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HTML5 and the dawn of rich mobile web applications



```
building(  
  mobile.web().apps([  
    html5, css3, js  
  ]).crossPlatform()  
);
```



```
building(  
  mobile.web().apps([  
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  ]).crossPlatform()  
);
```

2008

**We must have an
iPhone App!**



2009

**We must have an
Android App!**



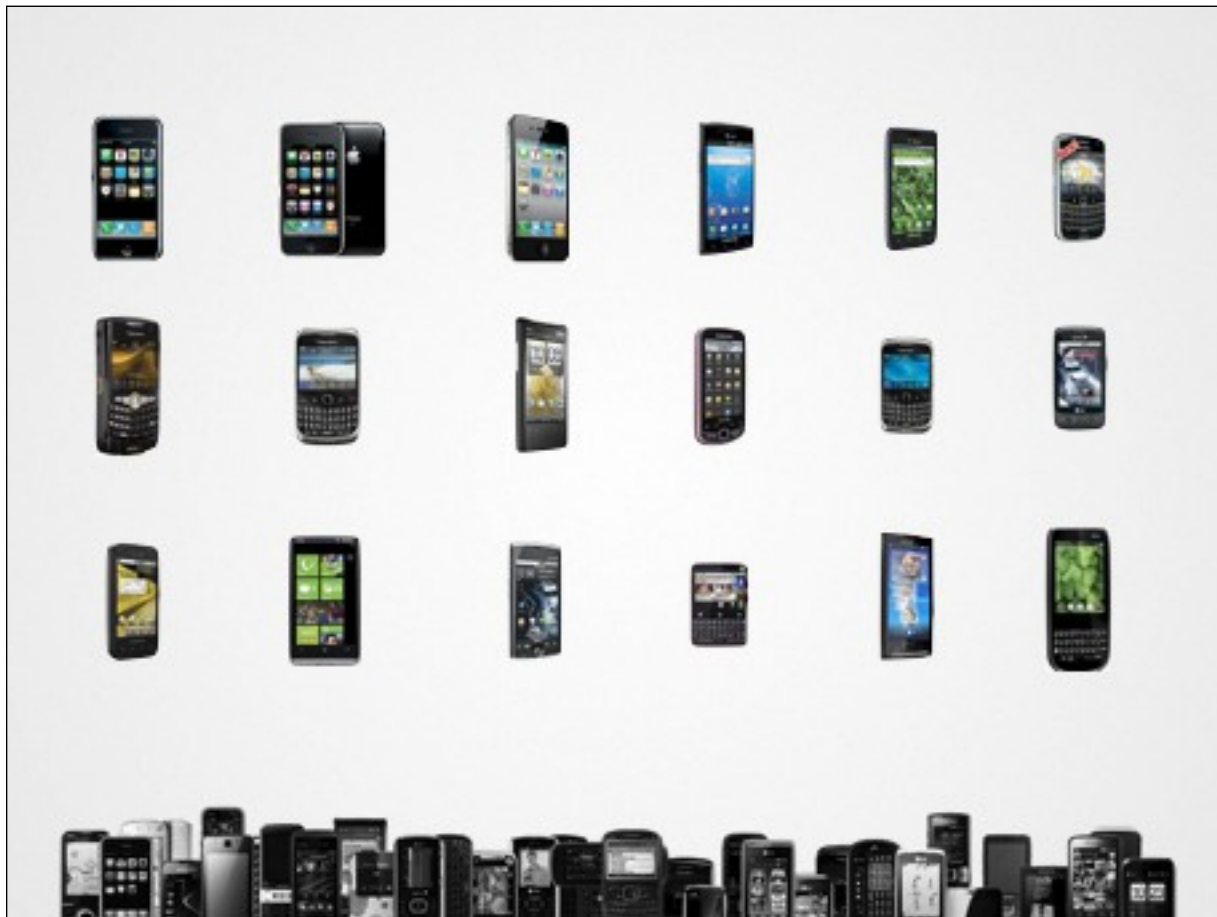
2010

**We must have an
iPad App!**

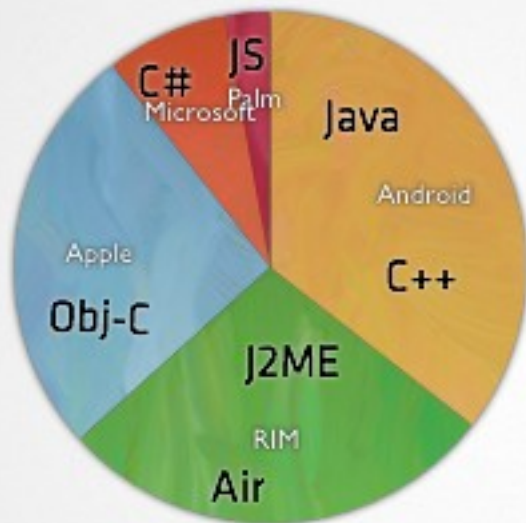


2011

We must have a...

