Sass
Improving on CSS

Making CSS awesome again!

Rob Peck (@codelemur)
DevSpace 2015
Huntsville, Ala.

dealnews®

I’m Rob!

- Lead software engineer in charge of mobile web experience at DealNews.
- 16 years of software development experience, the very large majority in web.

dealnews®

Topics Covered

- CSS - how did we get here?
- CSS's shortcomings.
- How Sass can make things awesome again.
- Some common examples.
- Questions

dealnews®

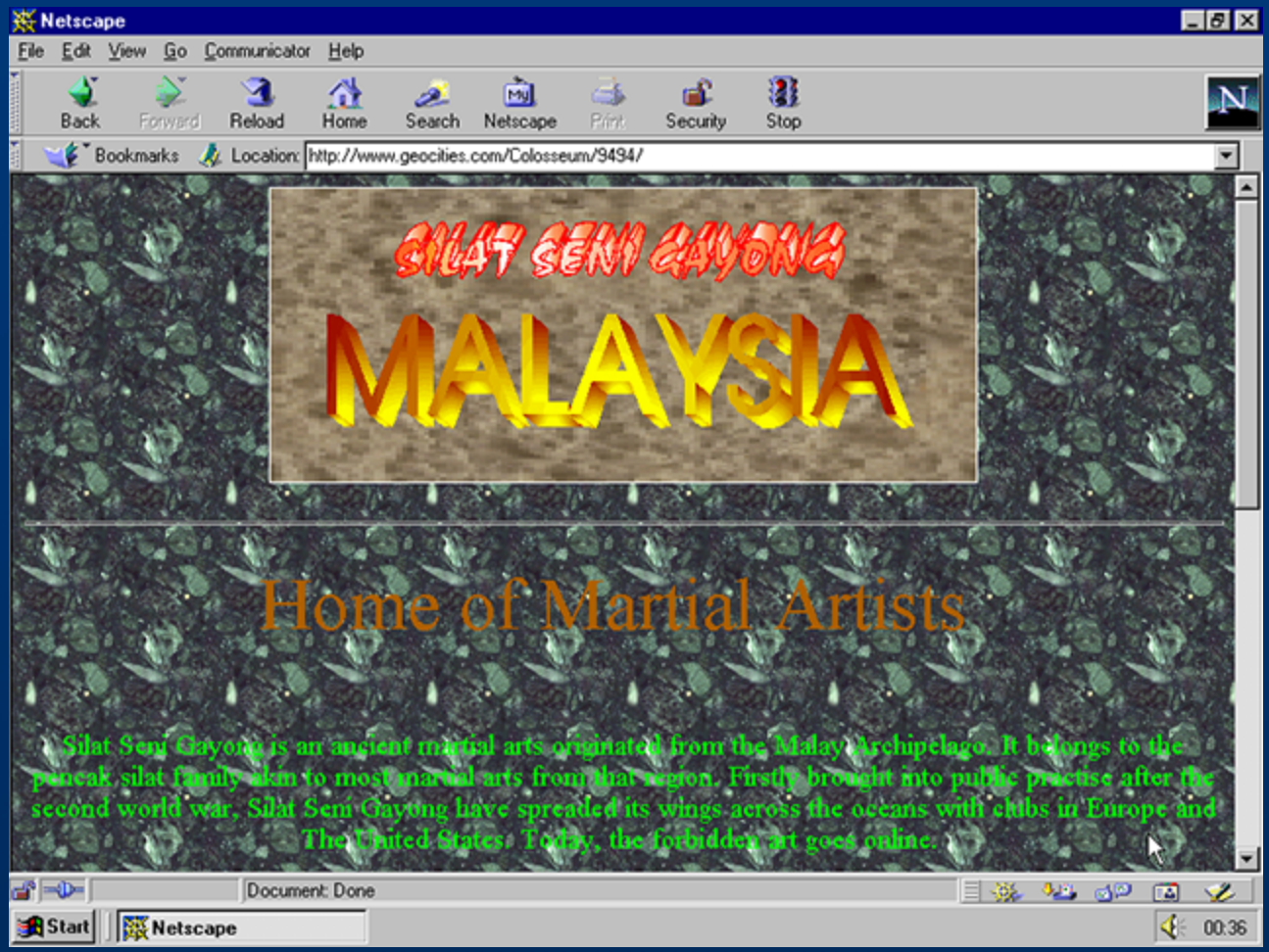
How did we get here?

dealnews®

Remember this?

