

jQuery Workshop

Nathaniel T. Schutta

Who am I?

- Nathaniel T. Schutta
<http://www.ntschutta.com/jat/>
- @ntschutta
- Foundations of Ajax & Pro Ajax and Java Frameworks
- UI guy
- Author, speaker, teacher
- More than a couple of web apps

The Plan

- Ajax
- CSS selectors and more
- Coding to events and using effects
- Widgets
- Themes
- jQuery Mobile
- Plugins

Getting started.

Assume you have:
Java, browser, text editor.

Copy zip.

Or clone it from [github](#).

```
git clone http://github.com/ntschutta/jQuery\_workshop.git
```

Extract to...somewhere ;)

Verify Jetty.

Navigate to extract point.

cd jetty

java -jar start.jar

Point your browser to:

- <http://localhost:8080/>
- [http://localhost:8080/jQueryWorkshop/
validation/validation.html](http://localhost:8080/jQueryWorkshop/validation/validation.html)

Shout if you have ??s

Docu.

Online of course.

<http://api.jquery.com/>

<http://api.jquery.com/browser/>

http://docs.jquery.com/Main_Page

In the workshop folder.

`${extract}/jquery_workshop/docu/jQuery-API-1.4.2.zip`
 `${extract}/jquery_workshop/docu/jqapi-latest/index.html`

First link is Windows help.

Second, HTML docu.

We good?

Ajax.

XHR isn't complicated.

All the wrappers
are pretty similar.

URI to call, parameters,
HTTP method, callback.

jQuery's approach.

`$.ajax(options)`

Also more specific calls.

```
$.getJSON(url,  
[data], [callback])
```

Validation Example

http://localhost:8080/DesigningForAjax/validation/validationAjaxjQuery.htm

Gmail del.icio.us Firebug Lite Dropbox GitHub

Really Simple Address Book

Invalid zip, city, state combo.

Name:

Email:

Phone:

Street:

City: State: Zip:

Website:

IM:

How do we trigger the
call to the server?

Events.

Coding to events gives
us cleaner markup.

But browsers get in
the way...again.

Unobtrusive JavaScript.

<http://www.alistapart.com/articles/behavioralseparation>

Library designers help us!

jQuery includes a
variety of APIs.

Including some great
helper methods.

Click, focus, hover,
keys, mice, scroll...

```
$(function(){
  $('.header').click(function() {
    $(this).next().toggle("blind", { direction: "vertical" }, 500);
  });
});
```

Lab time!

Ajax Lab - Part I

- Call the validation routine on server
- Use GET, expect JSON
- URI: "/DesigningForAjax/json"
- Use a highlight effect
- Bind to events!
- \${extract}/jquery_workshop/jetty/webapps/
jQueryWorkshop/validation/validation.html

JSON Format

```
{"message":"Invalid zip, city, state combo.", "invalid":true}
```

Ajax Lab - Part 2

- Change the style based on outcome
- Use the `valid` class if the validation passes,
`invalid` if it fails
- `${extract}/jquery_workshop/jetty/webapps/
jQueryWorkshop/validation/
validation_css.html`

Questions?

CSS selectors.

CSS selectors are
very powerful.

Browser support
can be lacking...

Libraries come in and
smooth things out!

jQuery excels at
CSS selectors.

Top notch support.

Outstanding performance.

Browsers do the heavy
lifting when possible.

Hide Show Example

Back Forward + http://localhost:8080/DesigningForAjax/hideShow/hideShowAjaxjQuery.html ⌂ Google

Gmail del.icio.us Firebug Lite Dropbox GitHub

Really Simple Address Book

Contact Info

Name:

Email:

Phone:

Address

Street:

City:

State:

Zip:

Web Info

Website:

IM:

jQuery makes changing
CSS very easy.

<http://api.jquery.com/category/css/>

You can add, remove,
toggle, set height/width etc.

Of course when we
find something...

We want to do something.

And we want it to
look good too!

jQuery UI has a rich
set of widgets & effects.

Very easy to
add a little flash.

slideDown, slideToggle,
fadeIn, fadeOut...

Clip, drop, fold,
highlight, puff, shake...

Very easy to create
complex animations.

<http://api.jquery.com/animate/>

Interactions

[draggable](#)[droppable](#)[resizable](#)[electable](#)[sortable](#)

Widgets

[accordion](#)[autocomplete](#)[button](#)[datepicker](#)[dialog](#)[progressbar](#)[lider](#)[abs](#)

Effects

[add Class](#)[remove Class](#)[switch Class](#)[toggle Class](#)[show](#)[hide](#)[toggle](#)[animate](#)

FUNCTIONAL DEMO:

Effect

Theme: UI Lightness ▾

[New window](#)

Examples

[Effect showcase](#)[Easing showcase](#)

Effect

Etiam libero neque, luctus a, eleifend nec, semper at, lorem. Sed pede. Nulla lorem metus, adipiscing ut, luctus sed, hendrerit vitae, mi.

Blind

[Run Effect](#)

Click the button above to show the effect.

[View Source](#)[Overview](#)[Arguments](#)

Easy to go too far.

Seasoning, not the entree.

Blink tag anyone?

Used right, adds that
extra bit of polish.

More on that in a minute.

How do you know
when to attach events?

```
$(document).ready()
```

Executes a function when
the DOM is loaded.

Easier to read, maintain.

Lab time!

CSS Selector Lab - I

- Attach a click event to every “header”
- When clicked, hide or show the div beneath the header
- \${extract}/jquery_workshop/labs/css_selectors/hideShowAjaxjQuery.html

CSS Selector Lab - 2

- Apply an effect
- Change the triangle image to match the open/closed state

Questions?

jQuery UI.

Widgets.

jQuery UI has a
plethora of widgets.

Accordion, autocomplete,
date picker, dialog...

UI follows a pattern.

Include ui.core, ui.widget,
& widget specific file.

```
$(selector).widget([options]);
```

Let's try one!

Accordion Lab

- Wrap the contact info page in an accordion
- \${extract}/jquery_workshop/labs/css_selectors/hideShowAjaxjQueryAccordion.html

Questions?

More on UI in a minute...

Events.

We talked a bit
about events.

Let's do a bit more.

DOM navigation.

Adding HTML.

Event Lab - Part I

- Dynamic lists!
- When a user clicks on a list item, add another list item
- \${extract}/jquery_workshop/labs/events/dynamicList.html

Attaching events
works great...

Until you update the DOM!

Ever update the DOM?

live()

<http://api.jquery.com/live/>

Attach to elements that
haven't been added yet!

How cool is that?

Event Lab - Part 2

- Return to the dynamic list...
- But use `live()` so that *new* elements are clickable too
- `${extract}/jquery_workshop/labs/events/dynamicList.html`

Remember effects?

Let's return to that...

Effects Lab

- One last twist on the dynamic list - add an effect when the element is added
- Return to the CSS lab
- Add a different effect
- \${extract}/jquery_workshop/labs/css_selectors/hideShowAjaxjQuery.html

Questions?

Widgets!

HTML lacks widgets.

Bit depressing actually.

**Text box, text area, drop
down, radio button...**

Pretty limited.

HTML5 helps!

jQuery gives us options!

Autosuggest.

The missing widget!

Google Suggest.



Google

http://www.google.com/

Google

Gmail del.icio.us Firebug Lite Dropbox GitHub

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iGoogle | Search settings | Sign in

Google

[Advanced Search](#)
[Language Tools](#)[Google Search](#) [I'm Feeling Lucky](#)[Advertising Programs](#) [Business Solutions](#) [About Google](#)© 2010 - [Privacy](#)[Change background image](#)

Looks like a drop down...

High volume drop down.

Very handy!



Really Simple Address Book

Name:

Email:

Phone:

Street:

City: State: Zip:

Website:

IM:

Favorite Ice Cream:



Now it's your turn!

Autosuggest Lab

- Turn the ice cream input into an autosuggest widget
- The source array is already there ;)
- \${extract}/jquery_workshop/labs/autosuggest/suggestAjaxQuery.html

Questions?

Date picker.

People aren't good at
entering dates.

What format?

Slashes? Dashes?
Numbers? Words?

Ugh. Let them pick it!

Amazed when sites
don't have a picker.

Of course why don't
the browsers?

They will...eventually.

Date Example - Ajax (jQuery)

<http://localhost:8080/DesigningForAjax/date/dateAjaxjQuery.html>

Gmail del.icio.us Firebug Lite Dropbox GitHub

Really Simple Address Book

Name:

Email:

Phone:

Street:

City: State: Zip:

Website:

IM:

Birthday:

```
<link type="text/css" href="../themes/ui-lightness/ui.all.css" rel="stylesheet" />
<script src="../javascript/jquery.js" type="text/javascript"></script>
<script src="../javascript/jqueryUI/ui.core.js" type="text/javascript"></script>
<script src="../javascript/jqueryUI/ui.datepicker.js" type="text/javascript"></script>
<script type="text/javascript">
$(function() {
    $("#datepicker").datepicker();
}); </script>
</head>
<body class="">
<h1>Really Simple Address Book</h1>
<div class="demo">
<form>
    <table>
        <tbody>
            <tr><td>Name: </td><td><input type="text" name="name"/></td></tr>
            <tr><td>Email: </td><td><input type="text" name="email"/></td></tr>
            <tr><td>Phone: </td><td><input type="text" name="phone"/></td></tr>
            <tr><td>Street: </td><td><input type="text" name="street"/></td></tr>
            <tr>
                <td>City: </td><td><input type="text" id="city"/></td>
                <td>State: </td><td><input type="text" id="state" size="2" maxlength="2"/></td>
                <td>Zip: </td><td><input type="text" id="zip" size="5" maxlength="5"/></td>
            </tr>
            <tr>
                <td>Website: </td><td><input type="text" name="website"/></td>
            </tr>
            <tr>
                <td>IM: </td><td><input type="text" name="im"/></td>
            </tr>
            <tr>
                <td>Birthday: </td>
                <td>
                    <input type="text" id="datepicker"/>
                </td>
            </tr>
        </tbody>
    </table>
</form>
</div>
</body>
```

Easy enough?

But I want options!

No worries.

Defaults are usually good.

But plenty of options.

Constructors take
optional configuration.

Your turn!

