

DrupalCamp NJ 2013

# Frontiers of CSS

Its Past, Present, and Future (in )

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February 2, 2013

# Welcome!

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# What we'll cover



1

Where is CSS now?

2

CSS 3 properties and compatibility

3

Vendor prefixes

4

Responsive design and other media

5

Going out in style

# Where is CSS now?

1

A brief retrospective

A history of browser support

CSS in recent times

CSS

# CSS

- Structure versus presentation.



# CSS 1



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### Newton Connects

Newton, Inc., will enhance network connectivity for Newton-based devices this fall via [Newton Internet Enabler 2.0](#). Ethernet capability can connect devices to Local Area Networks.

# CSS 1



# CSS 1

1996

- The W3C releases the CSS 1 specification.
- Internet Explorer 3 offers limited support.

# CSS 1

1998

- CSS 2 becomes a W3C Recommendation.

# CSS 1

2000

- IE 5 for Mac offers better than 99% support.





IE6  
guillotine



Box model  
hacks

# CSS 1

- Font
- Color
- Alignment
- Text
- Box model
- ids and classes

## CSS 2

- Font
- Color
- Alignment
- Text
- Box model
- ids and classes
- Absolute
- Relative
- Fixed
- z-index
- Media
- Bidirectional



# CSS 2

- Absolute
- Relative
- Fixed
- z-index
- Media
- Bidirectional

# CSS 3

- Absolute
- Relative
- Fixed
- z-index
- Media
- Bidirectional
- Media queries
- Border styles
- Opacity
- Shadows
- Background styles
- Content

# CSS 3 properties and compatibility

2

CSS 3 properties

Browser compatibility



9



10.5



5



5



4

## border-radius

- Image-free rounded corners.

```
p {  
  border: 1px solid #999;  
  border-radius: 10px;  
}
```



9

## border-radius



10.5

- No border is necessary.



5



5



4

```
p {  
  background-color: #666;  
  border-radius: 10px;  
}
```



9

# border-radius



10.5

- No shorthand yet.



5



5



4

```
p {  
  background-color: #666;  
  border-radius: 10px;  
  border-bottom-left-  
>> radius: 0;  
  border-bottom-right-  
>> radius: 0;  
}
```



9

## border-radius



10.5

- And a little bit of chaos.



5

```
-webkit-border-bottom-  
>> left-radius: 5px;  
-moz-border-radius-  
>> bottomleft: 5px;  
border-bottom-left-  
>> radius: 5px;
```



5



4



9

## box-shadow



10.5

- Photoshop-like drop shadow.



5



10



4

```
p {  
  background-color: #666;  
  box-shadow: 10px 10px 5px  
>> #ccc;  
}  
  
/* horiz vert spread color  
*/
```





9

## box-shadow



10.5

- Inner shadow.



5

```
p {  
  background-color: #666;  
  box-shadow: 10px 10px 5px  
>> #ccc inset;  
}
```



10



4



9



10.5



5



10



4

## box-shadow

- Negative values permissible.

```
p {  
  background-color: #666;  
  box-shadow: -5px -5px 5px  
>> #ccc;  
}
```



9

## box-shadow



10.5

- One edge, negative spread.



5

```
p {  
  background-color: #666;  
  box-shadow: 0 10px 5px  
>> -5px #ccc;  
}
```



10



4



none

## text-shadow



10

- Horizontal precedes vertical.



4

```
p {  
  color: #666;  
  text-shadow: 2px 2px  
>> #ccc;  
}
```



4



3

# opacity



9



10



4



4



2

- In IE 8-, this was filter.

```
p {  
  background-color: #666;  
  opacity: 0.5;  
}
```

# opacity



9



10



4



4



2

- 0 is transparent, 1 is opaque.

```
p {  
  background-color: #666;  
  opacity: 1;  
}
```



-9

## transform



-10.5

- This syntax still lacks support.



-5

```
p {  
  background-color: #666;  
  transform: rotate(5deg);  
}
```



-5



-3.6



-9

# transform



-10.5

- Vendor prefixes are required.



-5



-5



-3.6

```
p {  
  background-color: #666;  
  -ms-transform:  
>> rotate(5deg);  
  -moz-transform:  
>> rotate(5deg);  
}
```





-9

# transform



-10.5

- Vendor prefixes are required.