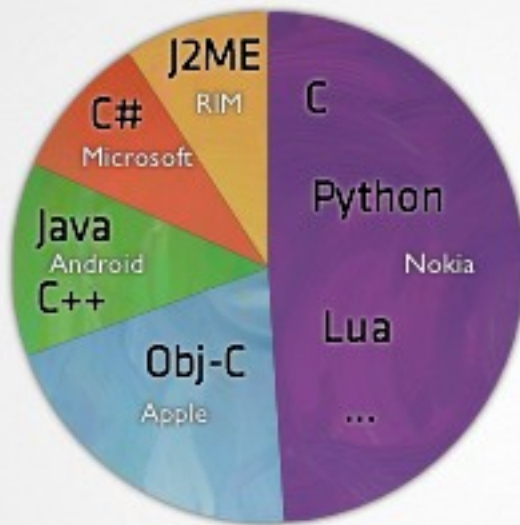


omfg



- Android
- RIM
- Apple
- Microsoft
- Palm

Top U.S. Smartphone Platforms,
3 Month Average Ending Mar 2011
comScore MobiLens 2011

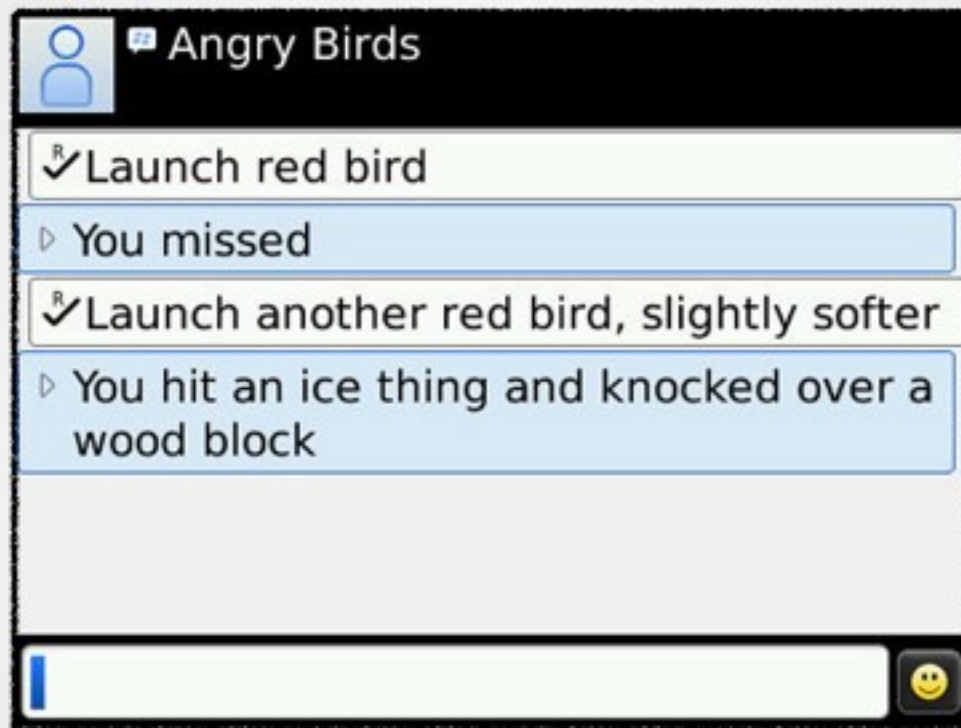


- Nokia
- Apple
- Android
- Microsoft
- RIM

Top EU5 Smartphone Platforms,
3 Month Average Ending December 2010
comScore MobiLens 2010

<http://www.cloudfour.com/a-comprehensive-guide-to-mobile-statistics/>





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  mobile.web().apps([  
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```


The Mobile Web

Cross-platform
Familiar skills & tools
Decentralized
Easily updated
Indexed
Well-understood technologies