Date Picker Lab

- Take the standard date picker
- Add some configuration
 - Change the animation
 - Display 2 months
 - Display the button bar
- \${extract}/jquery_workshop/labs/datepicker/datePicker.html

Questions?

Dialog.

Do you like pop-ups?

Do your users?

We have options now!

“Looks” like a
popup...but it’s not.

jQuery has a rich dialog.

[Gmail](#) [del.icio.us](#) [Firebug Lite](#) [Dropbox](#) [GitHub](#)

Really Simple Address Book

Name	Phone	Email
------	-------	-------

Scott Davis	555.1122	scott@nospam.com
Venkat Subramaniam	444.3333	ramnikat@nospam.com
David Hussman	333.1122	dh@nospam.com
Charles Nutter	777.1122	jrubyrulz@nospam.com

[Add Contact](#)

Your turn!

Dialog Lab - Part I

- Some of the code is already there...
- You need to (look for //comments):
 - define the appropriate variables
 - add the dialog configuration
 - add the button code
- \${extract}/jquery_workshop/labs/dialog/dialogjQuery.html

Dialog Lab - Part 2

- Let's add an effect!
- Highlight the row that's added
- \${extract}/jquery_workshop/labs/dialog/dialogjQuery.html

Questions?

Themes.

Default theme is fine.

But it's not your
only option.

ThemeRoller.

<http://jqueryui.com/themeroller/>

Pick a prebuilt theme.

[Download](#)[Demos & Documentation](#)[Themes](#)[Development](#)[Support](#)

ThemeRoller

[Roll Your Own](#)[Gallery](#)[Help](#)

UI lightness

[Download](#)[Edit](#)

UI darkness

[Download](#)[Edit](#)

Smoothness

[Download](#)[Edit](#)

Start

[Download](#)[Edit](#)

Redmond

[Download](#)[Edit](#)

Sunny

[Download](#)[Edit](#)

Accordion

▼ Section 1

Mauris mauris ante, blandit et, ultrices a, suscipit eget, quam. Integer ut neque. Vivamus nisi metus, molestie vel, gravida in, condimentum sit amet, nunc. Nam a nibh. Donec suscipit eros. Nam mi. Proin viverra leo ut odio. Curabitur malesuada. Vestibulum a velit eu ante scelerisque vulputate.

▶ Section 2

▶ Section 3

Tabs

[First](#) [Second](#) [Third](#)

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Dialog

[Open Dialog](#)

★ New! Bring ThemeRoller into any page: [Get the ThemeRoller Firefox Bookmarklet!](#)

Slider



Datepicker



Progressbar



Highlight / Error



Don't like those options?

★ New! Bring ThemeRoller into any page: [Get the ThemeRoller Firefox Bookmarklet!](#)

ThemeRoller



[Roll Your Own](#) [Gallery](#) [Help](#)

[Download theme](#)

Font Settings

Corner Radius

Corners:

Note: ThemeRoller uses CSS3 border-radius for corner rounding, which is not currently supported by Internet Explorer.

Header/Toolbar

Background color & texture: #2191c1

Border: #4297d1 Text: #eaf5f7 Icon: #d8e7f3

Content

Clickable: default state

Clickable: hover state

Clickable: active state

Highlight

Error

Background color & texture: #e14fic

Border: #cd0a0e Text: #ffffff Icon: #fcd113

Accordion

Section 1

Mauris mauris ante, blandit et, ultrices a, suscipit eget, quam. Integer ut neque. Vivamus nisi metus, molestie vel, gravida in, condimentum sit amet, nunc. Nam a nibh. Donec suscipit eros. Nam mi. Proin viverra leo ut odio. Curabitur malesuada. Vestibulum a velit eu ante scelerisque vulputate.

Section 2

Section 3

Tabs

First

Second

Third

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Dialog

Open Dialog

Overlay and Shadow Classes

Lore ipsum dolor sit amet, Nulla nec tortor. Donec id elit quis purus conse

Nam c
ornare Lore ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor

Slider



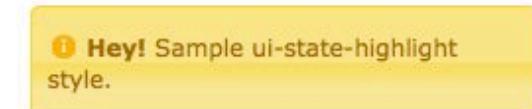
Datepicker



Progressbar



Highlight / Error



Tweak away!

WYSIWYG.

[Download](#)[Demos & Documentation](#)[Themes](#)[Development](#)[Support](#)

ThemeRoller

[Roll Your Own](#)[Gallery](#)[Help](#)[Download theme](#)[Font Settings](#)[Corner Radius](#)[Header/Toolbar](#)

abc

Background color & texture

#476f8c



75

%

[Error](#)[Modal Screen for Overlays](#)[Drop Shadows](#)

Accordion

▼ Section 1

Mauris mauris ante, blandit et, ultrices a, suscipit eget, quam. Integer ut neque. Vivamus nisi metus, molestie vel, gravida in, condimentum sit amet, nunc. Nam a nibh. Donec suscipit eros. Nam mi. Proin viverra leo ut odio. Curabitur malesuada. Vestibulum a velit eu ante scelerisque vulputate.

▶ Section 2

▶ Section 3

Tabs

[First](#) [Second](#) [Third](#)

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Dialog

[Open Dialog](#)

★ New! Bring ThemeRoller into any page: [Get the ThemeRoller Firefox Bookmarklet!](#)

Slider



Datepicker



Progressbar



Highlight / Error





ThemeRoller



Roll Your Own

Gallery

Help

[Download theme](#)

▶ Font Settings

▶ Corner Radius

▶ Header/Toolbar



Content



▶ Clickable: default state



▶ Clickable: hover state



▶ Clickable: active state



▶ Highlight



▶ Error



▶ Modal Screen for Overlays

▶ Drop Shadows

Accordion

▼ Section 1

Mauris mauris ante, blandit et, ultrices a, suscipit eget, quam. Integer ut neque. Vivamus nisi metus, molestie vel, gravida in, condimentum sit amet, nunc. Nam a nibh. Donec suscipit eros. Nam mi. Proin viverra leo ut odio. Curabitur malesuada. Vestibulum a velit eu ante scelerisque vulputate.

▶ Section 2

▶ Section 3

Tabs

First Second Third

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Dialog

[Open Dialog](#)★ New! Bring ThemeRoller into any page: [Get the ThemeRoller Firefox Bookmarklet!](#)

Button

A button element

Choice 1 Choice 2 Choice 3

Autocomplete



Slider



Datepicker



Progressbar

Better than hand
rolled CSS?

You can also modify
the CSS directly.

Or write it all yourself!

Themes Lab

- Go to the ThemeRoller
<http://jqueryui.com/themeroller/>
- Modify an existing theme
- Apply said theme
- Use any of the preceding UI examples

Questions?

jQuery Mobile.

Mobile.

Next big thing.

Millions of mobile
devices...more daily.



i* - iPad, iPhone etc.

Not just Apple...

Don't want to build
a native app?

Don't want to support
multiple OS?

Android fragmentation,
Black Berry, Palm...

The web...and HTML5,
gives us an out.

How do we get
consistent look and feel?

How about a touch
optimized framework?

Why jQuery Mobile?

Unified UI.

Support for a wide
variety of hardware.

Support for vast majority
of mobile browsers.

MOBILE GRADED BROWSER SUPPORT

Platform	Version	Native	Opera Mobile		Opera Mini		Fennec		Ozone	Netfront	Phonegap
			8.5	8.65	9.5	10.0	4.0	5.0	1.0	1.1	0.9
iOS	v2.2.1	A									A
	v3.1.3, v3.2	A					A				A
	v4.0	A					A				A
Symbian S60	v3.1, v3.2	C	C	C		B	C	B	C	C	
	v5.0	A	C	C		A	C	A			A
Symbian UIQ	v3.0, v3.1			C					C		
	v3.2				C				C		
Symbian Platform	3.0	A									
BlackBerry OS	v4.5	C					C	C			
	v4.6, v4.7	C					C	B			C
	v5.0	A					C	A			A
	v6.0	A						A			A
Android	v1.5, v1.6	A									A
	v2.1	A									A
	v2.2	A				A		C	A		A
Windows Mobile	v6.1	C	C	C	C	B	C	B		C	
	v6.5.1	C	C	C	C	A	C	A			
	v7.0	C				A	C	A			
webOS	1.4.1	A									A
bada	1.0	A									
Maemo	5.0	B			B		C	B			

Build on clean HTML.

Progressive enhancement.

Supports accessibility.

Built on jQuery core.

Familiar syntax.

Small - | 2k compressed.

HTML5.

Did I mention
accessibility?

Leverages ThemeRoller.

Auto-initialization.

Happens before
document.ready.

Page Structure.

HTML5.

