HTML 5

a big design events workshop
mark mcspadden
2012-03-21

10 years

over 1000

mountain dews

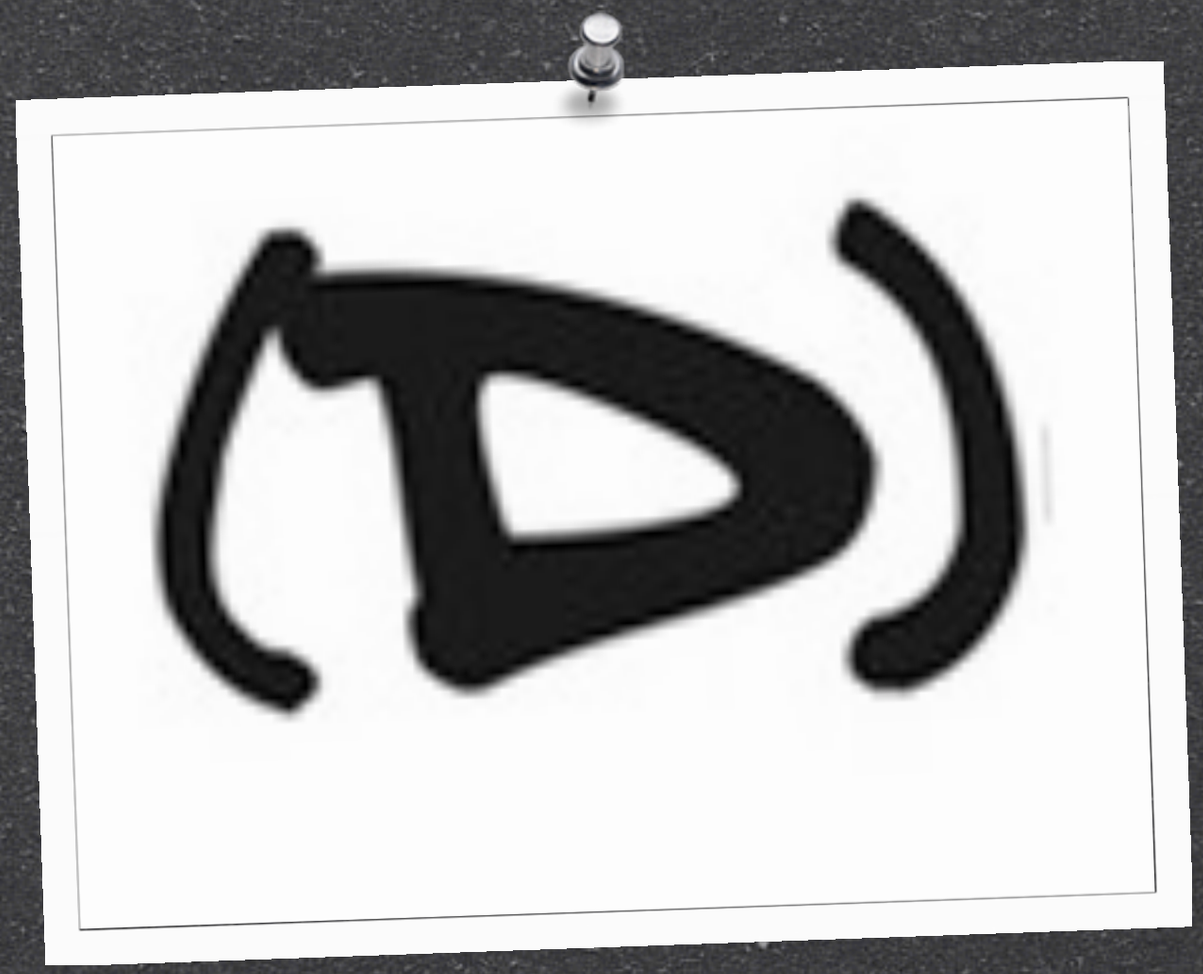
full stack

i'm
hacking

i’m
winning

i'm

LivingSocial


(D)

cool people

great content

conference

may 31 - june 2

you should go

(i can't)

Semantics

CSS 3

Local Storage and Application Cache

Geolocation

Client/Server Communication

slides and examples

labs and practice

bigdhtml5.herokuapp.com

github.com/
markmcspadden/html5-demo

What is HTML 5?