The web circa 1995.

dealnews®



Then people wanted to do this.

dealnews®

And we let them.

dealnews®

To do that…

```
<body bgcolor="#00ffff" background="
…

<font color="#ff0000" face="">

<table><tr><td></td></tr>…

<center>
```

ON EVERY PAGE!

dealnews®

dealnews®

So We Made CSS

- All pages could be consistently and equally ~~crazy~~ styled.
- Changes could be made to a single location that would reflect across the whole site.
- Presentation could be decoupled from content.

CSS Terminology

- Selector - A CSS rule that will match an HTML element.
  - “div.foo” will match every div with class=“foo” on the page.
- Property: Value - A CSS value that applies a style.
  - “background-color: white” will set the color to white.

But what's wrong with CSS?

dealnews®

CSS Shortcomings

- It hasn't evolved, while the rest of the web has grown far more complex.
- We've added new things, but how we write CSS hasn't changed in 15 years.
- No reusability, no math, no variables.
- No loops, no conditionals, no …

Sass to the rescue!

dealnews®

What is Sass?

- Sass is an extension to CSS that gives you lots of additional functionality that should be really part of CSS.
- You write CSS files using Sass or SCSS syntax and use a program to compile it to standard CSS.
- The canonical implementation is a ruby program, but libsass is coming.

Sass gives you

- Variables
- Nested selectors
- Importable files
- Mixins
- Inheritance
- Mathematic operations
- More!

A quick note

- Confusingly, Sass has two supported formats: “sass” and “scss”.
- “sass” is a Yaml-like format.
- “scss” is CSS-like and is much, much more widely used. We will be using scss during today’s presentation.

How it works

- You write your style sheets in sass or (preferrably) scss.
- You run the sass compiler that generates compiled stylesheets from your scss.
- You can also use `sass --watch` to watch a directory for changes and update in real time. Useful for development.

Let’s dive in!

dealnews®

Sass variables

- Variables start with $.
- Variables can contain text, numbers, hex color values, etc.
- When the sass compiler compiles your style sheet, variables are converted to their values.

Sass variables

```
$dnLogoDark: #5464a2;
$dnLogoLight: #8d9ce7;

header {
    background-color: $dnLogoDark;
    color: $dnLogoLight;
}

footer {
    background-color: $dnLogoLight;
    color: $dnLogoDark;
}
```


dealnews®

Sass variables

```
header {
  background-color: #5464a2;
  color: #8d9ce7; }

footer {
  background-color: #8d9ce7;
  color: #5464a2; }
```

Nested Selectors

- You can nest CSS selectors within other rules, creating an easier to read stylesheet.
- It's a great time and keystroke saver.
- Be careful not to overly nest your selectors, creating overly specific selectors. Remember CSS's goal is style reuse.

Nested Selectors

```
nav {
  background-color: green;

  ul {
    list-style: none;
  }

  :hover {
    color: white;
  }

  > div {
    color: black;
  }
}
```


dealnews®

Nested Selectors

```
nav {
  background-color: green; }
  nav ul {
    list-style: none; }
  nav :hover {
    color: white; }
  nav > div {
    color: black; }
```


dealnews

Nested Media Queries!

```
nav {
    @media screen and (max-width: 768px) {
        color: green;
    }
}

@media screen and (max-width: 768px) {
  nav {
    color: green; } }
```


dealnews

Partials

- You can include files within other files by using `@import “file”;`
- Note no ending extension.
- Sass overrides CSS’s `@import` command to create a single combined file.
- Partials are really great for separating out logical parts of your stylesheet.

Partials

- Files that begin with and underscore are ignored by the sass compiler.
- Example: _colors.scss will not be compiled to colors.css, but can be included in other files.
- It's common to see separate partial for colors, fonts, spacing, etc.

Partials

_colors.scss:

```
$dnLogoDark: #5464a2;
$dnLogoLight: #8d9ce7;
```

file.scss:

```
@import “colors”;

header {
  background-color: $dnLogoDark;
  color: $dnLogoLight;
}
```


dealnews

Partials

```
header {
  background-color: #5464a2;
  color: #8d9ce7; }
```


dealnews®

Mixins

- Think of mixins as reusable functions for Sass.
- Mixins are useful for dealing with vendor prefixes.