Documents



Applications

Declarative HTML



Programmatic JS

Thin client



Thick client

One PC



Multiple devices

Sedentary usage

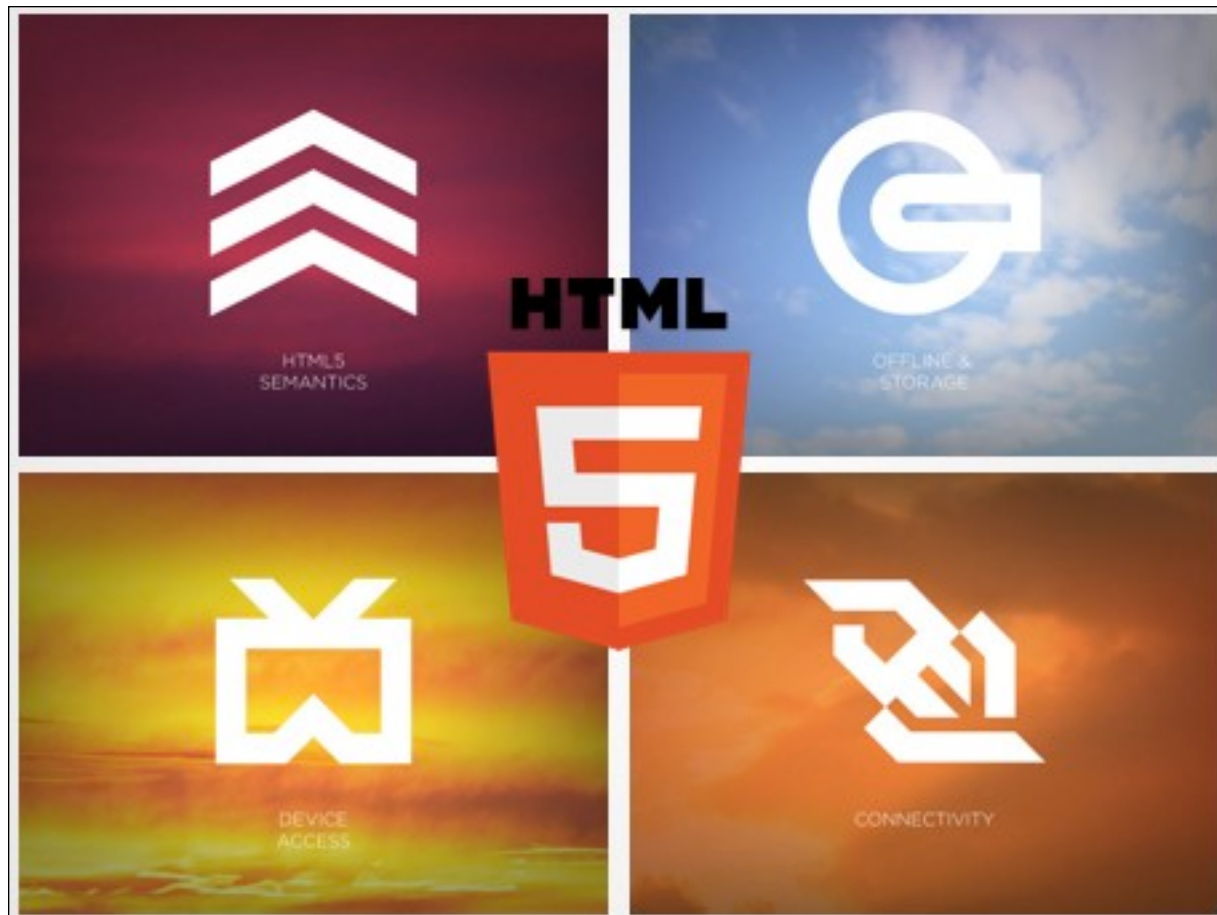


Mobile usage

HTML



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```



A New Mobile App Stack



Rich Media & Styling
Full Resource Access
Parallel Processing
Inter-App Communication
COMPLETE MODERN APP PLATFORM
Offline Capability


```
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    html5, css3, js  
  ]).crossPlatform()  
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```





```
building(  
  mobile.web().apps([  
    html5, css3, js  
  ]).crossPlatform()  
);
```



WebKit



FOEs

HTML5 Support



Stay on top of diversity

Can I Use?

<http://caniuse.com>

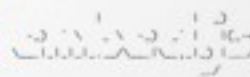
Modernizr

<http://modernizr.com>

DeviceAtlas

<http://deviceatlas.com>





Documents	_____	Applications
Declarative HTML	_____	Programmatic DOM
Thin client	_____	Thick client
Themes	_____	APIs
URLs	_____	Arguments
Request/Response	_____	Synchronization



jQTouch

UI layer on top of jQuery
Declarative HTML
Library progressively enhances
Browsers:

iOS (iPhone/iPod)
Android
BlackBerry v6
Most WebKit-based browsers

<http://jQTouch.com>



jQTouch

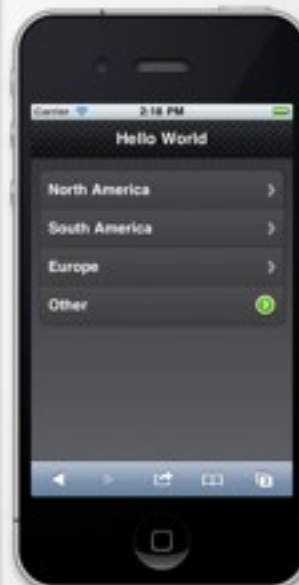
```
<!DOCTYPE html>
<html>
  <head>
    <title>jQTouch</title>
    <script src="jq.js"></script>
    <script src="jqt.js"></script>
    <link rel="stylesheet" href="jqt.css" />
    <link rel="stylesheet" href="jqt-theme.css" />

    <script type="text/javascript" charset="utf-8">
      var jQT = new $.jQTouch({});
    </script>

  </head>
  <body>
    <div id="home">
      <div class="toolbar">
        <h1>Hello World</h1>
      </div>
      <ul class="rounded">
        <li class="arrow"><a href="/na.html">North America</a></li>
        <li class="arrow"><a href="/sa.html">South America</a></li>
        <li class="arrow"><a href="/eu.html">Europe</a></li>
        <li class="forward"><a href="/other.html">Other</a></li>
      </ul>
    </div>
  </body>
</html>
```

Scripts & stylesheets

CSS classes for semantics & config



jQuery Mobile (alpha)

UI layer on top of jQuery

Declarative HTML

Library progressively enhances

Browsers:

iOS (iPhone/iPad)

Android

BlackBerry v5+

Symbian v5, MeeGo, webOS

<http://jquerymobile.com>



jQuery Mobile