http://www.etsy.com/listing/60490310/double-rainbow-and-a-unicorn-id-tag-pet

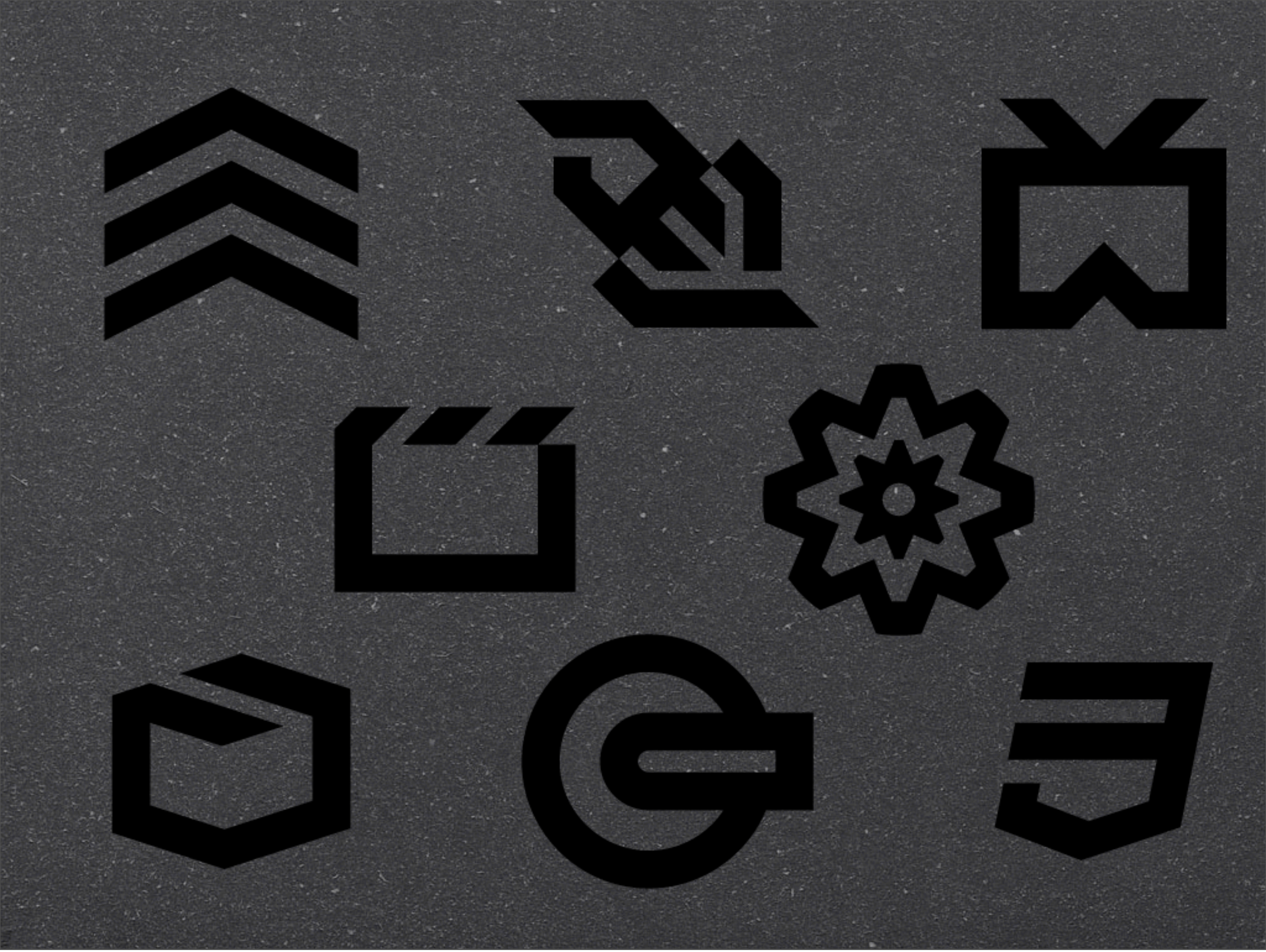
latest version of the html specification

it is a
BIG
BORING
DOCUMENT

people don’t like

BORING DOCUMENTS

http://www.w3.org/html/logo/



make the web
feel native

building blocks

<!DOCTYPE html>

XHTML???

```
<input type="text">
<input type="text" />
```

```
<input type="text" required>
<input type="text"
    required="required" />
```