-5

```
p {  
  background-color: #666;  
  -webkit-transform:  
>> rotate(5deg);  
  -o-transform:  
>> rotate(5deg);  
}
```



-5



-3.6



-9

transform



-10.5

- `matrix(n, n, n, n, n, n)`



-5

- `translate(x, y)`  
`translateX, translateY, translateZ`



-5

- `scale(x, y)`  
`scaleX, scaleY, scaleZ`



-3.6



-9

# transform



-10.5

- rotate(angle)  
rotateX, rotateY, rotateZ



-5

- skew(angleX, angleY)  
skewX, skewY



-5



-3.6



-9

# transform



-10.5

- Webkit has 3-d transforms.



-5

```
p {  
  background-color: #666;  
  -webkit-transform:  
>> translate3d(5deg, 6deg,  
>> 10deg);  
}
```



-5



-3.6



none

transition



-10.5

- Vendor prefixes required.



-5

```
p {
  color: #666;
  -moz-transition: color
  >> 2s;
}
p:hover {
  color: #369;
}
```



-5



-4



9

# Multiple backgrounds



10.5

- You can use longhand.



3.1



4



3.6

```
p {  
  color: #666;  
  background-image:  
  >> url(foreground.png),  
  >> url(background.png);  
  background-repeat:  
  >> no-repeat, repeat-x;  
}
```



9



10.5



3.1



4



3.6

## Multiple backgrounds

- Shorthand is also permitted.

```
p {  
  color: #666;  
  background:  
  >> url(foreground.png)  
  >> no-repeat,  
  >> url(background.png),  
  >> repeat-x;  
}
```



9



10.5



3.1



4



3.6

## Multiple backgrounds

- Shorthand is also permitted.

```
p {  
  color: #666;  
  background:  
  >> url(foreground.png)  
  >> no-repeat,  
  >> url(background.png),  
  >> repeat-x;  
}
```





9



10.5



-5



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4

## background-clip

- Where is the image painted?
- We can define where in the box model the image ends.

```
p {  
  color: #666;  
  background-clip:  
>> content-box;  
}
```



9

# background-origin



10.5

- Position relative to box model.



5

```
p {  
  color: #666;  
  background-position:  
>> 15px 20px;  
  background-origin:  
>> content-box;  
}
```



4



4



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## background-size



10.5

- A background image's size.



5



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4

```
p {  
  color: #666;  
  background-position:  
>> 15px 20px;  
  background-size:  
>> 160px 180px;  
}
```



9

## background-size



10.5

- Cover: smallest area that fits.



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4



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```
p {  
  color: #666;  
  background-position:  
>> 15px 20px;  
  background-size:  
>> cover;  
}
```



9

## background-size



10.5

- Contain: largest area that fits.



5



4



4

```
p {  
  color: #666;  
  background-position:  
>> 15px 20px;  
  background-size:  
>> contain;  
}
```

# Vendor prefixes

3

Where are they from?

What can they do?

Where are they headed?

## Why vendor prefixes?

- The browser wars led to a great deal of nonstandard markup, such as IE's *filter* property.
- Vendor prefixes were originally intended as a way for browsers to test emerging properties.

# Vendor prefixes

- Vendor prefixes look kind of ugly.

```
p {  
  -moz-border-radius: 5px;  
  -o-border-radius: 5px;  
  -webkit-border-radius: 5px;  
  border-radius: 5px;  
}
```



# Vendor prefixes

- Aaron Gustafson: Like the box model hack.

```
#elem {  
  width: [IE width];  
  voice-family: "\"}\"\"";  
  voice-family: inherit;  
  width: [Other browser width];  
}  
html>body #elem {  
  width: [Other browser width];  
}
```

# Vendor prefixes

- Aaron Gustafson: Like the box model hack.

```
p {  
  padding: 10px;  
  width: 200px;  
  w\idth: 180px;  
  height: 200px;  
  heigh\t: 180px;  
}
```

# Advantages of vendor prefixes

- Vendor prefixes mark a property as “in progress,” or still under development.
- If standards change, browsers can adapt.
- According to Meyer, they add “sorely needed flexibility” to the progress of CSS.
- They are progressive rather than regressive.

# Disadvantages of vendor prefixes

- Vendor prefixes are not part of the standard and can increase file size substantially.
- If standards change, browsers can fall back onto the prefix instead of advancing.
- Vendors can now keep and maintain proprietary markup outside of standards.

## The -webkit fight

- In February 2009, the CSS Working Group reported that vendors were considering implementing the -webkit prefix, because other prefixes are much less prevalent.
- This is a move that could set a dangerous precedent; Firefox and Opera would display elements with -webkit just as they would their own prefixes.

## The -webkit fight

- For now, vendor prefixes are here to stay; they are simply too prevalent nowadays.
- Eric Meyer suggests that browsers adopt other prefixes only when they adopt the standard.
- Aaron Gustafson argues that use of vendor prefixes is fraught with risk and we're all responsible for avoiding their use.

# Responsive design and other media

4

CSS and other media

Responsive layout

The box-sizing property

# @media

- @media has been around since CSS 2.

