       \PackageNote{beamerthememoloch}{%
```

```
545        Be aware that titleformat frame=allcaps can lead to problems%
546      }
547    },
548 }
```

titleformat aliases Allows `titleformat title` et al. to be used in the `\usetheme` declaration, where LaTeX automatically removes all spaces.

```
549 \pgfkeys{
550   /moloch/font/.cd,
551   titleformattitle/.code=\pgfkeysalso{titleformat title=#1},
552   titleformatsubtitle/.code=\pgfkeysalso{titleformat subtitle=#1},
553   titleformatsection/.code=\pgfkeysalso{titleformat section=#1},
554   titleformatframe/.code=\pgfkeysalso{titleformat frame=#1},
555 }
```

\moloch@font@setdefaults Sets default values for font theme options.

```
556 \newcommand{\moloch@font@setdefaults}{
557   \pgfkeys{/moloch/font/.cd,
558     titleformat title=regular,
559     titleformat subtitle=regular,
560     titleformat section=regular,
561     titleformat frame=regular,
562   }
563 }
```

We first define hooks to change the case format of the titles.

```
564 \def\moloch@titleformat#1{#1}
565 \def\moloch@subtitleformat#1{#1}
566 \def\moloch@sectiontitleformat#1{#1}
567 \def\moloch@frametitleformat#1{#1}
```

To make the uppercase and lowercase macros work in the title, subtitle, etc., we have to patch the appropriate `beamer` commands that set their values. This solution was suggested by Enrico Gregorio in an answer to this StackExchange question.

6.4.4   Process package options

```
568 \moloch@font@setdefaults
569 \ProcessPgfPackageOptions{/moloch/font}
```

6.5 **moloch** color theme

6.5.1 Package dependencies

```
570 \RequirePackage{pgfopts}
```

6.5.2 Options

block Optionally adds a light grey background to block environments like `theorem` and `example`.

```
571 \pgfkeys{
572   /moloch/color/block/.cd,
573   .is choice,
574   transparent/.code=\moloch@block@transparent,
575   fill/.code=\moloch@block@fill,
576 }
```

colors Provides the option to have a dark background and light foreground instead of the reverse.

```
577 \pgfkeys{
578   /moloch/color/background/.cd,
579   .is choice,
580   dark/.code=\moloch@colors@dark,
581   light/.code=\moloch@colors@light,
582 }
```

\moloch@color@setdefaults Sets default values for color theme options.

```
583 \newcommand{\moloch@color@setdefaults}{
584   \pgfkeys{/moloch/color/.cd,
585     background=light,
586   }
587 }
```

6.5.3 Base colors

```
588 \definecolor{mDarkBrown}{HTML}{604c38}
589 \definecolor{mDarkTeal}{HTML}{23373b}
590 \definecolor{mLightBrown}{HTML}{EB811B}
591 \definecolor{mLightGreen}{RGB}{0,128,128}
```

6.5.4 Base styles

All colors in moloch are derived from the definitions of `normal text`, `alerted text`, and `example text`.

```
592 \newcommand{\moloch@colors@dark}{
593   \setbeamercolor{normal text}{%
594     fg=black!2,
595     bg=mDarkTeal
596   }
597   \usebeamercolor[fg]{normal text}
598 }
599 \newcommand{\moloch@colors@light}{
600   \setbeamercolor{normal text}{%
601     fg=mDarkTeal,
602     bg=black!2
603   }
604 }
605 \setbeamercolor{alerted text}{%
606   fg=mLightBrown
607 }
608 \setbeamercolor{example text}{%
609   fg=mLightGreen
610 }
```

6.5.5   Derived colors

The titles and structural elements (e.g. `itemize` bullets) are set in the same color
as `normal text`. This would ideally done by setting `normal text` as a parent
style, which we do to set `titlelike`, but this doesn't work for `structure` as its
foreground is set explicitly in `beamercolorthemedefault.sty`.

```
611 \setbeamercolor{titlelike}{use=normal text, parent=normal text}
612 \setbeamercolor{author}{use=normal text, parent=normal text}
613 \setbeamercolor{date}{use=normal text, parent=normal text}
614 \setbeamercolor{institute}{use=normal text, fg=normal text.fg!80!normal text.bg}
615 \setbeamercolor{structure}{use=normal text, fg=normal text.fg}
```

The "primary" palette should be used for the most important navigational ele-
ments, and possibly of other elements. moloch uses it for frame titles and slides.

```
616 \setbeamercolor{palette primary}{%
617   use=normal text,
618   fg=normal text.bg,
619   bg=normal text.fg
620 }
621 \setbeamercolor{frametitle}{%
622   use=palette primary,
623   parent=palette primary
```

624 }

The moloch inner or outer themes optionally display progress bars in various locations. Their color is set by `progress bar` but the two different kinds can be customized separately. The horizontal rule on the title page is also set based on the progress bar color and can be customized with `title separator`.

```
625 \setbeamercolor{progress bar}{%
626   use=alerted text,
627   fg=alerted text.fg,
628   bg=alerted text.fg!50!black!30
629 }
630 \setbeamercolor{title separator}{
631   use=progress bar,
632   parent=progress bar
633 }
634 \setbeamercolor{progress bar in head/foot}{%
635   use=progress bar,
636   parent=progress bar
637 }
638 \setbeamercolor{progress bar in section page}{
639   use=progress bar,
640   parent=progress bar
641 }
```

Block environments such as `theorem` and `example` have no background color by default. The option `block=fill` sets a background color based on the background and foreground of `normal text`. The option `block=transparent` reverts the block environments to an empty background, which can be useful if changing colors mid-presentation.

```
642 \newcommand{\moloch@block@transparent}{
643   \setbeamercolor{block title}{bg=}
644   \setbeamercolor{block body}{bg=}
645   \setbeamercolor{block title alerted}{bg=}
646   \setbeamercolor{block title example}{bg=}
647 }
648 \newcommand{\moloch@block@fill}{
649   \setbeamercolor{block title}{%
650     bg=normal text.bg!80!fg
651   }
652   \setbeamercolor{block body}{%
653     use=block title,
654     bg=block title.bg!50!normal text.bg
```

31

```
655   }
656   \setbeamercolor{block title alerted}{%
657     bg=block title.bg,
658   }
659   \setbeamercolor{block title example}{%
660     bg=block title.bg,
661   }
662 }
663 \setbeamercolor{block title}{%
664   use=normal text,
665   fg=normal text.fg
666 }
667 \setbeamercolor{block title alerted}{%
668   use={block title, alerted text},
669   fg=alerted text.fg
670 }
671 \setbeamercolor{block title example}{%
672   use={block title, example text},
673   fg=example text.fg
674 }
675 \setbeamercolor{block body alerted}{use=block body, parent=block body}
676 \setbeamercolor{block body example}{use=block body, parent=block body}
```

Footnotes

```
677 \setbeamercolor{footnote}{fg=normal text.fg!90}
678 \setbeamercolor{footnote mark}{fg=.}
```

We also reset the bibliography colors in order to pick up the surrounding colors at the time of use. This prevents us having to set the correct color in normal and standout mode.

```
679 \setbeamercolor{bibliography entry author}{fg=, bg=}
680 \setbeamercolor{bibliography entry title}{fg=, bg=}
681 \setbeamercolor{bibliography entry location}{fg=, bg=}
682 \setbeamercolor{bibliography entry note}{fg=, bg=}
```

6.5.6   Process package options

```
683 \moloch@color@setdefaults
684 \ProcessPgfPackageOptions{/moloch/color}

685 \mode<all>
```