browser compatibility

http://caniuse.com

http://mobilehtml5.org/

http://modernizr.com/

Semantics

tags and attributes

structure tags

header
nav
aside
footer

content tags

section
article
figure

```
<figure>
  <img src="/images/longcat.jpg"
       alt="Longcat is Long" />
  <figcaption>
    Longcat is long
  </figcaption>
</figure>
```

```
article, aside, figure,
footer, header, nav, section
{ display:block; }
```

media tags

audio

video

these are no picnic

codecs & licenses

browser (in)compatibility

forms

input types

```
<input type="search" results="10" />
```

mostly for style

results broken in Chrome

```
<input type="tel" />
```

smartphone keyboards

no format validation

```
<input type="email" />
<input type="url" />
```

smartphone keyboards

format validation

```
<input type="datetime" />
<input type="date"
        max="2012-10-01" />
<input type="time" min="08:00"
        max="19:00" step="15" />
```

smartphone keyboards

some browsers
provide arrow input

no format validation

invalid formats set
to empty string*

```
<input type="number" min="0"
max="100" step="10" />
```

some browsers
provide arrow input

possible validation

```
<input type="range" max="100"
step="5" />
```

no need for
validation*

```
<input type="color" />
```

only in opera

input attributes

placeholder

```
<label>Favorite Hobby</label>:
<input type="text"
        placeholder="running,
traveling, knitting"/>
```

"The placeholder attribute should not be used as an alternative to a label."

```
<input type="text"
placeholder="Favorite Hobby"/>
```

gotcha: agents may remove line breaks

required

```
<input type="text" required />
```

autofocus

```
<input type="text" autofocus />
```

only one per page*

canvas
microdata
data- attributes
...

examples

labs & practice

build a contact us form

or

layout a blog

or

embed some media

CSS 3

not HTML 5

it’s another

BORING SPECIFICATION

except it’s not
1 specification

more like

20 specifications

color, backgrounds &
borders, selectors,
box model, values &
units, etc.