Mixins

```
@mixin border-radius($radius) {
  -webkit-border-radius: $radius;
     -moz-border-radius: $radius;
      -ms-border-radius: $radius;
          border-radius: $radius;
}

.box {
  @include border-radius(10px);
}
```


dealnews

Mixins

```
.box {
  -webkit-border-radius: 10px;
  -moz-border-radius: 10px;
  -ms-border-radius: 10px;
  border-radius: 10px;
}
```


dealnews®

Inheritance

- Inheritance lets you easily share CSS properties across multiple selectors.
- This is very useful where you have a bunch of classes that are very similar but may only have one or two properties that are different.
- Sass will reassemble your CSS in such a way as that it reduces the number of classes you need for an element.

Inheritance

```
.message {
  border: 1px solid #ccc;
  padding: 10px;
  color: #333;
}

.success {
  @extend .message;
  border-color: green;
}

.error {
  @extend .message;
  border-color: red;
}
```


dealnews

Inheritance

```
.message, .success, .error {
  border: 1px solid #cccccc;
  padding: 10px;
  color: #333;
}

.success {
  border-color: green;
}

.error {
  border-color: red;
}
```


dealnews

Math

- Sass gives you the ability to do math in your CSS stylesheets.
- You can use +, -, *, /, and %.
- This is very useful when dealing with padding, margins and font sizes.

Math

```
$boxMargin: 10px;
$pageWidth: 960px;

.article {
    padding: $boxMargin / 2;
    margin: $boxMargin / 2;
    max-width: $pageWidth * 0.9;
}

.aside {
    padding: $boxMargin / 2;
    margin: $boxMargin / 2;
    max-width: $pageWidth * 0.1;
}
```

dealnews

Math

```
.article {
  padding: 5px;
  margin: 5px;
  max-width: 864px; }

.aside {
  padding: 5px;
  margin: 5px;
  max-width: 96px; }
```


dealnews®

Helper Functions

- Sass includes nearly 80 helper functions. A few examples:
- rgb(x,x,x) - Generates a color from RGB values
- lighten(#,x)/darken(#,x) - Lightens or darkens a hex color given a percentage.
- mix(#, #) - mixes two colors together.

Demo

dealnews®

A more complex example

How we use Sass to make DealNews awesome

dealnews®

DealNews and Sass

- We started using Sass in 2013 during our redesign process.
- We redesigned and re-architected the entire site from scratch over the course of 2013 to give it a modern makeover.
- Helped us finish in time for the holiday shopping season.

dealnews®

Partials

- dealnews/fonts - contains all the font and font size information used site wide.
- dealnews/colors - contains all colors used site wide.
- dealnews/spacing - contains standard margin and padding settings
- buttons, icons, etc.

