

Fast Prototyping with HAML, Sass, Compass, and Middleman

First a Little Background

What is HAML?

- HTML Abstraction Markup Language
- A Markup/Templating language that generates clean semantic XHTML
- Originally created by Hampton Catlin
- Currently maintained by Nathan Weizenbaum & Chris Eppstein
- Can be found at <http://haml-lang.com/>

What is Sass?

- Syntactically Awesome Stylesheets
- A stylesheet authoring language that adds things like Variables, Nesting, Mixins, and now Functions to CSS
- Also, originally created by Hampton Catlin
- Currently maintained by Nathan Weizenbaum & Chris Eppstein
- Can be found at <http://sass-lang.com/>

What is Compass?

- CSS Authoring Framework built on top of Sass
- CSS Grid Frameworks, CSS3 helpers, common functions, module for common CSS tasks (e.g. buttons, resets, typography basics)
- Created and Maintained by Chris Eppstein
- Can be found at <http://compass-style.org>

What is Middleman?

- Static Site Generator
- Brings HAML, Sass, and Compass together into nice neat easy to use package
- Built on Sinatra and Padrino to give us all sorts of useful helpers to speed up development
- Created and Maintained Thomas Reynolds
- Can be found at <https://github.com/tdreyno/middleman/>

HAML

- Whitespace aware
- By default Outputs clean nicely indented HTML

Quick Example

HAML

```
#section
  %article
    %h1 Hello World
    %p Lorem ipsum dolor sit amet, consectetur adipisicing elit.
  /
end article
%aside
  %p.related
    %a{:href => "/related-articles/", :title => "Articles Related to Hello World!"} Related Art
```

HTML

```
<div id='section'>
  <article>
    <h1>Hello World</h1>
    <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit.</p>
  </article>
  <!--
    end article
  -->
  <aside>
    <p class='related'>
      <a href='/related-articles/' title='Articles Related to Hello World!>Related Articles</a>
    </p>
  </aside>
</div>
```


Useful Features of HAML

- Follows CSS conventions
- Specify different Doctypes `!!!`, `!!! strict`, `!!! 5`, etc.
- Recognizes conditional comments with `/[if IE]`
- HAML comments `-# Comment Here`
- Run Ruby within templates
- Ruby Interpolation `#{@title}`
- Includes various filters plain text, javascript, css, textile, and more `:plain`, `:javascript`, `:css`, `:textile`

Sass

- Provides a way to author CSS with:
 - Variables
 - Selector and Property Nesting
 - Mixins
 - Selector Inheritance
 - Functions, as of sass 3.1
- Compiled to CSS
- Comes with two different syntaxes
 - Sass, the original more HAML like
 - Scss ("Sassy css"), New as of 3.0, a superset of CSS3
- Used to be bundled with HAML gem, separated as of 3.1

Variables

Sass

```
$font-size: 12
$text-color: #222

html
  font-size: $font-size / 16em
  color: $text-color
```

Scss

```
$font-size: 12;
$text-color: #222;

html {
  font-size: $font-size / 16.0em;
  color: $text-color;
}
```

CSS

```
html {
  font-size: 0.75em;
  color: #222;
}
```

Nesting

Sass

```
nav
  ul
    list-style: none;
  li
    float: left;
    a
      display: block
      padding:
        top: 5px
        right: 10px
        bottom: 4px
        left: 10px
      color: blue
      &:hover, &:focus
        color: red
```

Scss

```
nav {
  ul {
    list-style: none;
  }
  li {
    float: left;

    a {
      display: block;
      padding: {
        top: 5px;
        right: 10px;
        bottom: 4px;
        left: 10px;
      }
      color: blue;
      &:hover, &:focus {
        color: red;
      }
    }
  }
}
```

CSS

```
nav ul {
  list-style: none;
}
nav ul li {
  float: left;
}
nav ul li a {
  display: block;
  padding-top: 5px;
  padding-right: 10px;
  padding-bottom: 4px;
  padding-left: 10px;
  color: blue;
}
```

```
nav ul li a:hover, nav ul li a:focus {  
  color: red;  
}
```

Mixins

Sass

```
=hover-link
  text-decoration: none
  &:hover
    text-decoration: underline

a
  @include hover-link
```

