

Building Web Applications with HTML5, CSS3, and Javascript:

An Introduction to HTML5

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pinboard.in #tag

pinboard.in/u:jasonclark/t:lita-html5/

twitter #hashtag

#litahtml5

Overview

- New Features and Functions
- Demos
- Getting Started
- Questions



We landed on the moon and we left stuff there. A lot of it.

5 9 2 3 7

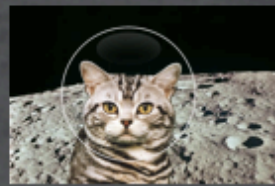
things left so far.



1 BIG DOUGHNUT



1 LAWNMOWER



1 ASTRO CAT



1 RECLINER






1 MAGIC GNOME

LATEST THING NEWS

New things discovered this week

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TOP CATEGORIES

Furniture	185 items	
Fashion	4,729 items	
Pets	4 items	

CSS3 example - <http://css3exp.com/moon/>

Evolution into CSS3

Rethinking web displays and styles

Vendor Prefixes

- Add support for emerging parts of CSS spec

Android: -webkit-

Chrome: -webkit-

Firefox: -moz-

Internet Explorer: -ms-

iOS: -webkit-

Opera: -o-

Safari: -webkit-

Minification

- Removing unnecessary characters and spacing from code to reduce size, and optimizing the code to improve load times

CSS compressor

<http://www.minifycss.com/css-compressor/>

Box Sizing

- Set how the browser calculates the width of an element to include (or not include) padding, borders, and margins

```
div.doc {  
    width: 200px;  
    padding: 0 30px;  
    -webkit-box-sizing: border-box;  
    -moz-box-sizing: border-box;  
    box-sizing: border-box;  
}
```

Resize

- Set element to be resized vertically and/or horizontally using a bottom-right UI handle

```
div.doc {  
    overflow: hidden;  
    -moz-resize: both;  
    resize: both;  
}
```

Rounded Elements

- border-radius declaration
- smooth out your interfaces
- button effects

```
-moz-border-radius: 10px 5px;  
-webkit-border-top-left-radius: 10px;  
-webkit-border-top-right-radius: 5px;  
-webkit-border-bottom-right-radius: 10px;  
-webkit-border-bottom-left-radius: 5px;  
border-radius: 10px 5px;
```

Gradients and Opacity

- no more images for showing gradient
- transparency

Selectors

- Target specific elements or markup in a series

`div[attr] and a[href$=pdf]`

Attribute selector (starts with, ends with, contains)

`ul > li`

Immediate descendant (child) selector

`td:last-child {border-right:0 none;}`

`li:nth-child(n+6) {color: grey;}`

Multiple Backgrounds

- Position background images
- Create layered effects

```
body {  
  background:  
    url(../images/top-left.png) top left fixed  
    no-repeat,  
    url(../images/bot-left.png) bottom left  
    fixed no-repeat,  
    url(../images/bot-right.png) bottom right  
    fixed no-repeat;  
  background-color: #2f2626;  
}
```

CSS generated content

- Uses CSS content property
- Applied with :before or :after pseudo elements

- :first-letter, :first-line (CSS 1 & 2)
- ::selection (CSS 3)

```
h1:before {  
    content: "I.";  
}
```

```
a:after {  
    content: attr(href)  
}
```

Transitions

- Animation behavior
 - Scaling, fading, easing, etc.

```
body {  
  -o-transition:all .2s linear;  
  -moz-transition:all .2s linear;  
  -webkit-transition:all .2s linear;  
  transition:all .2s linear;  
}
```


Transform

- Applies a 2D or 3D transformation to an element
 - Rotate, scale, move, etc.

```
li:hover {  
    -moz-transform:scale(1.15);  
    -ms-transform:scale(1.15);  
    -o-transform:scale(1.15);  
    -webkit-transform:scale(1.15);  
    transform:scale(1.15);  
}
```

position:fixed

- Create an element that stays in the same position even after scrolling the page

```
nav {  
  position:fixed;  
  top:2%;  
  right:2%;  
}
```

min/max-width/height

- Set and control the width and height of element boxes.
- `min-width`, `max-width`, `min-height`, `max-height`

```
main {  
  min-height: 480px;  
  height: 520px;  
  width: 100%;  
}
```

Columns and Grids

- Layout and page structure
- Goodbye, float?

```
ul#content {  
  -webkit-column-count: 3;  
  -webkit-column-rule: 1px solid #eee;  
  -webkit-column-gap: 1em;  
  -moz-column-count: 3;  
  -moz-column-rule: 1px solid #eee;  
  -moz-column-gap: 1em;  
  column-count: 3;  
  column-rule: 1px solid #eee;  
  column-gap: 1em;  
  display: block;  
}
```

Flexbox

- A flexible box model?

```
body>div#main {  
  display: -webkit-flexbox;  
  display: -moz-flexbox;  
  display: -ms-flexbox;  
  display: -o-flexbox;  
  height: 500px;  
  padding: 1em;  
  background-color: gray;  
}
```

@supports

- Detect support of CSS features directly in CSS

```
@supports (display: flex) {  
  div {  
    display: flex;  
  }  
}
```

```
@supports (column-count: 1) or (-moz-  
  column-count: 1) { ... }
```

Media Queries

- switch stylesheets based on width and height of viewport
- same content, new view depending on device

```
@media screen and (max-device-width:480px) {... mobile styles here... }
```

* note “em” measurements based on base sizing of main body font are becoming standard (not pixels)

Media Queries in Action

```
<link rel="stylesheet"  
  type="text/css" media="screen  
  and (max-device-width:480px) and  
  (resolution: 163dpi)"  
  href="shetland.css" />
```

Responsive Web Design, Ethan Marcotte

<http://www.alistapart.com/articles/responsive-web-design>

@Font-Face

- bring in fonts
- use any licensed TrueType (.ttf) or OpenType (.otf) font
- independent of machine it's being rendered on...

Demos & Examples

It's your call....

Demos

- Mozilla Developer Network - CSS3
 - <https://developer.mozilla.org/en-US/demos/tag/tech:css3>
- 24 ways CSS3 demo
 - <http://24ways.org/>
- HTML5 Demos
 - <http://html5demos.com/>

Resources

- CSS3 Previews
 - <http://www.css3.info/preview/>
- HTML5rocks
 - html5rocks.com
- HTML5 Please
 - html5please.com/#use

Assignment 2

- Using HTML5 CSS template
 - <http://www.lib.montana.edu/~jason/files/html5-mobile-feed/template.css>
 1. Add columns to HTML5 template
 2. Add animation to an element in HTML5 template
 3. Create "touchable" nav buttons for main navigation
 4. Add media query for mobile device to HTML5 template

Questions?

twitter.com/jaclark

www.lib.montana.edu/~jason/talks.php

Episode IV

A NEW HOPE

*It is a period of civil war.
Rebel spaceships, striking
from a hidden base, have won
their first victory against
the evil Galactic Empire.*

*During the battle, Rebel
forces managed to steal secret
plans to the Empire's*