```
<!DOCTYPE html>
<html>
  <head>
    <title>jQuery Mobile</title>
    <script src="jq.js"></script>
    <script src="jqm.js"></script>
    <link rel="stylesheet" href="jqm.css" />
  </head>
  <body>

    <div data-role="page" id="home">

      <div data-role="header">
        <h1>Hello World</h1>
      </div>

      <div data-role="content">
        <ul data-role="listview" data-inset="true">
          <li data-role="list-divider">Continents</li>
          <li><a href="/na.html">North America</a></li>
          <li><a href="/sa.html">South America</a></li>
          <li><a href="/eu.html">Europe</a></li>
        </ul>
      </div>

    </div>
  </body>
</html>
```

Scripts & stylesheet

data-* for semantics & config



Sencha Touch

Self-contained library

Programmatic Javascript

Standalone MVC applications

Browsers:

iOS (iPhone/iPad)

Android

BlackBerry v6 & QNX

Bada, MeeGo & other WebKit

Windows Phone 7*

<http://sencha.com/touch>

* with IE9



Sencha Touch

```
<!DOCTYPE html>
<html>
  <head>
    <title>Sencha Touch</title>
    <script src="st.js"></script>
    <link rel="stylesheet" href="st.css" />
    <script type="text/javascript" charset="utf-8">

      new Ext.Application({
        launch: function() {

          Ext.regModel('Continent', {fields: ['name', 'link']});

          var continents = new Ext.data.Store({model: 'Continent',
            data: [
              {name: 'North America', link: 'na'},
              {name: 'South America', link: 'sa'},
              {name: 'Europe', link: 'eu'}
            ]
          });

          new Ext.Panel({
            fullscreen: true,
            dockedItems: [{
              xtype: 'toolbar', title: 'Hello world',
            }],
            items: [{
              xtype: 'list', itemTpl: '{name}', store: continents
            }]
          });
        }
      });
    </script>
  </head><body></body>
</html>
```

Data model
& records

Programmatically create
toolbar & list





Progressive Enhancement?

What's in a good framework?

- Layouts & components
- Theming & icons
- Orientation & animation
- Touch events & scroller
- Data package
- MVC framework



Components

Lists

- Nested, Grouped, Sortable

Carousel

Picker

Overlay

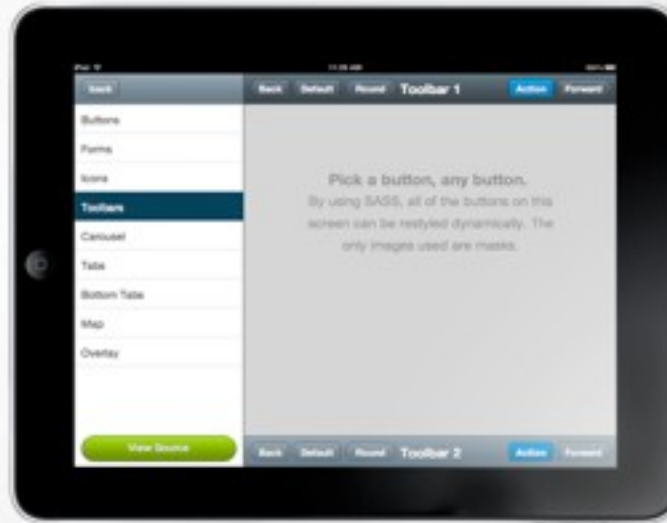
Slider

Forms & fields

Toolbars & buttons

HTML5

- Audio
- Video
- GeoLocation



Theming

Use CSS3 & SASS

- Flexible themes
- Highly optimized



Forms

Personal Info

Name*	Johnny Appleseed
Password	
Email	you@domain.com
Url	http://google.com
Cool	
Birthday	
Rank	Master
Bio	

Date Picker

		1991
January	1	1992
February	2	1993

Slider

Value

Toggle Switch

Enable

Scrolling

Momentum/bounce physics

Hardware accelerated

Throughout all components:

- Lists
- Carousel
- Pickers



Touch Events

Built on native events

Abstracted for performance

Additional events

- Tap
- Double tap
- Tap and hold
- Swipe
- Rotate
- Drag & drop



Data Package

Models, Stores, and Proxies

- Associations
- Validation
- Local & server storage

Easily consume web services

- JSON/P
- XML
- YQL



“The Kitchen Sink”