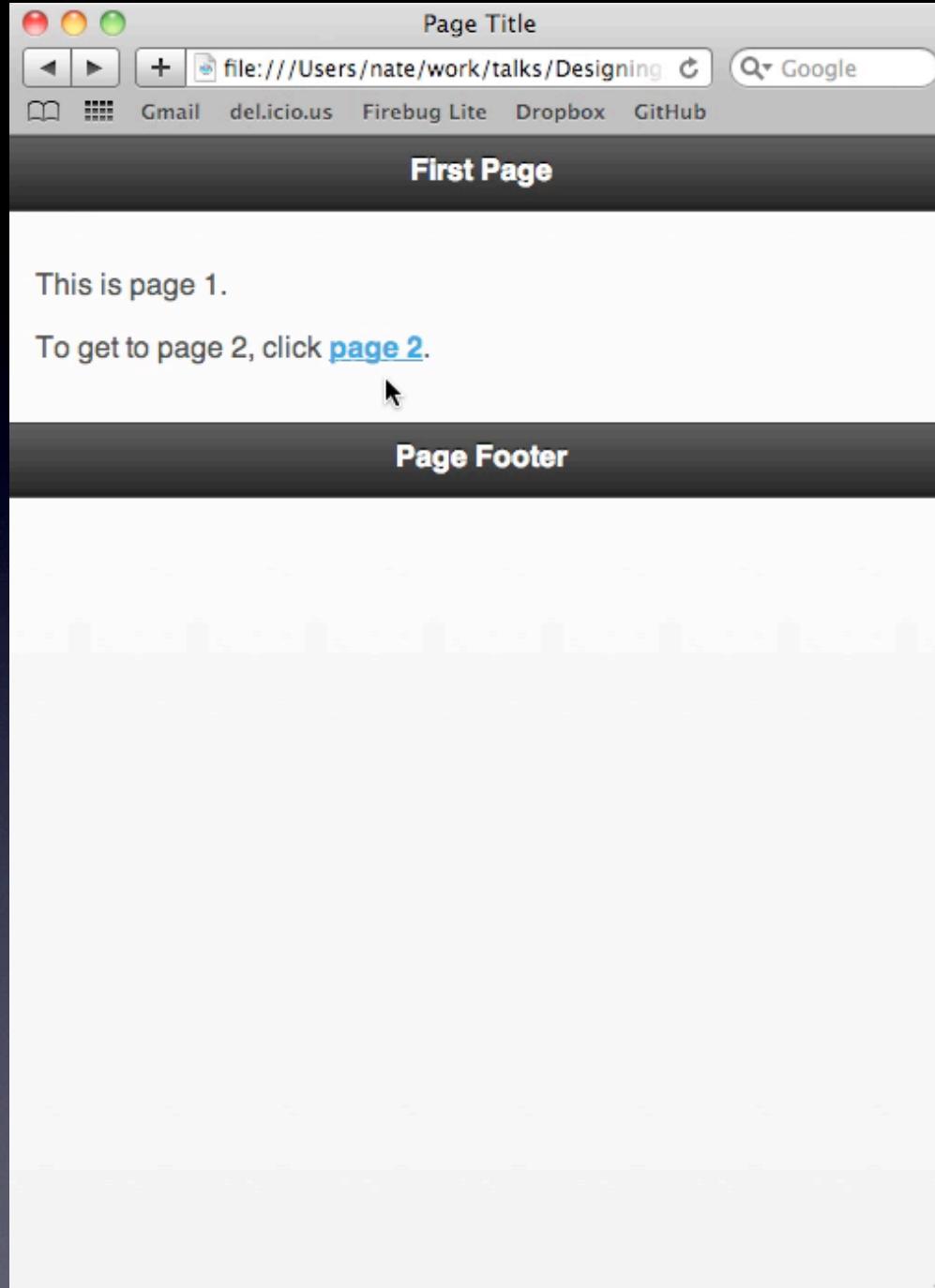
Divs with data-roles.

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
    <link rel="stylesheet" href="../javascript/jqueryMobile/jquery.mobile-1.0a2.css" />
    <script src="../javascript/jquery-1.4.3.js" type="text/javascript"></script>
    <script src="../javascript/jqueryMobile/jquery.mobile-1.0a2.js" type="text/javascript"></script>
  </head>
  <body>
    <div data-role="page">
      <div data-role="header">
        <h1>Page Title</h1>
      </div>
      <div data-role="content">
        <p>Page content goes here.</p>
      </div>
      <div data-role="footer">
        <h4>Page Footer</h4>
      </div>
    </div>
  </body>
</html>
```

One document can
contain multiple pages.

Stack the divs.

Just give each page a
unique ID.



```
<div data-role="page" id="page1">
  <div data-role="header">
    <h1>First Page</h1>
  </div>
  <div data-role="content">
    <p>This is page 1.</p>
    <p>To get to page 2, click <a href="#page2">page 2</a>.</p>
  </div>
  <div data-role="footer">
    <h4>Page Footer</h4>
  </div>
</div>

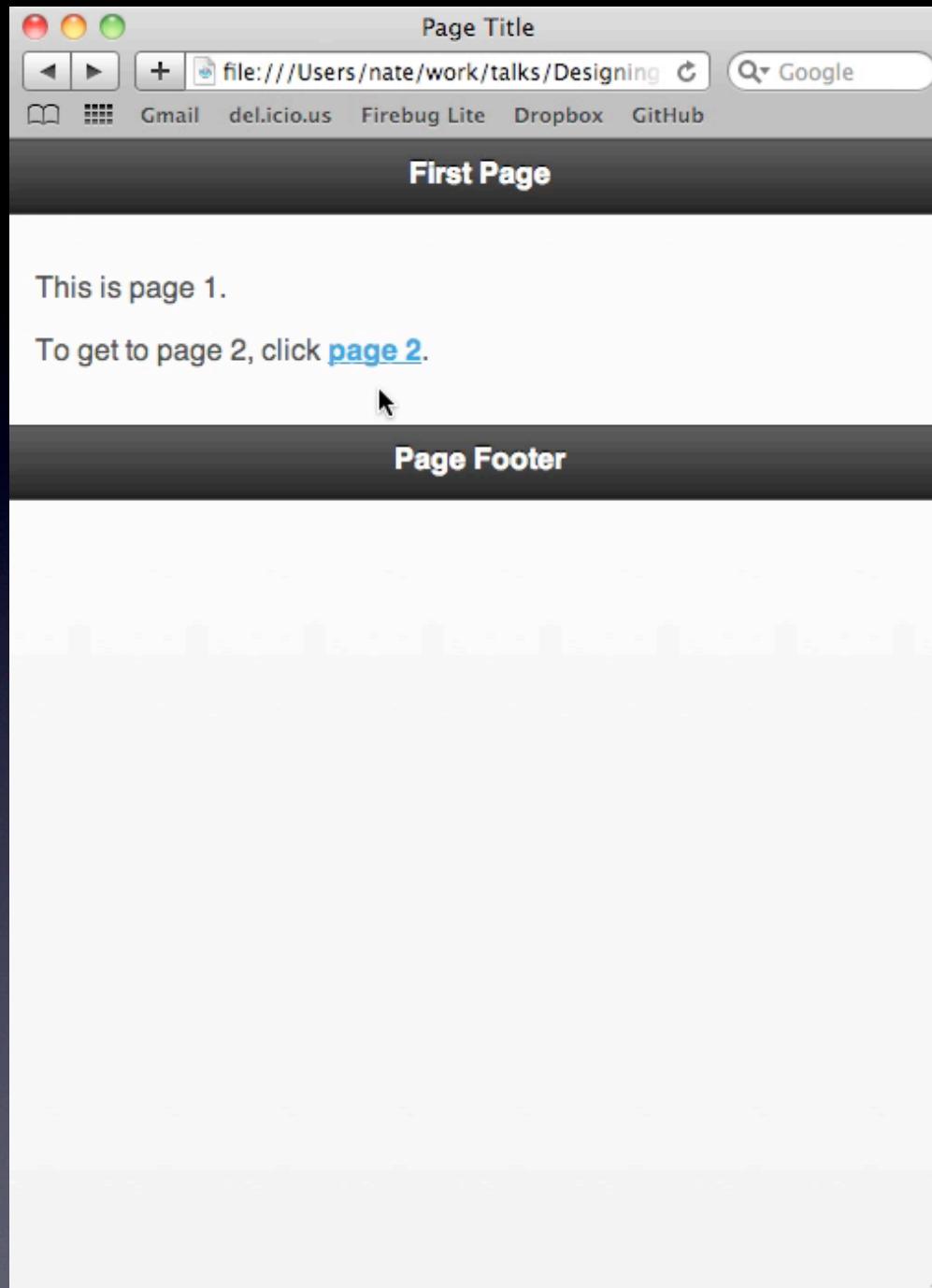
<div data-role="page" id="page2">
  <div data-role="header">
    <h1>Second Page</h1>
  </div>
  <div data-role="content">
    <p>This is page 2.</p>
    <p>More stuff goes here.</p>
  </div>
  <div data-role="footer">
    <h4>Page Footer</h4>
  </div>
</div>
```

Page transitions.

CSS based.

- slide
- slideup
- slidtdown
- pop
- fade
- flip

Add a data
transition attribute.



```
<div data-role="page" id="page1">
  <div data-role="header">
    <h1>First Page</h1>
  </div>
  <div data-role="content">
    <p>This is page 1.</p>
    <p>To get to page 2, click <a href="#page2">page 2</a>.</p>
  </div>
  <div data-role="footer">
    <h4>Page Footer</h4>
  </div>
</div>

<div data-role="page" id="page2">
  <div data-role="header">
    <h1>Second Page</h1>
  </div>
  <div data-role="content">
    <p>This is page 2.</p>
    <p>More stuff goes here.</p>
  </div>
  <div data-role="footer">
    <h4>Page Footer</h4>
  </div>
</div>
```

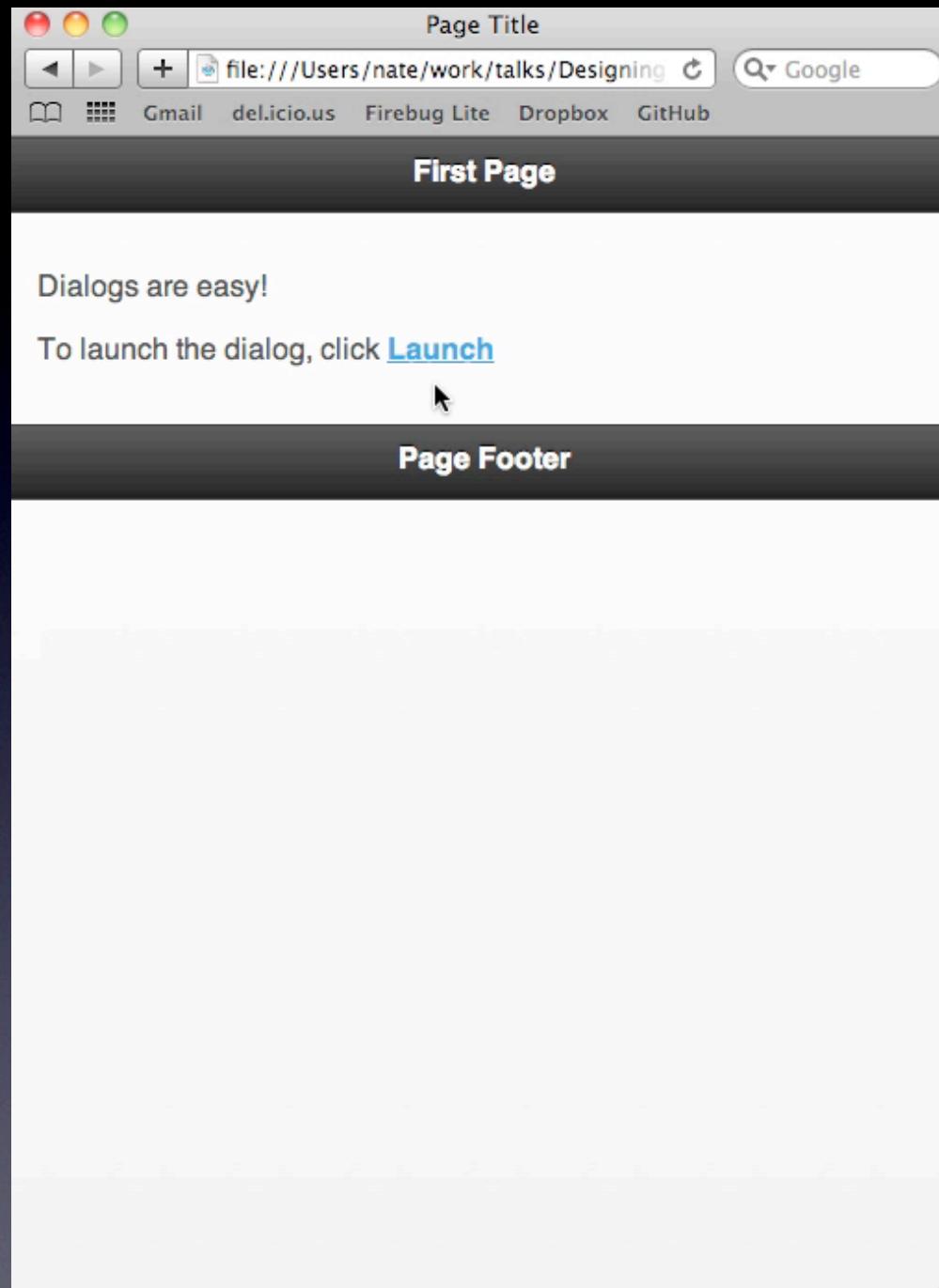
Dialogs.

Any page can be a dialog.

We modify the link
again...dialog relation.

Standard page
transitions work.

Pop, slideup and flip are
most “dialog like.”