lots of
information

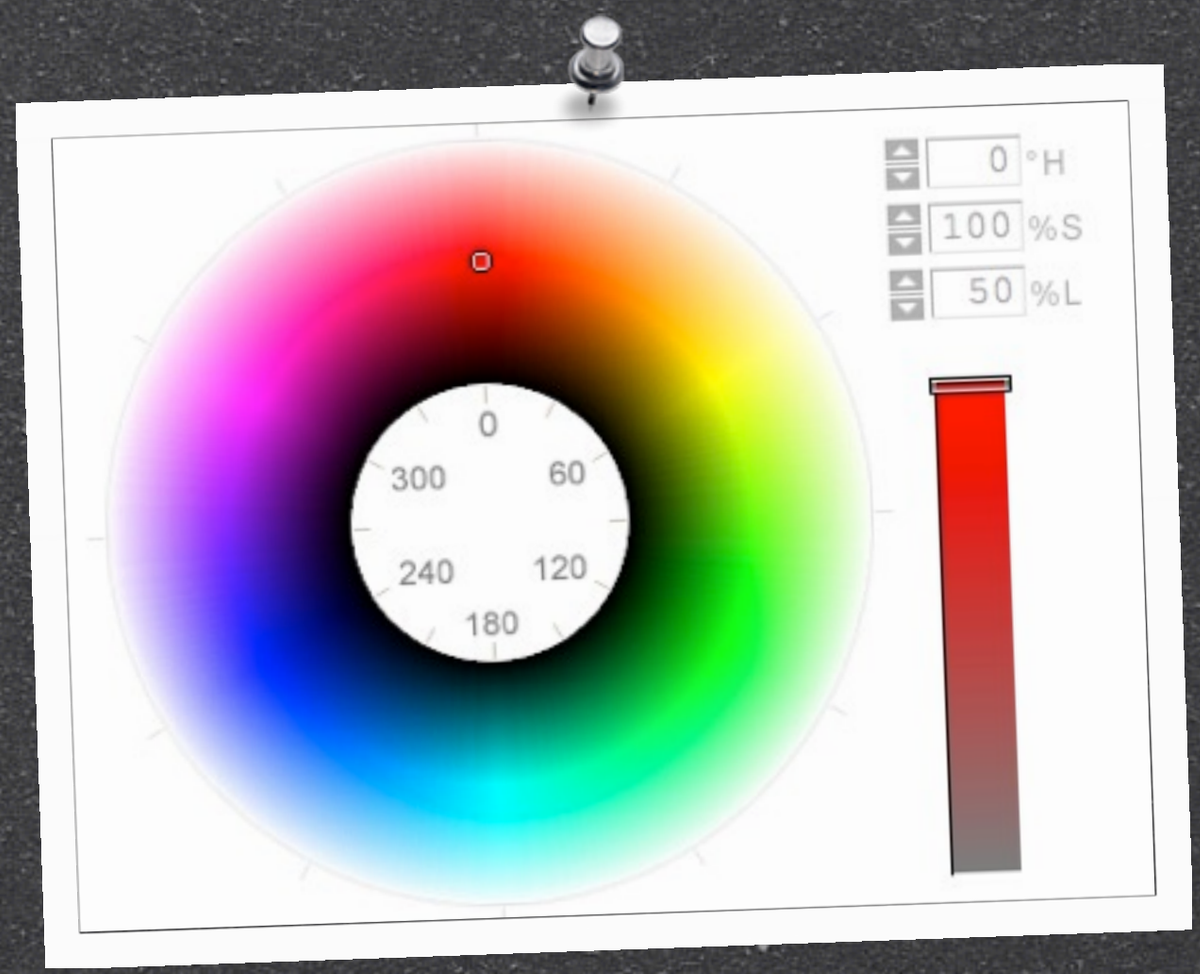
lots of
possibilities

http://graphicpeel.com/cssiosicons

color

hsl

hue
saturation
lightness



http://www.workwithcolor.com/hsl-color-picker-01.htm

```
div#smiley {
  background-color: hsl(60,100%,65%);
}
```

border-radius

```
div#smiley {
  border-radius: 20px;
}
```

```
div#smiley {
  -moz-border-radius: 20px;
  -webkit-border-radius: 20px;
  border-radius: 20px;
}
```

```
div#lego-man {
  border-radius: 20px;
  border-top-left-radius: 0px;
  border-top-right-radius: 0px;
}
```

```
div#lego-man {
  -moz-border-radius: 20px;
  -moz-border-radius-topleft: 0px;
  -moz-border-radius-topright: 0px;
  -webkit-border-radius: 20px;
  -webkit-border-top-left-radius: 0px;
  -webkit-border-top-right-radius: 0px;
  border-radius: 20px;
  border-top-left-radius: 0px;
  border-top-right-radius: 0px;
}
```

shadows

text-shadow

```
h1 {
  text-shadow: 2px 2px 1px hsl(80,50%,50%);
}
```

box-shadow

```
header {
  box-shadow: 2px 2px 1px hsl(240,50%,50%);
}
```

```
header {
  -moz-box-shadow: 2px 2px 1px hsl(240,50%,50%);
  -webkit-box-shadow: 2px 2px 1px hsl(240,50%,50%);
  box-shadow: 2px 2px 1px hsl(240,50%,50%);
}
```

gradients

```
nav {
  /* Safari 4-5, Chrome 1-9 */
  background: -webkit-gradient(linear, 0% 0%, 0% 100%, from(#000000),
to(#6e6e6e));

  /* Safari 5.1, Chrome 10+ */
  background: -webkit-linear-gradient(top, #000000, #6e6e6e);

  /* Firefox 3.6+ */
  background: -moz-linear-gradient(top, #000000, #6e6e6e);

  /* IE 10 */
  background: -ms-linear-gradient(top, #000000, #6e6e6e);

  /* Opera 11.10+ */
  background: -o-linear-gradient(top, #000000, #6e6e6e);
}
```

please don’t
handcode all these

less

sass

examples

labs & practice

build a CSS 3 smiley face

Local Storage Application Cache

not really related

Local Storage

actually the spec calls it

WebStorage

used for client side
storage of data

data that lives beyond the session

data that can be
several MB in size

if cookies are kept
in a cookie jar...

then Local Storage
is the kitchen
pantry.