```
building(  
    mobile.web().apps([  
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);
```

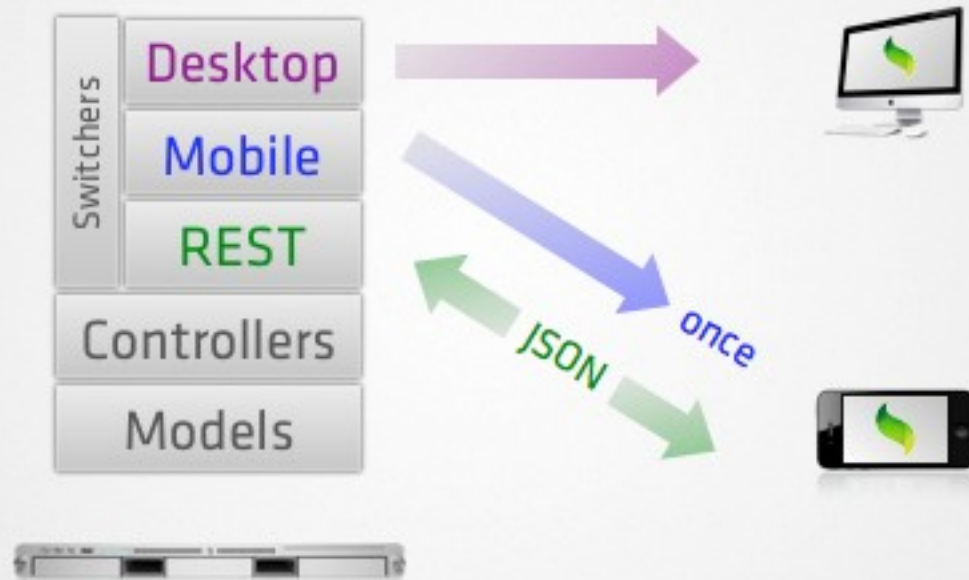
Evolving the web for mobile



Evolving the web for mobile



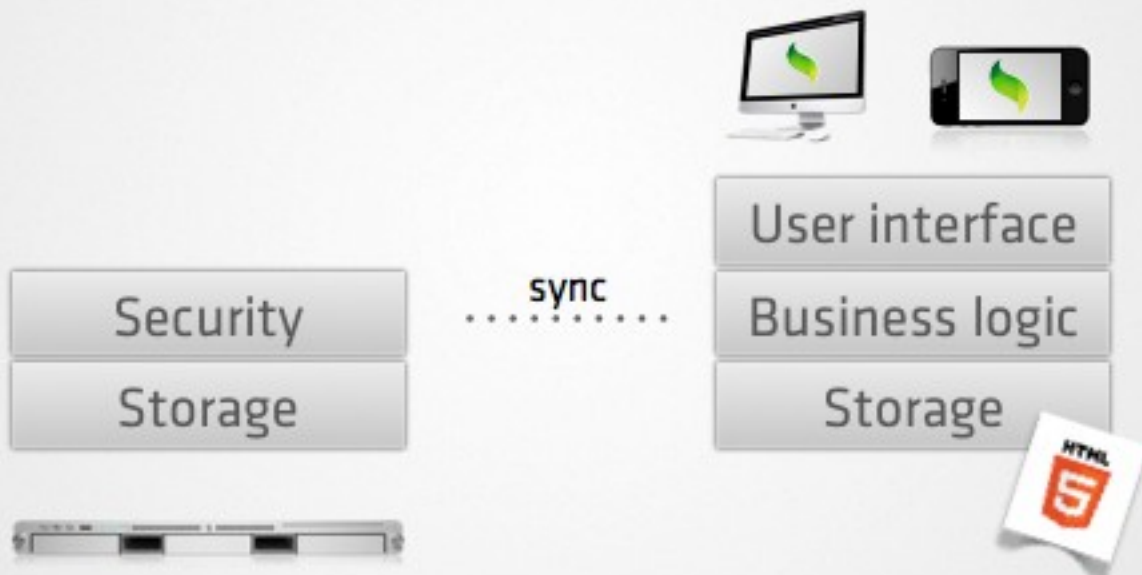
Evolving the web for mobile