```
<div data-role="page" id="page1">
<div data-role="header">
<h1>First Page</h1>
</div>
<div data-role="content">
<p>Dialogs are easy!</p>
<p>To launch the dialog, click <a href="dialog.html" data-transition="pop" data-rel="dialog">Launch</a></p>
</div>
<div data-role="footer">
<h4>Page Footer</h4>
</div>
</div>
```

Toolbars.

Headers and footers.

Header = page title and
up to two buttons.

Footer = text and buttons.

Nav bar widget.

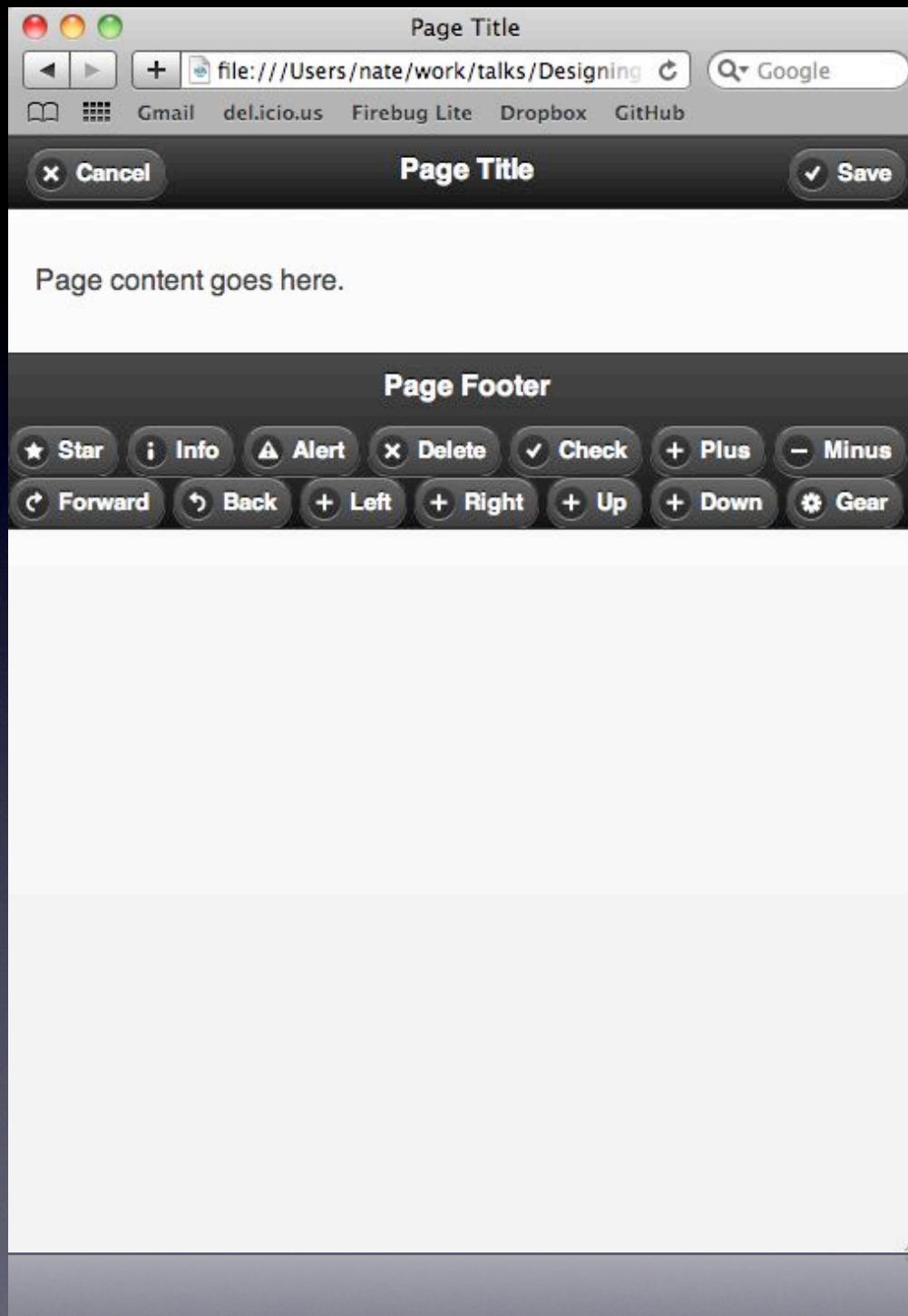
Where do the buttons
come from again?

First link - left button.
Second link - right button.

And we get icons!

Sprite.

Simply add an attribute.