Scss

```
@mixin hover-link {
  text-decoration: none;
  &:hover {
    text-decoration: underline;
  }
}

a {
  @include hover-link;
}
```

CSS

```
a {
  text-decoration: none;
}
a:hover {
  text-decoration: underline;
}
```

Selector Inheritance

Sass

```
.error
  border: 1px #f00
  background: #fdd

.error.intrusion
  font-size: 1.3em
  font-weight: bold

.badError
  @extend .error
  border-width: 3px
```

Scss

```
.error {
  border: 1px #f00;
  background: #fdd;
}

.error.intrusion {
  font-size: 1.3em;
  font-weight: bold;
}

.badError {
  @extend .error;
  border-width: 3px;
}
```

CSS

```
.error, .badError {
  border: 1px #f00;
  background: #fdd;
}

.error.intrusion,
.badError.intrusion {
  font-size: 1.3em;
  font-weight: bold;
}

.badError {
  border-width: 3px;
}
```

Functions

Sass

```
@function pxs2ems($px: 0, $context: $font-size)
  $ems: $px / $context * 1em
  @return $ems

h1
  font-size: pxs2ems(24, 12)
```

Scss

```
@function pxs2ems($px: 0, $context: $font-size) {
  $ems: ($px / $context) * 1em;
  @return $ems;
}

h1 {
  font-size: pxs2ems(24, 12);
}
```

CSS

```
h1 {
  font-size: 2em;
}
```


Additional Sass & Scss Notes

- Sass originally inspired by terseness of HAML
- Scss inspired by the LESS framework, trying to make Sass more accessible to designers
- Also contains Control Directives `@if`, `@for`, `@each`, `@while`
- Can `@import` `css`, `scss`, `sass` files into each other
- Will when using `@import` compile out to a single file
- Supports a variety of output styles `:nested`, `:expanded`, `:compact`, `:compressed`
- Useful Command line tool to swap between `css`, `sass`, `scss`, and `less`

`sass-convert -from scss -to sass _utilities.scss _utilities.sass`

Compass

- CSS Authoring Framework built on top of Sass
- Integrates with most Ruby web frameworks
- Simplifies CSS3 authoring (no more typing, -webkit, -moz, -ms, -o, etc.)
- Has a variety of CSS grid frameworks ported as extensions
 - Blueprint (Default)
 - 960gs
 - YUI
 - HTML 5 Boilerplate
- Even has a custom frameworks built specifically on Compass
 - Susy (one of my favorites)
- Also has a number of other Utility Extensions
 - Compass Colors
 - Fancy Buttons

Grid Frameworks

- CSS Grid Frameworks done the right way
- No presentational classes in html
- Mixins & functions via sass

Middleman

- A static site generator with HAML, SASS, Coffee Script, JS/CSS compression, image compression and cache busting
- Built on Thin, Sinatra, and Padrino
- Provides a simple easy way to build UI's in your favorite Ruby tools with out using a full webapp framework
- So you don't have

Middleman Tools

- CLI
 - `mm-init`
 - `mm-server`
 - `mm-build`
- Lorem Helpers
 - Words
 - Sentence
 - Paragraphs
 - Date
 - Name
 - Email
- Placeholder image via Placeholder.it
- Can even run the sever app on Heroku or other Rack servers
- Helpers for stylesheet links, javascript links, partials

New Slick Stuff I haven't played with

- New Project Templates
- YAML Data API
- Feature/Extension API

On to the Code

Questions?

Thank You!

Links

HAML

- <http://haml-lang.com/>
- <http://haml-lang.com/tutorial.html>
- http://haml-lang.com/docs/yardoc/file.HAML_REFERENCE.html

Sass

- <http://sass-lang.com/>
- <http://sass-lang.com/tutorial.html>
- http://sass-lang.com/docs/yardoc/file.SASS_REFERENCE.html

Compass

- <http://compass-style.org/>
- <http://vimeo.com/11671458>

Middleman

- <http://awardwinningfjords.com/2009/10/22/middleman.html>
- <https://github.com/tdreyno/middleman/wiki/>
- <http://awardwinningfjords.com/2011/04/15/middleman-v11.html>
- <http://middlemanapp.com/>