The classic web stack



The next web stack?



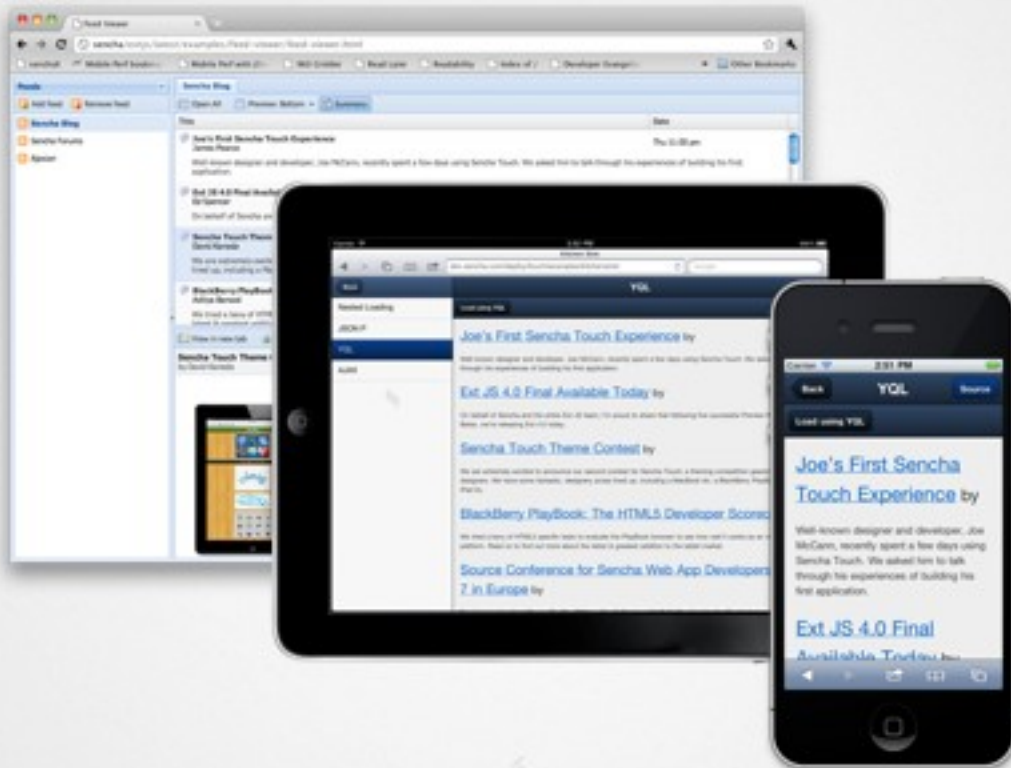
**Write once,
run anywhere?**

Er, no.

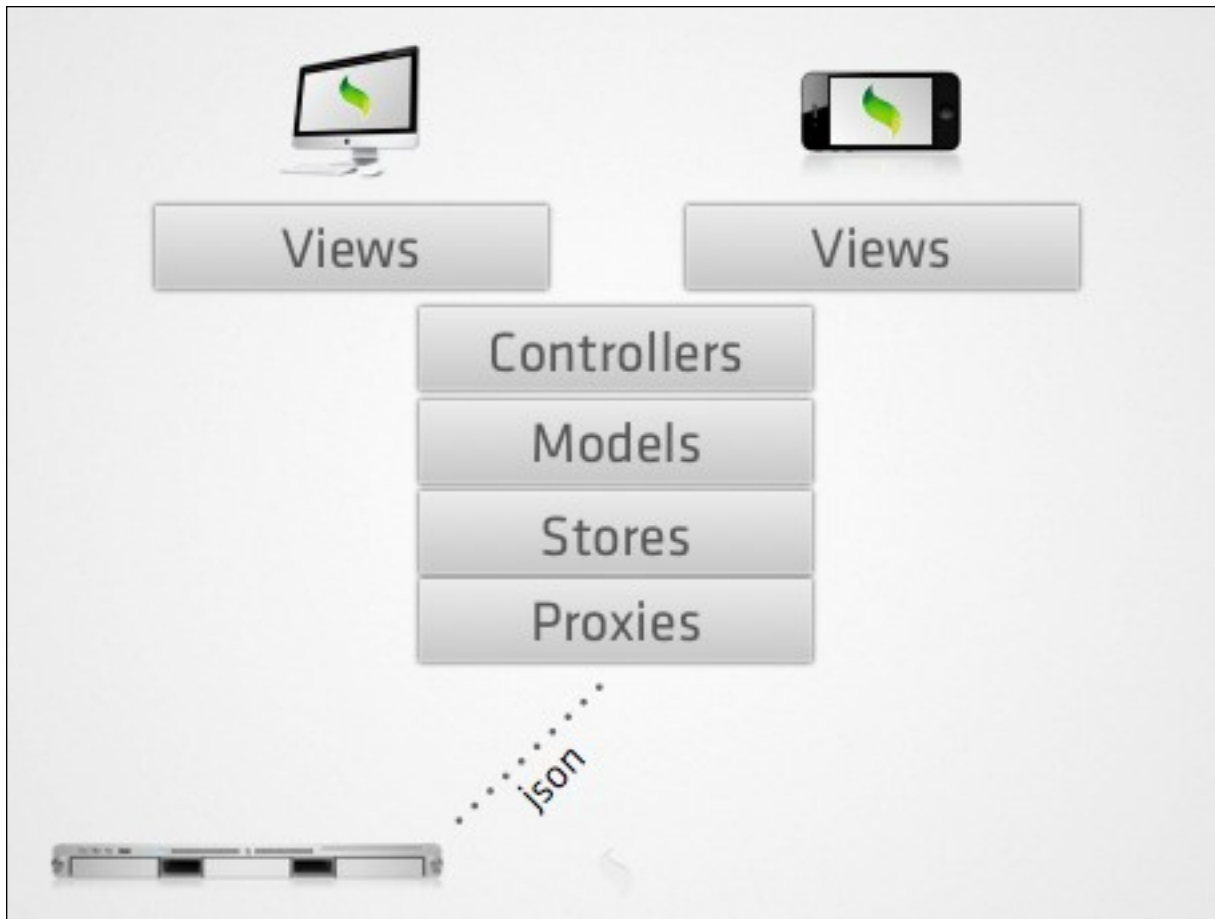
“

**The Mobile Web
is not a
320px Web**

”

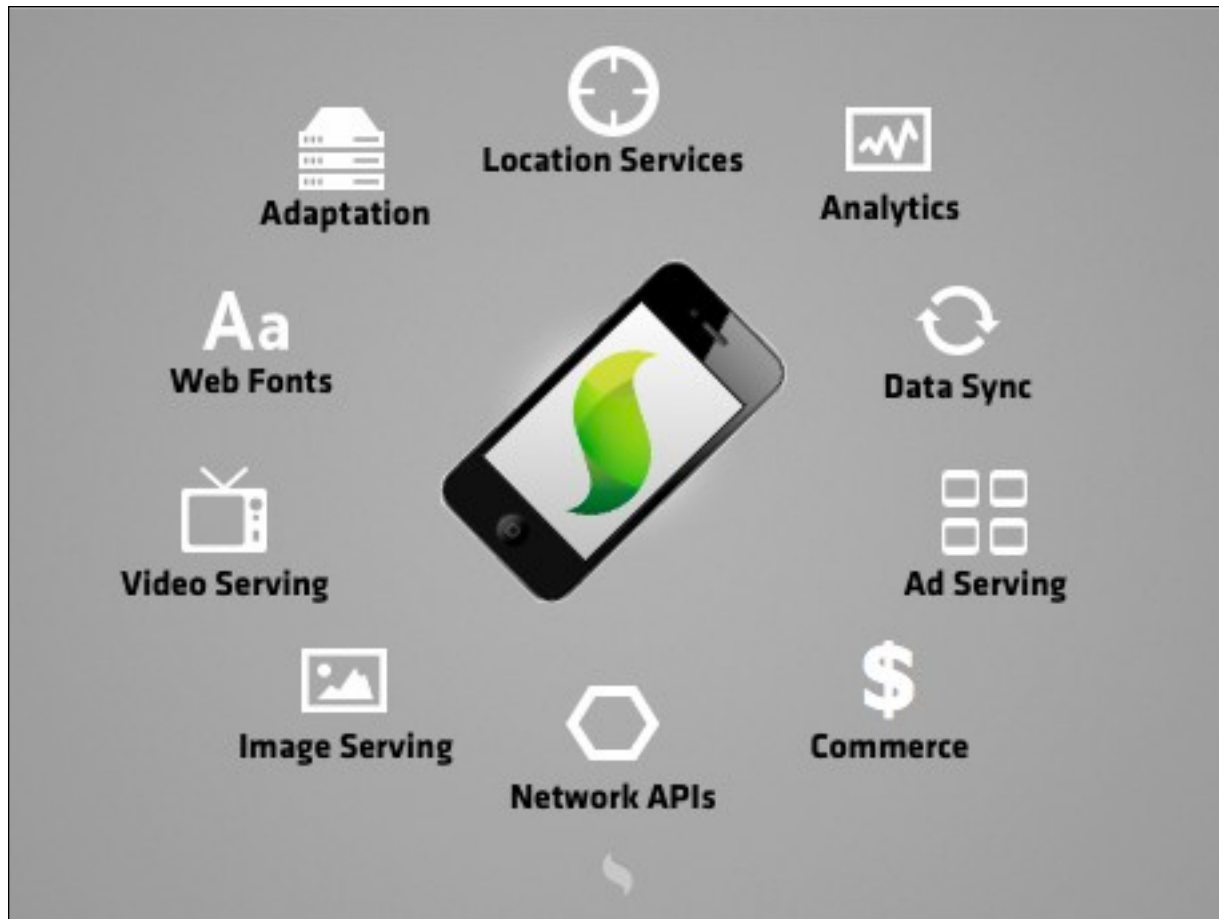


**But you can re-use
a lot of code**