```
<div data-role="page">
  <div data-role="header">
    <h1>Page Title</h1>
    <a href="index.html" data-icon="delete">Cancel</a>
    <a href="index.html" data-icon="check">Save</a>
  </div>
  <div data-role="content">
    <p>Page content goes here.</p>
    <h4>Page Footer</h4>
    <a href="index.html" data-role="button" data-icon="star">Star</a>
    <a href="index.html" data-role="button" data-icon="info">Info</a>
    <a href="index.html" data-role="button" data-icon="alert">Alert</a>
    <a href="index.html" data-role="button" data-icon="delete">Delete</a>
    <a href="index.html" data-role="button" data-icon="check">Check</a>
    <a href="index.html" data-role="button" data-icon="plus">Plus</a>
    <a href="index.html" data-role="button" data-icon="minus">Minus</a>
    <a href="index.html" data-role="button" data-icon="forward">Forward</a>
    <a href="index.html" data-role="button" data-icon="back">Back</a>
    <a href="index.html" data-role="button" data-icon="left">Left</a>
    <a href="index.html" data-role="button" data-icon="right">Right</a>
    <a href="index.html" data-role="button" data-icon="up">Up</a>
    <a href="index.html" data-role="button" data-icon="down">Down</a>
    <a href="index.html" data-role="button" data-icon="gear">Gear</a>
  </div>
</div>
```

And much more!

Navbars, persistent
footers, fullscreen...

Forms!

Basically the same as
any old web app.

Form tag, action, method.

One caveat...

Control ids must be
unique across site.

DOM can have multiple
pages present.

Field containers get
special styling.

Enhanced controls.

Degrades gracefully.

- **text**
- **search**
- **slider**
- **flip toggle switch**
- **radio buttons**
- **checkbox**
- **multiselects**

Page Title

Back Page Title

Text Input:

Password Input:

Input slider:

Flip toggle: Off

Favorite Flavor:

Favorite Flavors:

- Vanilla
- Chocolate
- Neapolitan
- Coffee

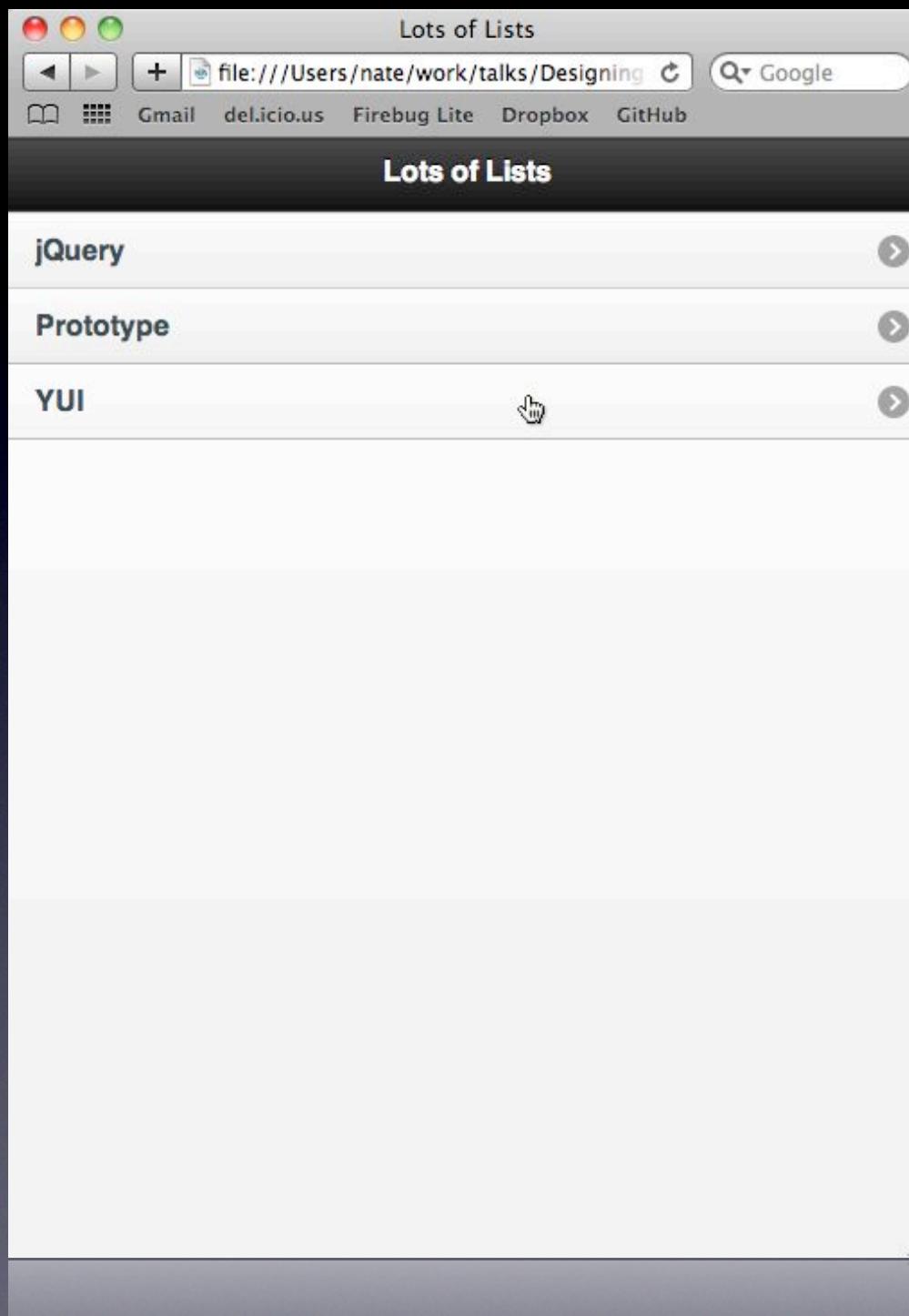
```
<div data-role="fieldcontain">
    <label for="name">Text Input:</label>
    <input type="text" name="name" id="name" value="" />
<div data-role="fieldcontain">
    <label for="password">Password Input:</label>
    <input type="password" name="password" id="password" value="" />
</div>
<div data-role="fieldcontain">
    <label for="slider">Input slider:</label>
    <input type="range" name="slider" id="slider" value="0" min="0" max="100" />
<label for="slider2">Flip toggle:</label>
<select name="slider2" id="slider2" data-role="slider">
    <option value="off">Off</option>
    <option value="on">On</option>
</select>
</div>
<div data-role="fieldcontain">
    <label for="select-choice-1" class="select">Favorite Flavor:</label>
    <select name="select-choice-1" id="select-choice-1">
        <option value="Vanilla">Vanilla</option>
        <option value="Chocolate">Chocolate</option>
        <option value="Neapolitan">Neapolitan</option>
        <option value="Coffee">Coffee</option>
    </select>
    <fieldset data-role="controlgroup">
        <legend>Favorite Flavors:</legend>
        <input type="checkbox" name="checkbox-1" id="checkbox-1" class="custom" />
        <label for="checkbox-1">Vanilla</label>
        <input type="checkbox" name="checkbox-2" id="checkbox-2" class="custom" />
        <label for="checkbox-2">Chocolate</label>
        <input type="checkbox" name="checkbox-3" id="checkbox-3" class="custom" />
        <label for="checkbox-3">Neapolitan</label>
        <input type="checkbox" name="checkbox-4" id="checkbox-4" class="custom" />
```

Lists.

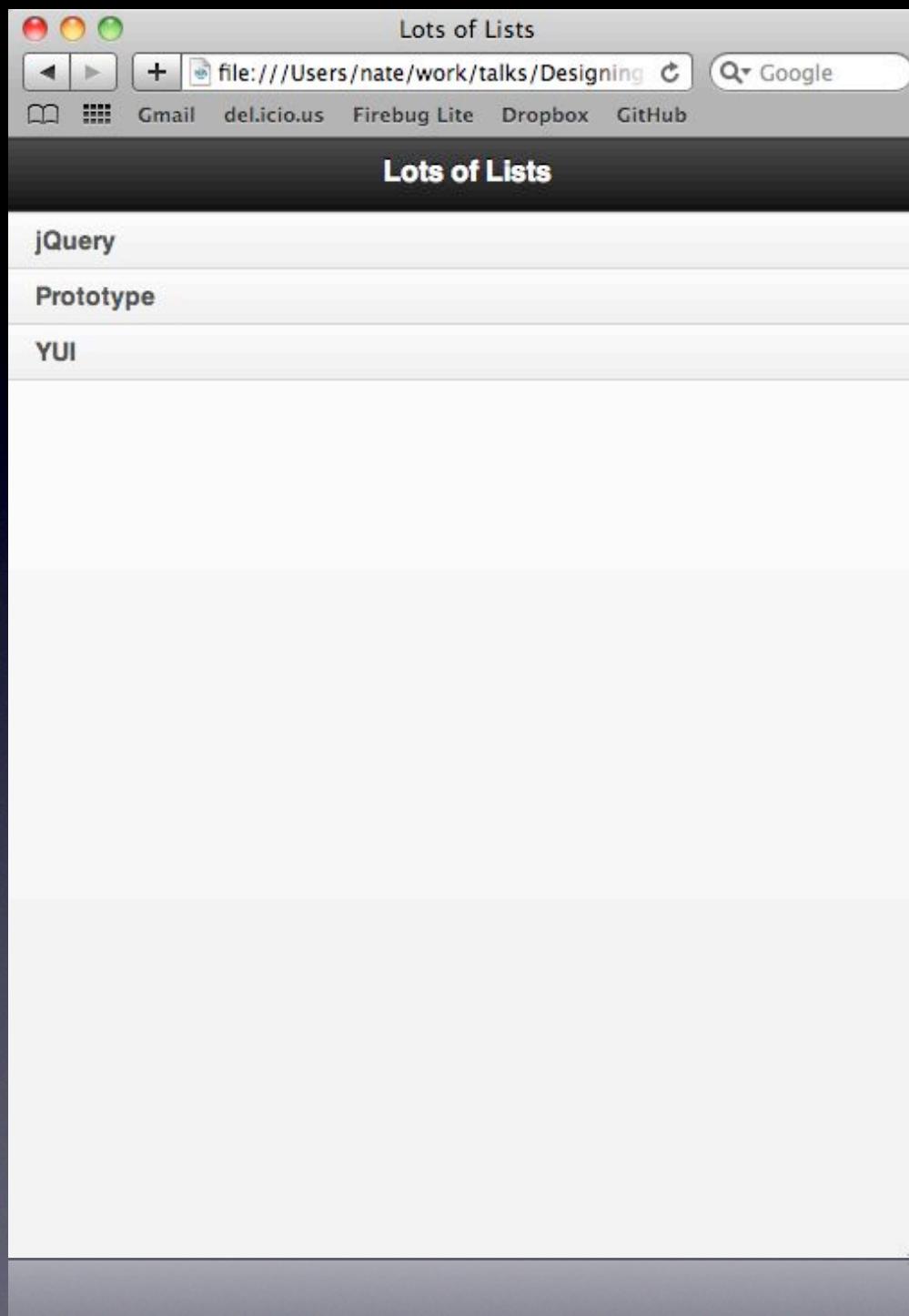
Tables of data.

Very common.

Display, navigation, etc.

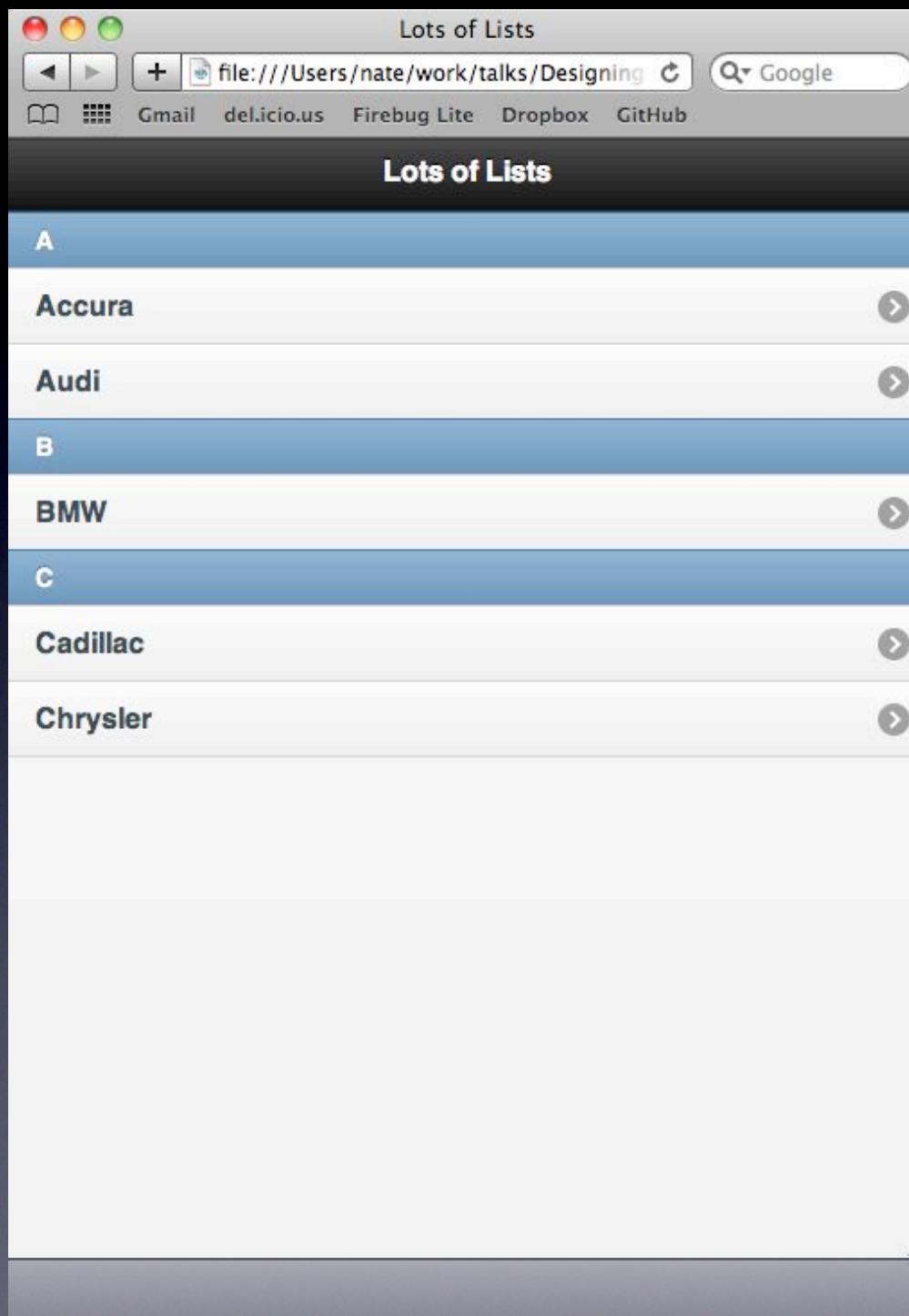