one pantry
per origin

no cheating

accessed via a
javascript api

localStorage

key value store

```
localStorage.setItem("name","Mark");
localStorage.getItem("name");
```

```
localStorage.name = "Mark";
localStorage.name;
```

```
var key = localStorage.key(0);
var val = localStorage.getItem(key);
```

```
localStorage.clear();
```

examples

labs & practice

store in LC
retrieve from LC
clear LC

Application Cache

cache sites
use them offline

great for some sites

not great for others

defined in the
“offline” spec

(again with the name changing...geez)

manifest

```
CACHE MANIFEST

# Version 0.0.1

CACHE:
/js/offline.js

NETWORK:
*

FALLBACK:
```

```
<html manifest="mycache.appcache">
```

manifest file must be served as text/cache-manifest

manifest reloads anytime it is changed

using Application Cache may cause side effects

side effects
may include

caching the html page that calls the manifest

AND

multiple reloads needed for client to receive changes

AND

nausea, upset stomach, vomiting, cursing, headaches, facepalms, headdesks, swelling of the hands, feet, and face, career reconsideration, and dry mouth

examples

labs & practice

experiment with AC

try not to yell at the computer

Geolocation

agnostic of
underlying location
information source

ip addresses/routing
cell towers
GPS
RFID

“No guarantee is given that the API returns the device's actual location”

“User Agents must not send location information to Web sites without the express permission of the user.”

2 main api calls

```
navigator.
geolocation.
getCurrentPosition(mySuccessCallback)
```

```
function mySuccessCallback(position) {
  alert(position.coords);
}
```

```
position.coords.latitude
position.coords.longitude
position.coords.altitude
position.coords.speed
position.coords.heading
position.coords.accuracy
position.coords.altitudeAccuracy
position.coords.timestamp
```

```
watchId = navigator.geolocation.
watchPosition(displayPosition,
      displayError,
      {enableHighAccuracy:true});

navigator.geolocation.
clearWatch(watchId);
```

examples

labs & practice

experiment with Geolocation

Client/Server Communication

Push State

not really client/server communication

defined by the
“History” spec

yes....more name switcheroos

allows the client to augment its history

why do we need this?

ajax is super cool

ajax makes urls suck

urls cannot suck

the web was
built on urls

now the world is
built on ajax

ajax and urls need a way to play nice

failed attempts

(a #! story)

the History api is
the answer

basic steps

1) fetch full page content via ajax

2) manipulate that content and add only what you want to the current page

3) tell the History
api what you did

```
// currently on http://example.org/t1.html

var url = “http://example.org/t2.html”
var fullText = fetchPage(url);
var newText = parseText(fullText);
var newTitle = parseTitle(fullText);
insertTextToCurrentPage(newText);

history.pushState(null,newTitle,url);
```

history.js

pjax

examples

labs & practice

experiment with
demo app

or

github.com

or

the new basecamp

WebSockets

maintained two way
client/server
communication

websocket is a protocol

html 5 supports an implementation of that protocol

the protocol allows
the creation of
subprotocols

there is a lot of potential here

basic steps

```
var url = "ws://echo.websocket.org/";
var ws = new WebSocket(url);
```

```
ws.onopen = function(evt)
                { myOpen(evt) };
ws.onclose = function(evt)
                { myClose(evt) };
ws.onmessage = function(evt)
                { myMessage(evt) };
ws.onerror = function(evt)
                { myError(evt) };
```

```
ws.send("Hello, World!");

ws.close();
```

connection is established on construction

that is kind of a
little bit scary

everyone says it’s
ok and
not to worry

timeouts and
keepalives
also a concern

socket.io

examples

labs & practice

experiment with WebSockets

Resources

SPECIFICATIONS

http://www.w3.org/
http://www.w3.org/html/logo/

HTML 5 Working Draft: http://www.w3.org/TR/html5/
HTML 5 Editor's Draft: http://dev.w3.org/html5/spec/Overview.html

http://dev.w3.org/html5/spec/syntax.html#the-doctype
http://www.w3.org/Style/CSS/current-work
http://dev.w3.org/html5/webstorage/
http://www.w3.org/TR/html5/offline.html#appcache
http://dev.w3.org/geo/api/spec-source.html
http://www.w3.org/TR/html5/history.html
http://dev.w3.org/html5/websockets/

Websockets Protocol: http://tools.ietf.org/html/rfc6455

TUTORIALS, EXPLANATIONS, and NEWS

http://diveintohtml5.info
http://www.html5rocks.com
http://html5weekly.com/

http://caniuse.com/
http://mobilehtml5.org/
http://modernizr.com/
http://html5test.com/

http://diveintohtml5.info/peeks-pokes-and-pointers.html
http://www.workwithcolor.com/hsl-color-picker-01.htm
http://amzn.com/1118008189 (HTML and CSS Book)

Thanks!

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