Thick client, thin server

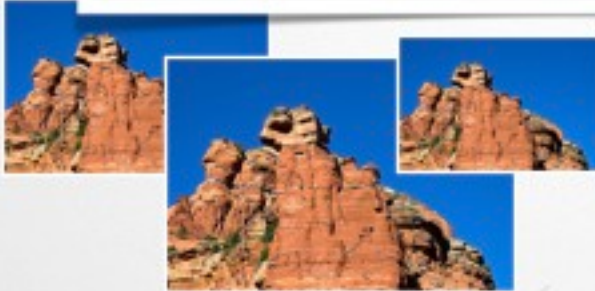
The shortfall in the cloud





<http://mysite.com/myimage.png>

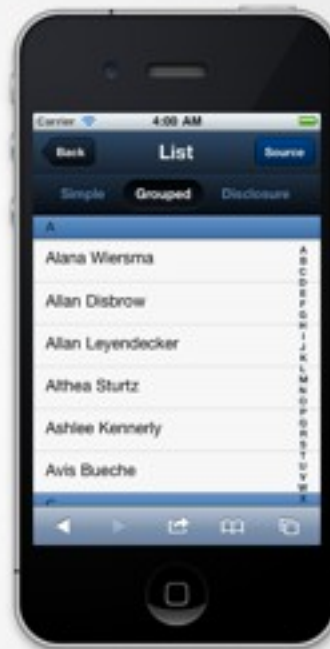
<http://src.sencha.io/http://mysite.com/myimage.png>



**Do we have time for
some code?**

List

