



Moving to the Client – JavaFX and HTML5

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FUTURE
JAVA

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Meet the Presenters

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@steveonjava

Kevin Nilson

@javaclimber

Family Man

Motorcyclist



just.me VP of Engineering
Author Web 2.0 Fundamentals

- User Groups
- Silicon Valley Web JUG
- Silicon Valley JS Meetup
- Silicon Valley Google Developer Group

History of the Web

- 1991 **HTML**
- 1994 **HTML 2**
- 1996 **CSS 1** + JavaScript
- 1997 **HTML 4**
- 1998 **CSS 2**
- 2000 **XHTML 1**
- **2002** **Tableless Web Design**
- **2005** **AJAX**
- **2009** **HTML 5**

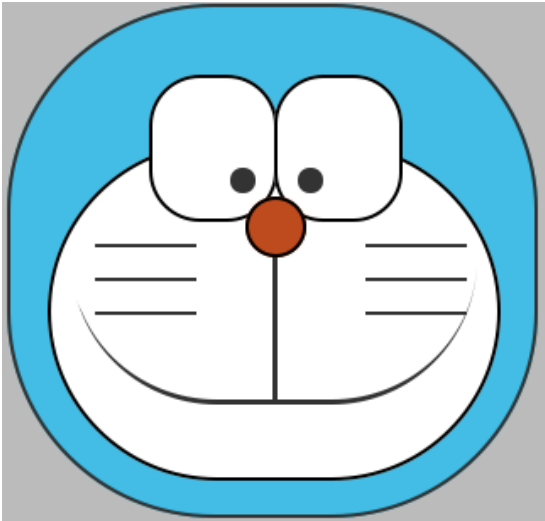
What is HTML5

- Web Hypertext Application Technology Working Group (**WHATWG**)
- HTML5 ! = HTML + CSS + JavaScript
- HTML5 = Next Generation Features for Modern Web Development
- Offline Storage, Web SQL Database, IndexedDB, Application Cache, Web Workers, WebSocket, Notifications, Native Drag & Drop, File System, GeoLocation, Speech Input, Form Types, Audio, Video, Canvas, SVG

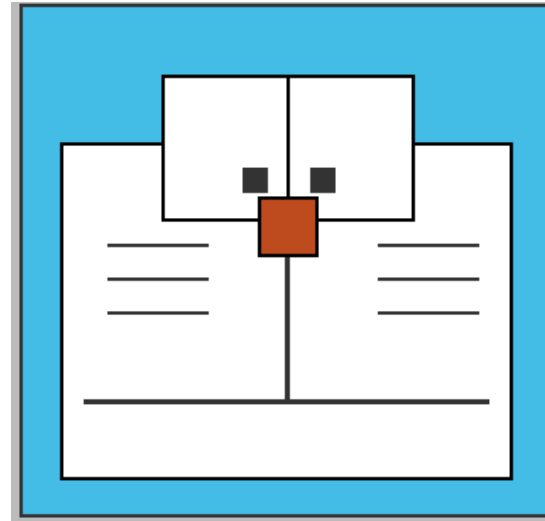
HTML5 Rounded Corners

- <http://slides.html5rocks.com/#rounded-corners>

HTML5



No HTML5



HTML5 Canvas 3D (WebGL)