```
<div data-role="content">
  <ul data-role="listview">
    <li><a href="jquery.html">jQuery</a></li>
    <li><a href="prototype.html">Prototype</a></li>
    <li><a href="yui.html">YUI</a></li>
  </ul>
</div>
```



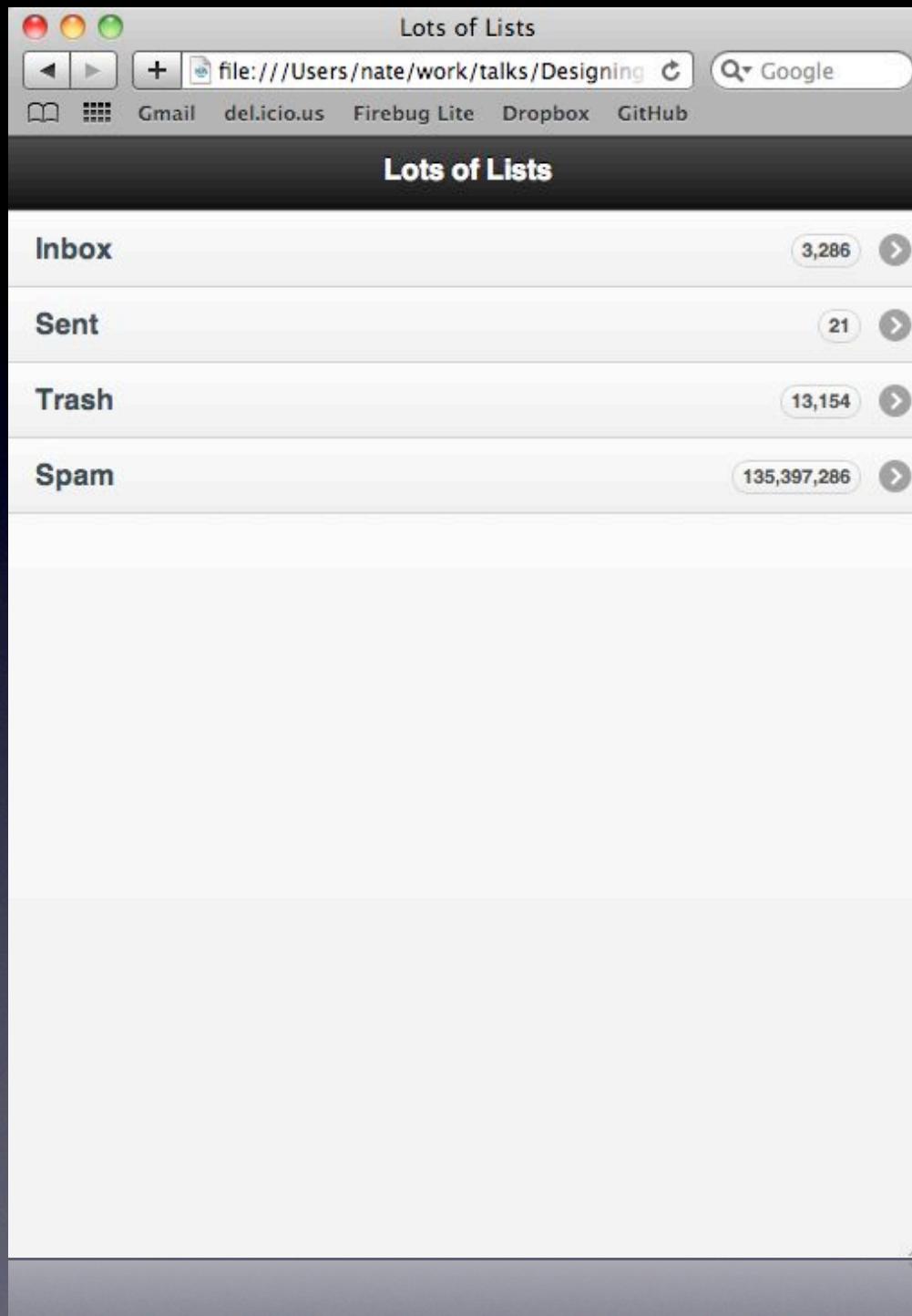
```
<div data-role="content">
    <ul data-role="listview">
        <li>jQuery</li>
        <li>Prototype</li>
        <li>YUI</li>
    </ul>
</div>
```

Name	Date Modified
mobileLists.html	Today, 7:32 PM
mobileListsCounts.html	Today, 7:57 PM
mobileListsDividers.html	Today, 7:48 PM
mobile_list_divider.jpg	Today, 8:09 PM
mobile_list_count.jpg	Today, 8:08 PM



```
<div data-role="content">
  <ul data-role="listview">
    <li data-role="list-divider">A</li>
    <li><a href="accra.html">Accra</a></li>
    <li><a href="audi.html">Audi</a></li>
    <li data-role="list-divider">B</li>
    <li><a href="bmw.html">BMW</a></li>
    <li data-role="list-divider">C</li>
    <li><a href="cadillac.html">Cadillac</a></li>
    <li><a href="chrysler.html">Chrysler</a></li>
  </ul>
</div>
```

Name	Date Modified
mobileLists.html	Today, 7:32 PM
mobileListsCounts.html	Today, 7:57 PM
mobileListsDividers.html	Today, 7:48 PM
jquery	
mobileListCount.jpg	Today, 7:57 PM
mobileDividerList.jpg	Today, 7:49 PM
mobileListRead.jpg	Today, 7:36 PM
mobileList.jpg	Today, 7:33 PM
mobile_dialog_2.jpg	Today, 7:02 PM
mobile_form.mov	Today, 5:11 PM
mobile_form_select.jpg	Today, 5:08 PM
mobile_form_slider.jpg	Today, 5:07 PM
mobile_form_text.lno	Today, 5:07 PM