```
@media print {  
  p {  
    font-size: 1.5em;  
  }  
}
```



# @media

- @media supports many other media.

```
@media aural {  
  p {  
    voice-family: female;  
  }  
}
```

@media

- all
- aural
- braille
- embossed
- handheld
- print
- projection
- screen
- tty
- tv

# Media queries

- As you can see, the fundamentals of responsive behavior are nothing new.
- CSS 3 introduces *media queries*, which allow you to denote styles for specific viewport conditions, including orientation, device size, resolution, aspect ratio, and presence of color.

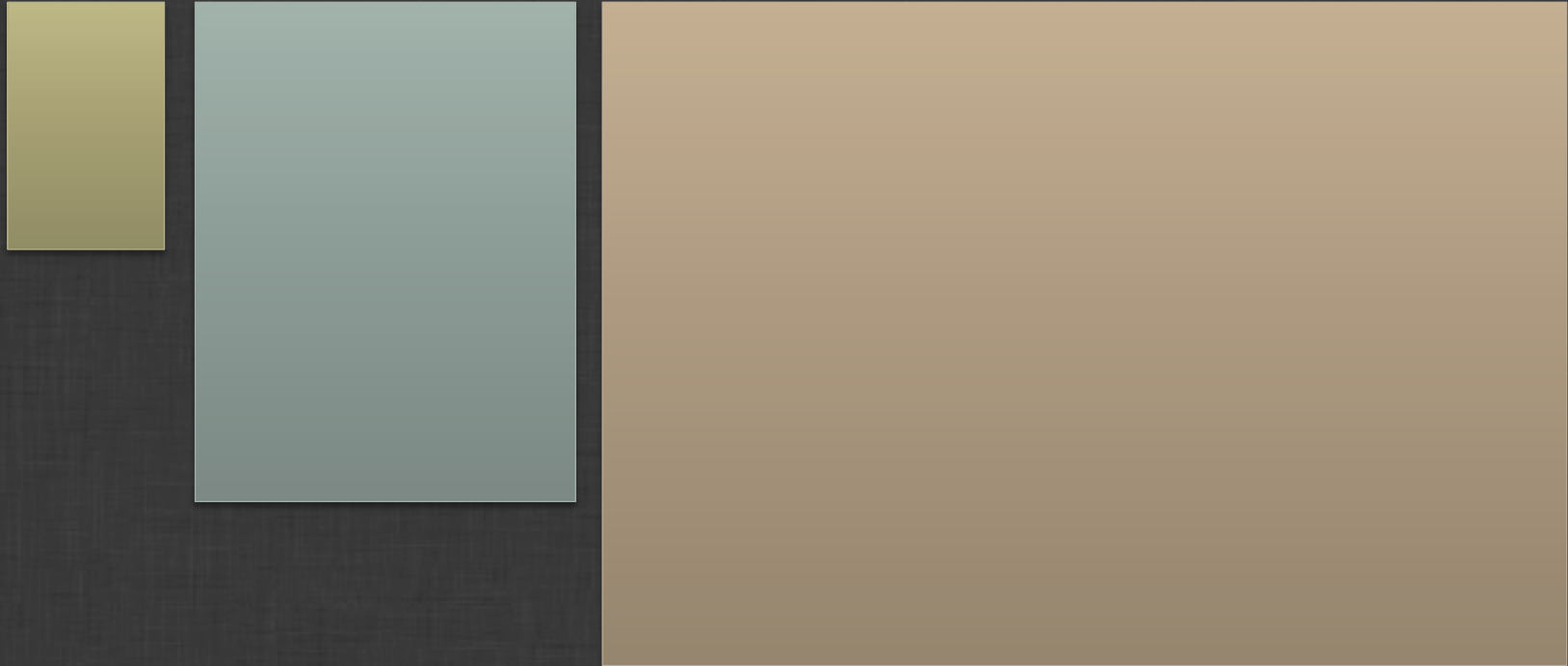
[www.w3.org/TR/css3-mediaqueries](http://www.w3.org/TR/css3-mediaqueries)

# Media queries

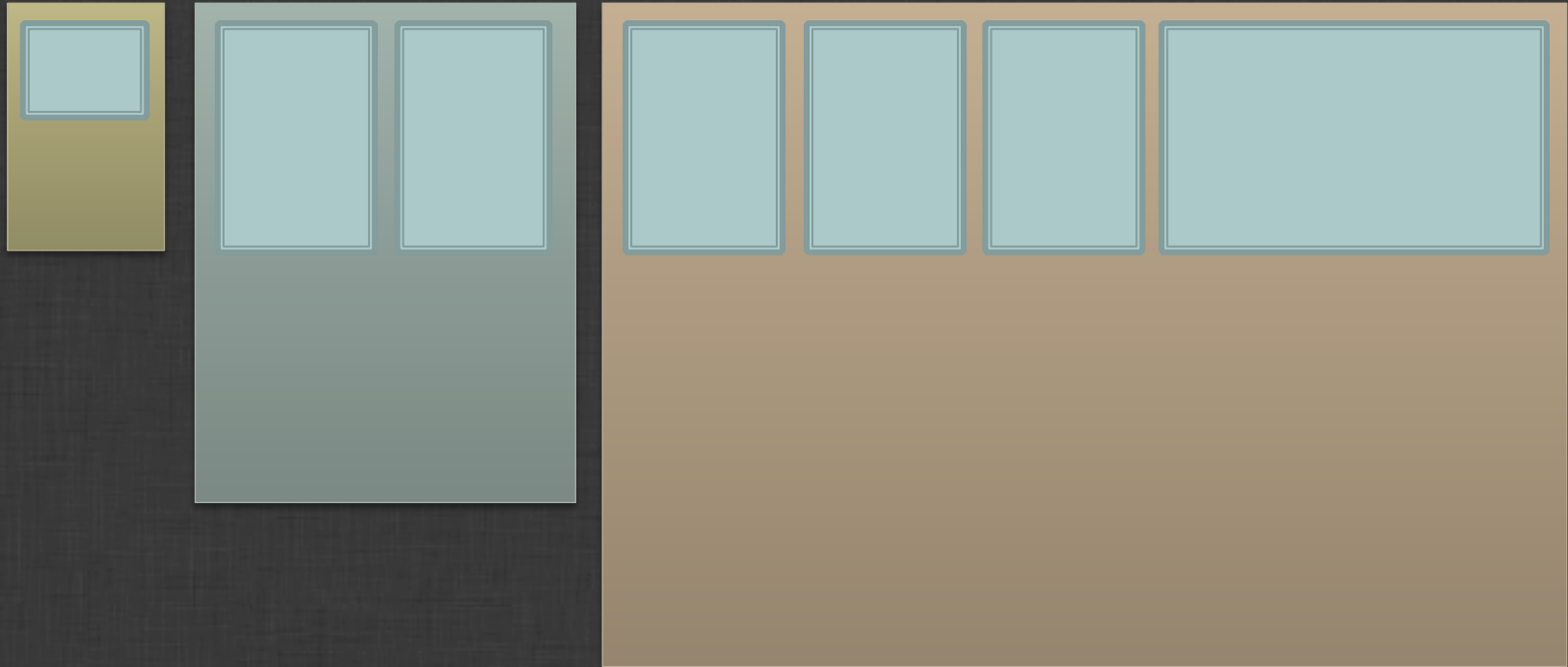
- We can now define responsive behavior.