```
var list = new Ext.List({
    store: store,
    itemTpl:
        '{firstName} {lastName}',
    grouped: true,
    indexBar: true
});
```



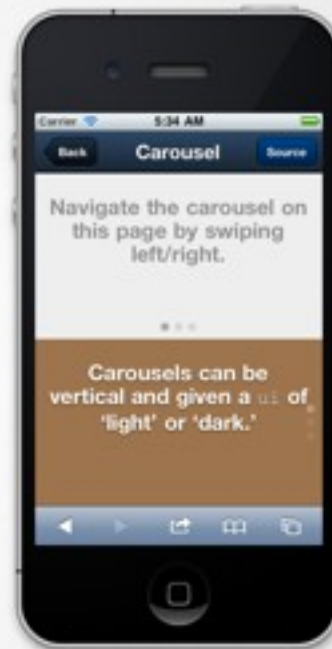
Nested List

```
var list = new Ext.NestedList({
    store: store,
    displayField: 'name',
    title: 'My List',
    updateTitleText: true,
    getDetailCard:
        function(record, parent) {...}
});
```



Carousel

```
var car = new Ext.Carousel({  
    direction: 'horizontal',  
    indicator: true,  
    items: [  
        ..  
    ]  
});
```



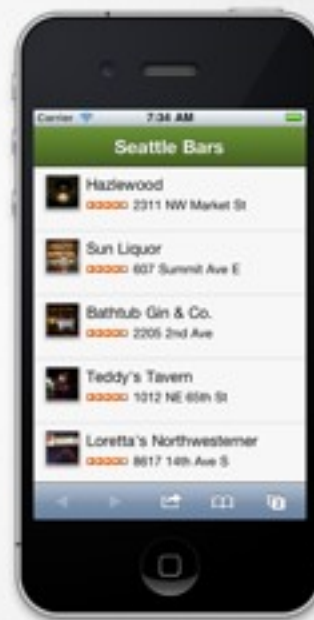
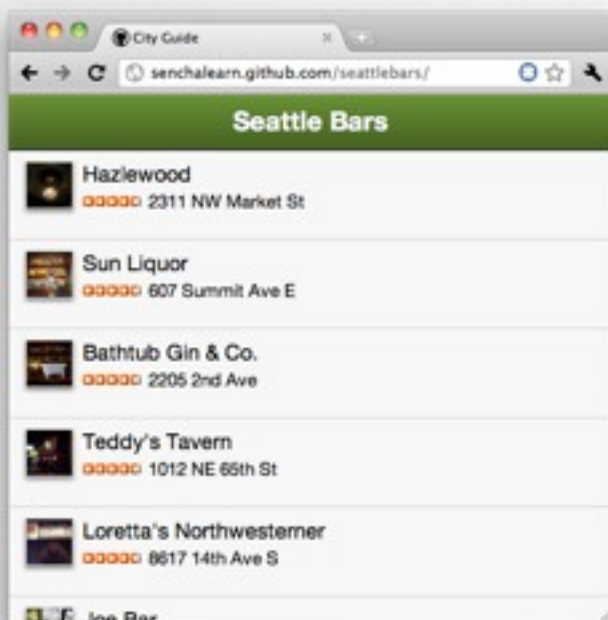
Sheets

```
var sheet = new Ext.ActionSheet({  
    items: [  
        {  
            text: 'Delete draft',  
            ui: 'decline'  
        }, {  
            text: 'Save draft'  
        }, {  
            text: 'Cancel',  
        }  
    ]  
});  
sheet.show();
```





<http://senchalearn.github.com/seattlebars/>





The cloud at work...

Location API to get lat/long

MongoLabs to get city name

Yelp to get businesses



**[https://github.com/
senchalearn/
seattlebars](https://github.com/senchalearn/seattlebars)**

Going offline

```
<!DOCTYPE html>
<html manifest="app.manifest">
  <head>
    <title>Hello World</title>

    <script type="text/javascript">
    <link href="lib/touch/resources/app/app.js"
    <link href="lib/touch/resources/app/lib/touch/sencha-touch.js"
    <script type="text/javascript">
    <link href="lib/touch/resources/css/sencha-touch.css"
```

CACHE MANIFEST

app/app.js
lib/touch/sencha-touch.js
lib/touch/resources/css/sencha-touch.css

http://i.tinysrc.mobi/320/http://chuvachienes
http://i.tinysrc.mobi/320/http://www.unc.edu/

NETWORK:
*

<https://github.com/jamesgpearce/confess>

PhoneGap

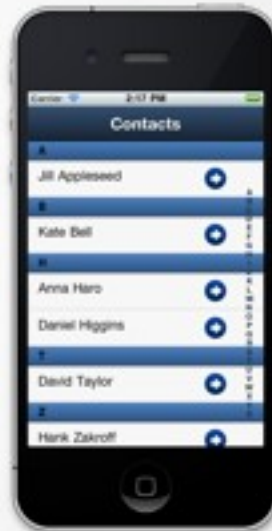
A platform that allows you to author native applications with web technologies and get access to device APIs



Device Access

Accelerometer	File
Camera	Geolocation
Compass	Media
Contacts	Network
Device	Notification
Events	Storage

<http://docs.phonegap.com>



Weinre



<http://pmuellr.github.com/weinre/>



```
building(  
  mobile.web().apps([  
    html5, css3, js  
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);
```

built with
Apps ~~vs~~ Web technology



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