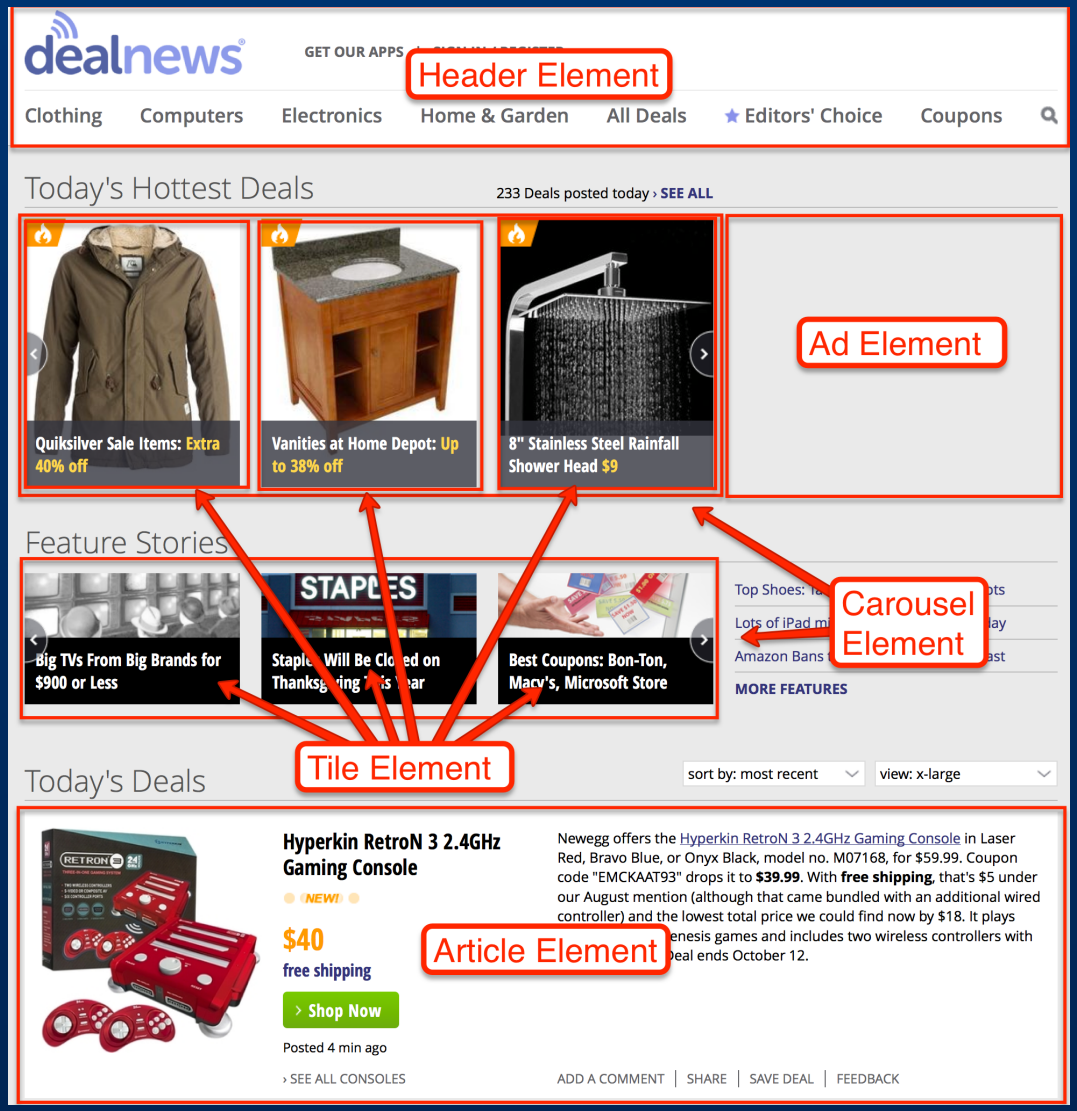
dealnews®

Partial Example

```
$dnLogoDark: #5464a2;
$dnLogoLight: #8d9ce7;

$darkTextColor: Black;
$lightTextColor: White;

$bgColor: #eaeaea;
$bgTextColor: #545454;
$bgBorderColor: #bbbbbb;
$headerTextColor: #646468;
$headerBorderColor: #cbcbcb;

$buttonGradient: linear-gradient(to bottom,  #7bc91d
0%,#6eab24 100%);
```


dealnews

Anatomy of a Page



Element Example

```
class Element_Mobile_SuperBrowseFilterPage extends Element_Dialog
{
    public static $deps = [
        "Element_MobileTreeList",
        "Element_SuperBrowseSearch",
        "Element_SuperBrowsePrice"
    ];

    public static $scripts = [
        "mobile/mobile-panel",
        "mobile/filter-page"
    ];

    public static $styles = [
        "mobile/icons",
        "mobile/mobile-panel",
        "mobile/filter-page"
    ];
```


dealnews

Deploying

- Git merges to master trigger a Jenkins job that deploys the site across all data centers.
- Sass files are rebuilt as part of the deploy process. Each deploy is a fresh checkout, so all Sass files are rebuilt each time we deploy to production.

In Review

- Sass extends CSS in extremely usable ways without requiring any additional page overhead.
- Sass gives you variables, nested selectors, mixins, partials, style inheritance, mathematical operations and built-in helper functions.
- Sass files are compiled into standard CSS.
- Sass can make your CSS more maintainable.

dealnews®

Questions?

dealnews®

Slides are available on my website

robpeck.com/talks

Find me online!

robpeck.com
@codelemur

We are hiring!

dealnews.com/jobs