```
<div data-role="content">    sler</a></li>
    <ul data-role="listview">
        <li><a href="inbox.html">Inbox</a><span class="ui-li-count">3,286</span></li>
        <li><a href="sent.html">Sent</a><span class="ui-li-count">21</span></li>
        <li><a href="trash.html">Trash</a><span class="ui-li-count">13,154</span></li>
        <li><a href="spam.html">Spam</a><span class="ui-li-count">135,397,286</span></li>
    </ul>
</div>
```

Native or HTML5?

Pros...and cons.

Many native apps could
be written in HTML5.

Should they is the
interesting question.

Let's try.

I love TriplIt!

<http://www.tripit.com>

Incredibly useful for
anyone that travels.

Great website, also has
a mobile app.

AT&T 3G 3:07 PM

All Trips Itinerary People Share

✓ All clear. Tript Pro is monitoring this trip.

Fort Lauderdale, FL, December...
Nov 30, 2010 - Dec 4, 2010

4 Who's Close: Craig Walls, Matthew J McCulloug...

Wed, Dec 1

10:20 AM Minneapolis/St. Paul... >
CST Delta Air Lines 1403

3:03 PM Map of Fort Lauderd... >
EST Map of Fort Lauderdale, FL

Sun, Dec 5

1:20 PM Fort Lauderdale to... >
EST Delta Air Lines 1946

Trips Points Network Refresh

Alerts

Trip Planner Mobile

file:///Users/nate/Desktop/jquery_works

Google

Gmail del.icio.us Firebug Lite Dropbox GitHub

Back Your Trip to Amsterdam Info

7 days, 12 Nov -> 19 Nov

Friday November 12

MSP -> AMS >

Directions to Holiday Inn >

Map of Amsterdam >

Transportation >

Sunday November 14

Venue >

Tuesday November 16

Transportation >

Speaker's dinner >

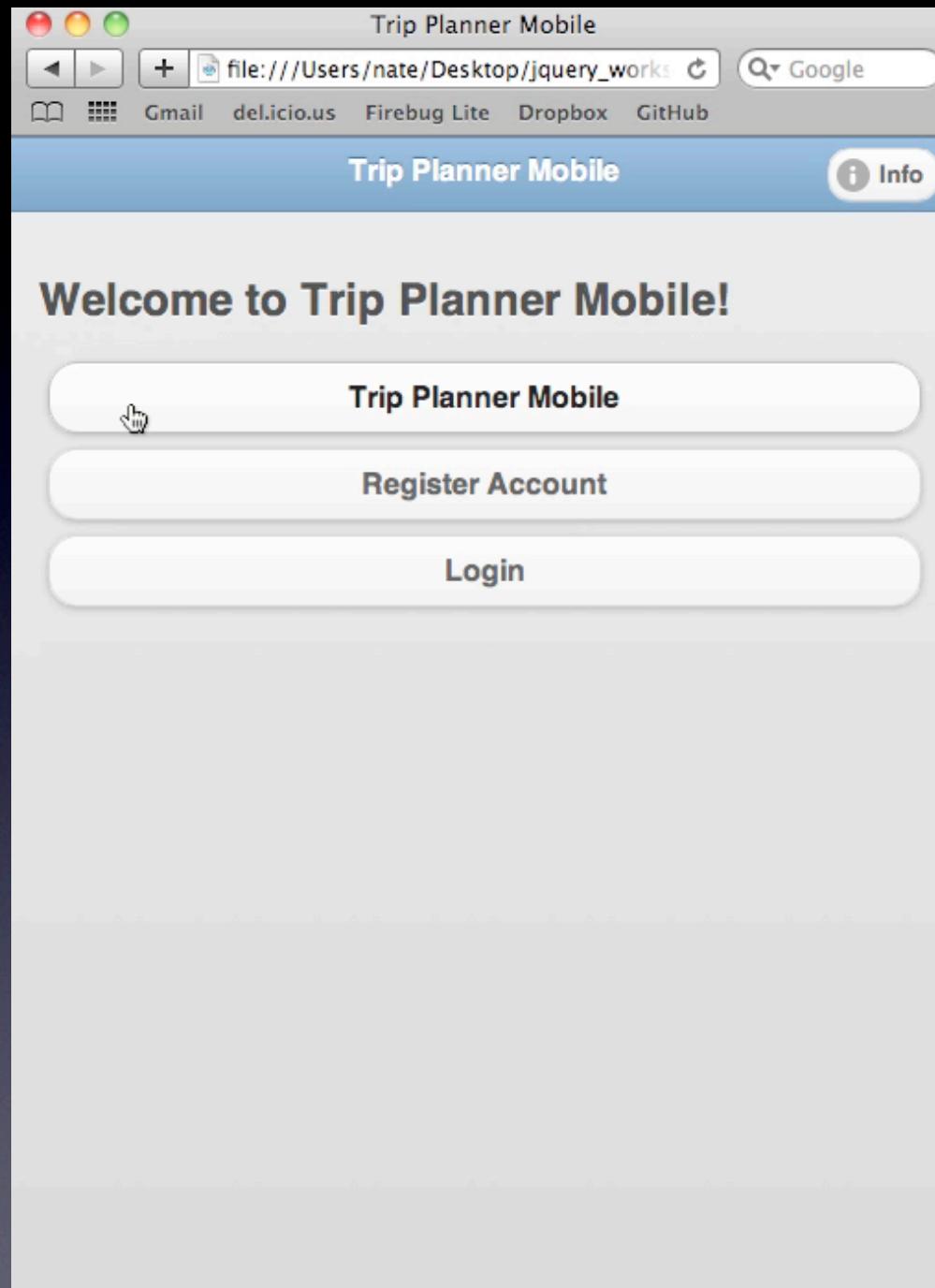
Friday November 19

AMS -> MPS >

Trips Points Network Refresh

about! about! about! about! about!

The screenshot shows a mobile application window titled "Trip Planner Mobile". At the top, there are standard OS X window controls (red, yellow, green) and a toolbar with icons for file operations and links to "Gmail", "del.icio.us", "Firebug Lite", "Dropbox", and "GitHub". Below the toolbar, the title "Your Trip to Amsterdam" is displayed, along with the duration "7 days, 12 Nov -> 19 Nov". A blue header bar indicates the date "Friday November 12". The main content area lists travel details: "MSP -> AMS" (with a right arrow), "Directions to Holiday Inn" (with a right arrow), "Map of Amsterdam" (with a right arrow), and "Transportation" (with a right arrow). A blue header bar for "Sunday November 14" follows. The next section, under a blue header for "Tuesday November 16", includes "Venue" (with a right arrow), "Transportation" (with a right arrow), and "Speaker's dinner" (with a right arrow). Another blue header bar for "Friday November 19" is shown, followed by the flight detail "AMS -> MPS" (with a right arrow). At the bottom, there are navigation buttons for "Trips", "Points", "Network", and "Refresh", each accompanied by a small icon. Below these buttons are four small, partially visible icons.



Did I mention jQuery
Mobile is still alpha?

jQuery Mobile Lab

- Trip Planner Mobile
- Create a simple trip app
- Splash page, list of trips, trip details
- jQuery Mobile...still alpha ;)
- \${extract}/jquery_workshop/labs/mobile/mobileTripPlanner.html

Questions?

Plugins.

What's a plugin?

Extension to jQuery.

Can be simple...

Add a new method.

Can be complex...

Add a new widget.

We'll stick to the
simple end!

A plugin? Why?

First off, not that hard.

Speeds development.

Abstracts your code.

Chainability.

Key feature of jQuery.

Plugins follow that.

Consistency.

If you're using jQuery...

Do things the jQuery way.

Leveraging plugins.

We've looked at a
couple of widgets.

But you've got
other options.

Hundreds of extensions.

Divided into categories.

Ajax, animation, events,
menus, navigation, etc.

Searchable.

User ratings.

Paradox of choice?

Variable quality...

Compatibility issues.

“playing the “which JQuery version” will make all of these different plugins work! Arrggghhh!
#jquery”

Brian Sam-Bodden

<http://twitter.com/bsboden/status/9155328185>

Not all bad ;)

Before you build
something, look around.

Many excellent plugins.

For instance...

Charting.

The last bastion of Flash?

Maybe not...

Google Chart.

Google generates the
charts for you.

Returns an image.

RESTful call.

VERY rich functionality.

Wide variety of charts.

From the bars, lines
and graphs...

To maps, scatter, Venn
and QR codes.

Straightforward API.

But abstractions help!

jQuery Google Charting - gchart.

<http://plugins.jquery.com/project/gchart>

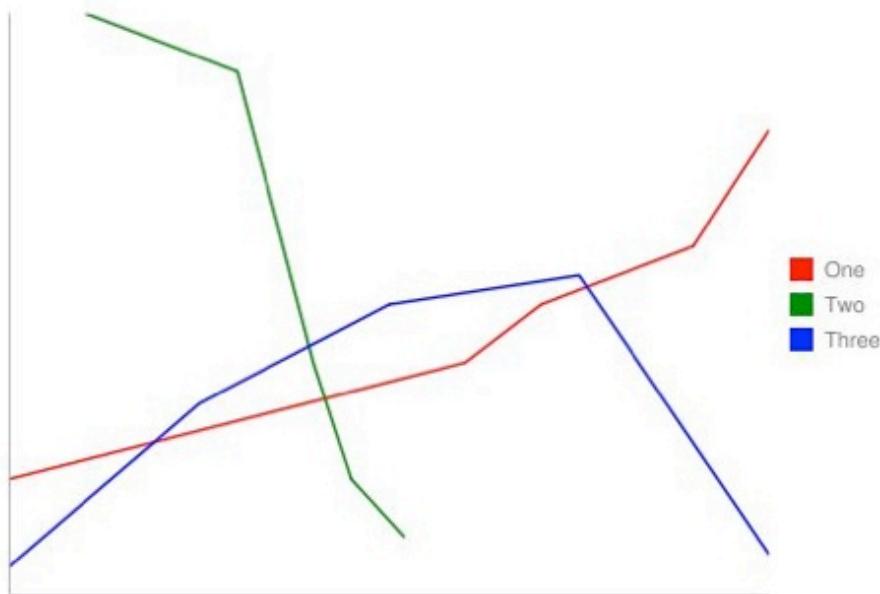
Turn a div into a chart.

Add gchart, simple
jQuery calls.

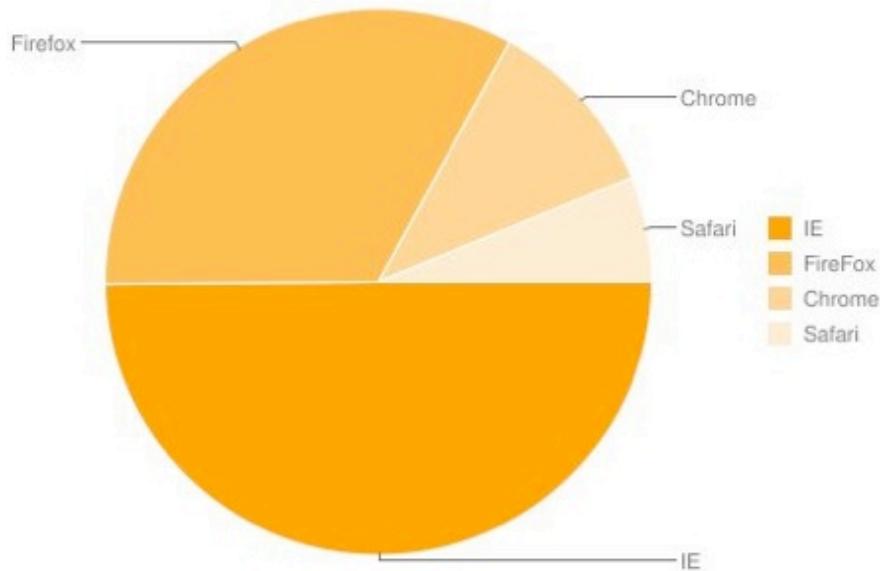


Gmail del.icio.us Firebug Lite Dropbox GitHub

Let's put a simple chart here:



How about a pie chart?



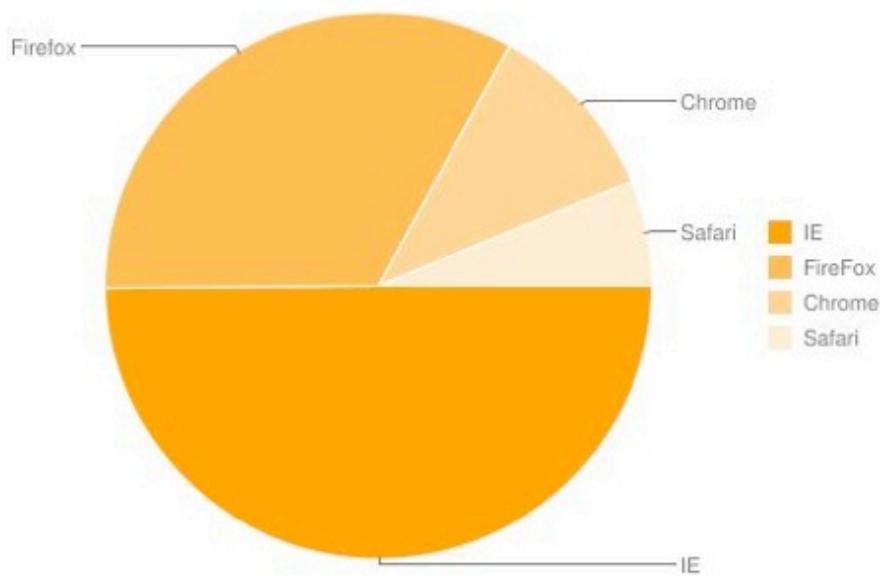
```
<body>
  <h2>Charting Rocks!</h2>
  <p>Let's put a simple chart here:</p>
  <div id="chart" class="chart"></div>
  <p>How about a pie chart?</p>
  <div id="piechart" class="chart"></div>
  <p>Or a Venn diagram?</p>
  <div id="venn" class="chart"></div>
</body>
<script type="text/javascript">
  $('#chart').gchart({type: 'lineXY', legend: 'right',
    series: $.gchart.seriesForXYLines(
      [$.gchart.series('One', [[0, 20], [30, 30], [60, 40],
        [70, 50], [90, 60], [95, 70], [100, 80]], 'red'),
       $.gchart.series('Two', [[10, 100], [30, 90], [40, 40],
        [45, 20], [52, 10]], 'green'),
       $.gchart.series('Three', [5, 33, 50, 55, 7], 'blue')])});

  var data = [$.gchart.series([44.72, 29.67, 9.71, 5.57])];