- http://oos.moxiecode.com/js_webgl/fish/index.html



Prefixes

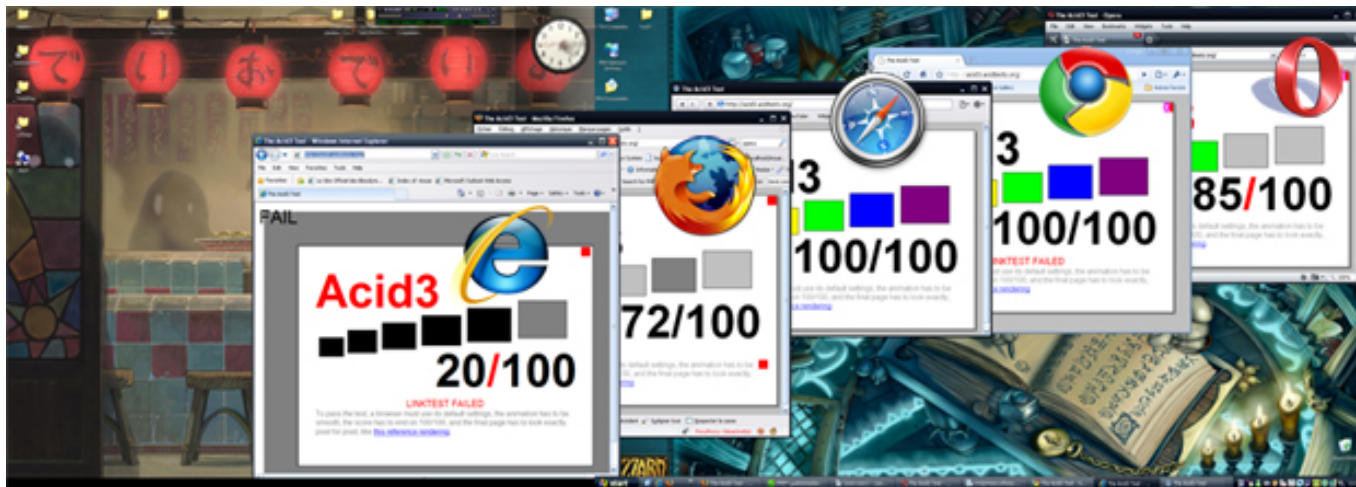
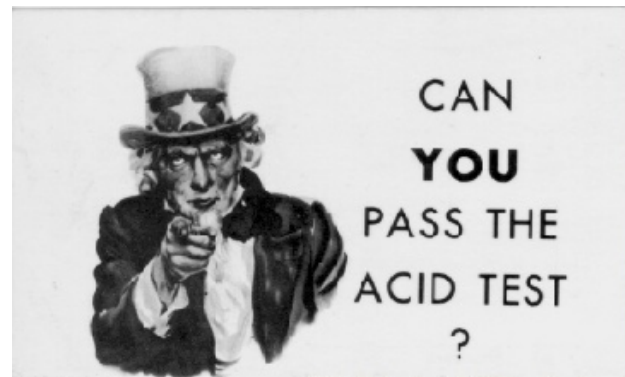
- `-webkit-text-fill-color: black;`
- `-webkit-column-count: 2;`
- Before the Spec is final
- Before the Browser implementation is Verified

Cross Browser

- Browsers behave fairly differently
- HTML5 Non-Ambiguous Spec
- JavaScript Frameworks (jQuery, Dojo, Ember, YUI) give consistent API