```
@media screen and (min-width: 20em) {  
  #content {  
    width: 50%;  
    float: left;  
  }  
}
```

# Media queries



# Media queries



## box-sizing

- Netscape 3 and IE 3 had different interpretations of the box model.
- Netscape followed W3C specifications, while IE steadfastly held the “logical” interpretation. This “almost killed CSS” (Eric Meyer).



8

## box-sizing



none

- No more box model pain.



-5



9



-4

```
p {  
  color: #666;  
  box-sizing:  
>> border-box; /* IE */  
  box-sizing:  
>> content-box; /* W3C */  
}
```



# box-sizing

- box-sizing makes gutters and padding easier.

```
@media screen and (min-width: 20em) {  
  #content {  
    box-sizing: content-box; /* W3C */  
    width: 37%;  
    padding: 1.5%;  
  }  
}
```

# box-sizing

- box-sizing makes gutters and padding easier.

```
@media screen and (min-width: 20em) {  
  #content {  
    box-sizing: border-box;  
    width: 40%;  
    padding: 5%;  
  }  
}
```

# Style's the limit



[ajaxian.com/archives/fun-with-3d-css-and-video](http://ajaxian.com/archives/fun-with-3d-css-and-video)

# Going out in style

5

Progress on CSS modules

The future of CSS in Drupal

CSS in the long run

## CSS modules

- CSS split into distinct modules for independent progress.
- Currently, no browser supports the forthcoming markup, except for the `any()` selector, and only with vendor prefixes.

## :matches

- The matches-any pseudoclass.

```
:matches(header, nav, footer) ul {  
  margin: 0;  
  padding: 0;  
}
```

```
/* header ul, nav ul, footer ul { } */
```

## :matches

- :matches already exists in `-vendor-any()`.

```
-moz-any(header, nav, footer) ul,  
-webkit-any(header, nav, footer) ul {  
  margin: 0;  
  padding: 0;  
}  
  
/* header ul, nav ul, footer ul { } */
```

**:dir**

- Including improvements for bidirectional text.

```
p:dir(ltr) {  
  margin-left: 1em;  
}
```

```
p:dir rtl) {  
  margin-right: 1em;  
}
```



# :not

- The negation pseudoclass.

```
:not(header, nav, footer) ul {  
  margin: 0;  
  padding: 0;  
}
```

```
/* not header ul, nav ul, footer ul */
```

# :lang

- And language.

```
p:lang(en) {  
  font-family: Cardo, serif;  
}
```

```
p:lang(ru) {  
  font-family: RusskijModern, serif;  
}
```

# :local-link and :any-link

- Style based on a link's destination.

```
a:local-link {  
  color: purple; /* '/node/1', 'edit/' */  
}
```

```
a:any-link {  
  color: blue; /* 'http://drupal.org' */  
}
```

## /for/

- Reference combinators for qualified names.
- /for/ denotes “having the same ID.”

```
label:hover /for/ input {  
  border-radius: 5px;  
}
```

```
/* Styles the input whose label is  
hovered over. */
```

## \$subject

- We can also target parents of specific children.

```
ol > $li > strong {  
  text-decoration: underline;  
}
```

```
/* Styles the li that contains strong. */  
/* The entire li will have underline. */
```

# Implications for Drupal

- So what does this mean for Drupal?
- Selecting particular cases of parenthood and ID matching will greatly expand what CSS can affect in Drupal, meaning less crufty UIs.

# Implications for Drupal

- Before:

```
<!-- theme output -->
<body class="html front sidebar-right"> ...
<div id="sidebar-right">

/* style.css */
.sidebar-right #content {
  background-image: url('hasright.png');
}
```

# Implications for Drupal

- After: *Woohoo!* Fewer body classes.

```
<!-- theme output -->
<body class="html front"> ...
<div id="sidebar-right">

/* style.css */
$#content > #sidebar-right {
  background-image: url('hasright.png');
}
```



# Implications for Drupal

- Before:

```
<!-- theme output -->  
<ul>  
  <li class="views-row ...">  
  <li class="views-row featured">  
  <li class="views-row ...">  
</ul>
```

# Implications for Drupal

- After:

```
/* style.css */  
$ul > .featured {  
  background-image: url('featured.png');  
}
```

# CSS modules in progress

- CSS Backgrounds and Borders 4  
[www.w3.org/TR/css4-background](http://www.w3.org/TR/css4-background)
- CSS Flexbox  
[www.w3.org/TR/css3-flexbox](http://www.w3.org/TR/css3-flexbox)
- CSS Images 4  
[www.w3.org/TR/css4-images](http://www.w3.org/TR/css4-images)

# CSS modules in progress

- CSS Multi-column Layout  
[www.w3.org/TR/css3-multicol](http://www.w3.org/TR/css3-multicol)
- CSS Selectors 4  
[www.w3.org/TR/selectors4](http://www.w3.org/TR/selectors4)
- CSS Values and Units 3  
[www.w3.org/TR/css3-values](http://www.w3.org/TR/css3-values)

## More general implications

- We have new syntax which can be considered more logical or programmatic than before.
- How far should a style sheet language go?
- These advancements have huge advantages for Drupal in the long run.

# Thank you!

- **Preston So** (@prestonso) is Prototype Developer at Acquia, co-maintainer of the Spark distribution and co-founder of the Southern Colorado Drupal Group.

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