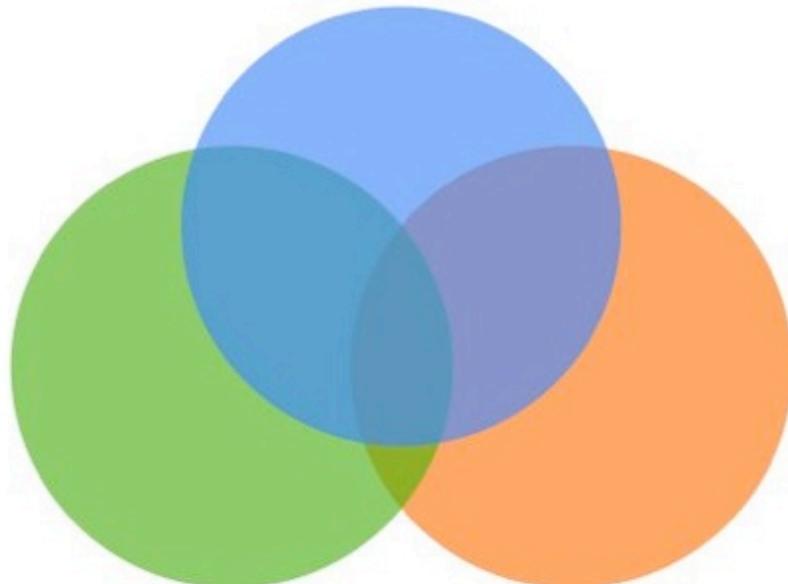
  $('#piechart').gchart({type: 'pie', series: data, legend: 'right',
    dataLabels: ['IE', 'Firefox', 'Chrome', 'Safari'],
    extension: {chdl: 'IE|FireFox|Chrome|Safari'}});

  $('#venn').gchart($.gchart.venn(80, 80, 80, 10, 30, 30, 10));
</script>
```

How about a pie chart?



Or a Venn diagram?



```
<body>
  <h2>Charting Rocks!</h2>
  <p>Let's put a simple chart here:</p>
  <div id="chart" class="chart"></div>
  <p>How about a pie chart?</p>
  <div id="piechart" class="chart"></div>
  <p>Or a Venn diagram?</p>
  <div id="venn" class="chart"></div>
</body>
<script type="text/javascript">
  $('#chart').gchart({type: 'lineXY', legend: 'right',
    series: $.gchart.seriesForXYLines(
      [$.gchart.series('One', [[0, 20], [30, 30], [60, 40],
        [70, 50], [90, 60], [95, 70], [100, 80]], 'red'),
       $.gchart.series('Two', [[10, 100], [30, 90], [40, 40],
        [45, 20], [52, 10]], 'green'),
       $.gchart.series('Three', [5, 33, 50, 55, 7], 'blue')])});

  var data = [$.gchart.series([44.72, 29.67, 9.71, 5.57])];

  $('#piechart').gchart({type: 'pie', series: data, legend: 'right',
    dataLabels: ['IE', 'Firefox', 'Chrome', 'Safari'],
    extension: {chdl: 'IE|FireFox|Chrome|Safari'}});

  $('#venn').gchart($.gchart.venn(80, 80, 80, 10, 30, 30, 10));
</script>
```

Charting Lab

- Using Google Chart, create a simple line chart
- Create a simple pie chart of language market share - Java, C#, Ruby, Clojure, etc.
- Create a Venn diagram showing the developers that know Java, C# and Clojure
- \${extract}/jquery_workshop/labs/charting/charting.html

Questions?

Sparklines.

Edward Tufte.

<http://www.edwardtufte.com/tufte/index>

“Word-sized graphs.”

[http://www.edwardtufte.com/bboard/
q-and-a-fetch-msg?msg_id=0001OR](http://www.edwardtufte.com/bboard/q-and-a-fetch-msg?msg_id=0001OR)

Simple way to display
data intense information.

Stock price, exchange
rates, medical info...

Change over time.

Numbers in context.

Very useful.

And there's a plugin!

jQuery Sparklines.

<http://omnipotent.net/jquery.sparkline/>

```
$(selector).sparkline  
  (values, options);
```

Values: pass in [] or
from the HTML.

Options: type, colors,
width, height, ranges.

[◀](#) [▶](#) [+](#) <file:///Users/nate/work/talks/DesigningForAjax/web/jQueryWorkshop/sparklines.html> [↻](#) [Q Google](#)

[Gmail](#) [del.icio.us](#) [Firebug Lite](#) [Dropbox](#) [GitHub](#)

Sparklines

Sparklines allows to display large amounts of data in a small space.

For example: 

Another option: 

More options: 

Yet more options: 

Discrete: 

```
<title>Sparklines</title>
<script src="../javascript/jquery-1.4.3.js" type="text/javascript"></script>
<script src="../javascript/jquery.sparkline.js" type="text/javascript"></script>
<script type="text/javascript">
$(function() {
    $('.sparkline').sparkline();
    var vals = [10,8,5,7,4,4,1,3,5,4,3,4,6,8,2,9,10,4,7,8,3,6,7,3,9];
    $('.passvalues').sparkline(vals);

    $('.moreoptions').sparkline(vals, {type: 'bar', barColor: 'green'} );

    var negativeVals = [1,4,4,-7,5,9,-10,8,6,-7,5,-4,6,3,-7,1,6,-7,-4,3,5];
    $('.anotheroption').sparkline(negativeVals, {type: 'bar', barColor: "green"});

    $('.discrete').sparkline('html', {type: 'discrete'} );
});
</script>
</head>
<body>
    <h2>Sparklines</h2>
    <p>Sparklines allows to display large amounts of data in a small space.</p>
    <p>For example: <span class="sparkline">1,4,4,7,5,9,10,8,6,7,5,4,6,3,7,1,6,7,4,3,5</span></p>
    <p>Another option: <span class="passvalues"></span></p>
    <p>More options: <span class="moreoptions"></span></p>
    <p>Yet more options: <span class="anotheroption"></span></p>
    <p>Discrete: <span class="discrete">1,4,4,7,5,9,10,8,6,7,5,4,6,3,7,1,6,7,4,3,5</span></p>
</body>
</html>
```

Sparklines Lab

- Using jQuery Sparklines, create some simple sparklines
- For example: change in Apple/Google/MS stock over the last year
- Create a sparkline that shows negative values
- [\\${extract}/jquery_workshop/labs/charting/sparklines.html](#)

Questions?

Building your own.

Sometimes what you
want just isn't there.

Or you've got
something specific.

Rolling your own isn't hard!

What do we do?

You *can* add directly
to jQuery.

```
jQuery.fn.sayHello = function() {  
    alert("Hi There!");  
};
```

Ugh. Where's \$?

To avoid collisions, we
pass jQuery to a closure.

```
(function( $ ){  
    $.fn.sayHelloAgain = function() {  
        alert("Hi There my friend!");  
    };  
}( jQuery ));
```

Method approach is
more common.

Plugin Lab - Part I

- Let's add a method to jQuery!
- Using the closure approach, add a “log” method (or something similar) to jQuery
- Execute said method in a manner of your choosing
- \${extract}/jquery_workshop/labs/plugins/jQuery.html

Questions?

Don't wrap this!

Already a jQuery object.

Maintain chainability.

Return this.

Provide defaults.

Object literals are
your friend!

Override with extend.

jQuery.extend()

<http://api.jquery.com/jQuery.extend/>

Merge objects together.

Namespace!

Proper namespacing is key.

Don't want to be
overwritten!

Don't be greedy...

One namespace will do.

Never claim multiple
namespaces on `$.fn`.

Event can be
namespaced too.

Good practice.

Prevents you from
whacking someone else.

Use object literals to
house any variables.

Plugin Lab - Part 2

- Let's add another method to jQuery
- Create a method that returns the height of the tallest element on the page
- `Math.max(x,y)`
- Execute said method in a manner of your choosing
- `${extract}/jquery_workshop/labs/plugins/`
`jQuery.html`

Questions?

Plugins usually named:
`jquery.ui.myPluginName`

Let's try that!

jQuery makes it easy to
add and remove classes.

How about table
row hover?

Plugin Lab - Part 3

- Create a plugin that gives us table hover
- When you mouse over a row, highlight the row - i.e., change the class
- Abstract said code to a separate JS file
- \${extract}/jquery_workshop/labs/plugins/tablehover.html
- \${extract}/jquery_workshop/labs/plugins/jquery.ui.tablehover

Questions?

We can use plugins to
change widget defaults.

Say you always create
datepickers a certain way.

A plugin can simply
wrap an existing widget.

Let's try that!

Plugin Lab - Part 4

- Wrap the jQuery UI datepicker
- “Change” the defaults so instances of mycal have a different animation and have a button panel
- \${extract}/jquery_workshop/labs/plugins/datePickerPlugin.html
- \${extract}/jquery_workshop/labs/plugins/jquery.ui.mycal.js

Whew.

Covered a lot of ground!

Questions? Comments?

Resources

- <http://jquery.com/>
- http://docs.jquery.com/Main_Page
- <http://api.jquery.com/>
- <http://docs.jquery.com/Plugins/Authoring>
- http://snook.ca/archives/javascript/jquery_plugin/
- <http://jqueryui.com/themeroller/>

Resources

- <http://jqueryui.com/demos/>
- [http://docs.jquery.com/
How_jQuery_Works](http://docs.jquery.com/How_jQuery_Works)
- <http://jquerymobile.com/demos/1.0a2/>
- http://jqueryui.com/docs/Developer_Guide
- [http://www.webresourcesdepot.com/
jquery-plugin-development-10-tutorials-to-
get-started/](http://www.webresourcesdepot.com/jquery-plugin-development-10-tutorials-to-get-started/)

Thanks!

Please complete your surveys.