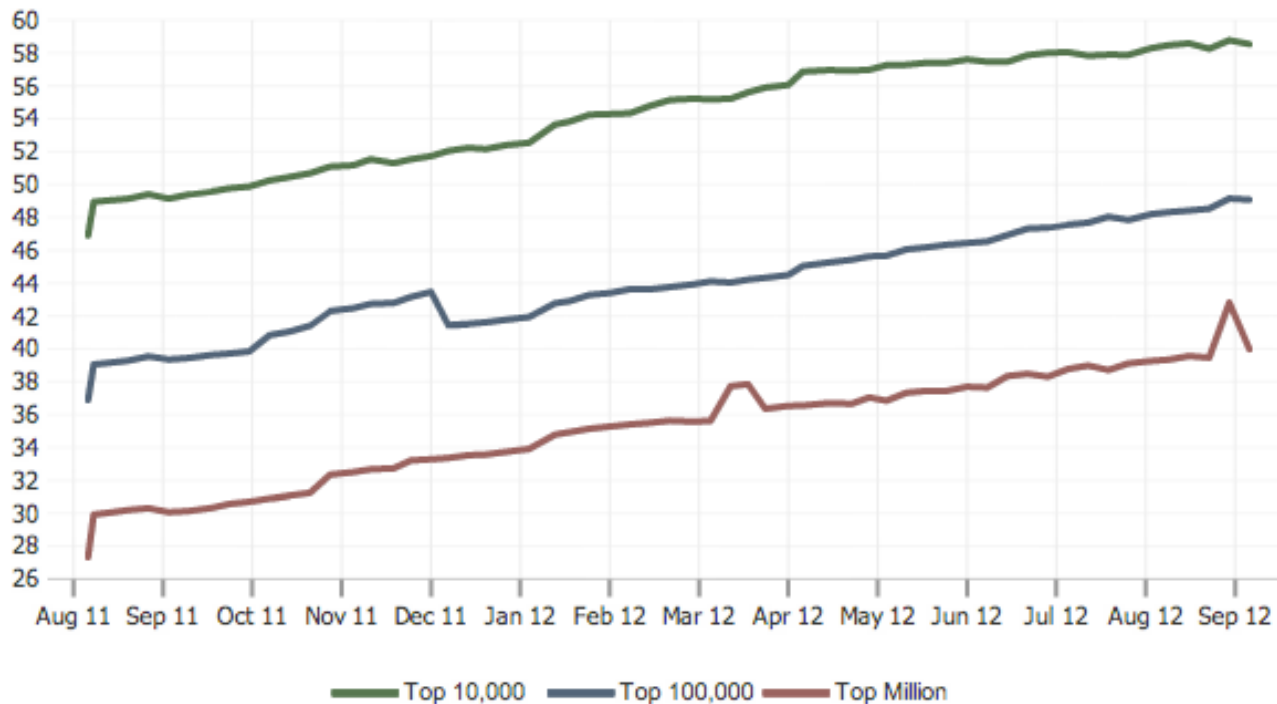
Acid Test

- <http://acid3.acidtests.org>



jQuery On The Rise

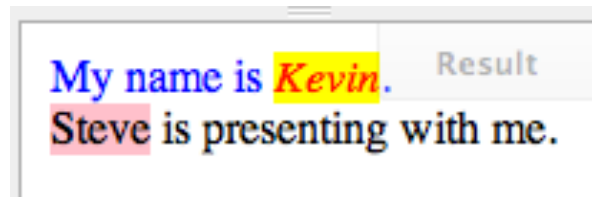
- 56.87% of Top 10,000 sites use jQuery (builtwith.com)



jQuery

- <http://jsfiddle.net/3urR9>

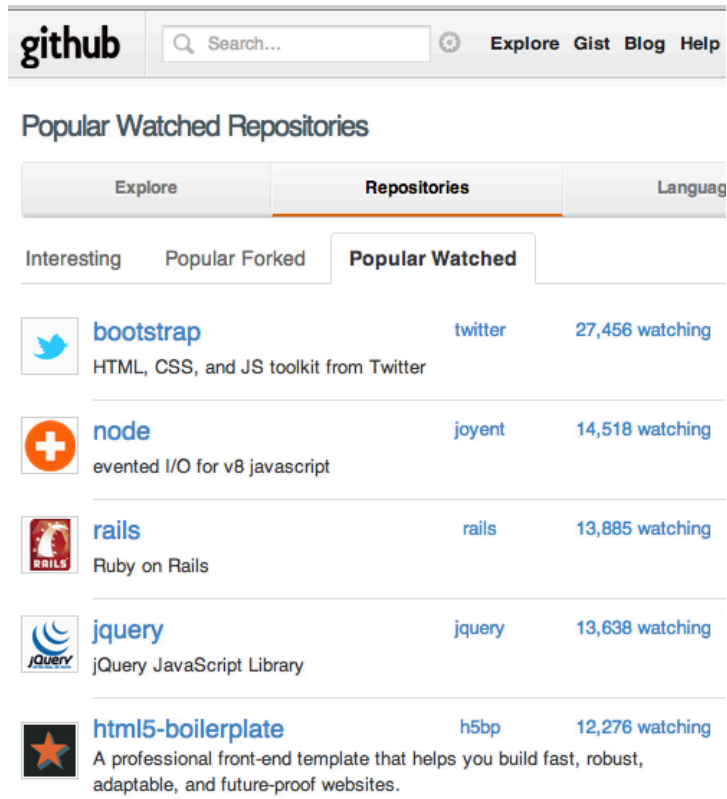
<pre><p>My name is Kevin.</p> <p>Steve is presenting with me.</p></pre>	HTML
<pre>\$('.steve').css('background-color', 'pink'); \$('.kevin').css("background", "yellow").parent().css("color", "blue").end().css("font-style", "italic").css("color", "red");</pre>	JavaScript



Reaching Older Browsers

- Chrome Frame
 - IE6, IE7, IE8 running Chrome
- Modernizer
 - Feature detection rather than User Agent Sniffing

Bootstrap



The screenshot shows the GitHub homepage. At the top is the GitHub logo, a search bar, and links for Explore, Gist, Blog, and Help. Below this is the 'Popular Watched Repositories' section. It has three tabs: 'Explore', 'Repositories' (which is selected), and 'Language'. Under the 'Repositories' tab, there are three sub-tabs: 'Interesting', 'Popular Forked', and 'Popular Watched' (which is selected). A list of five repositories is shown, each with its icon, name, owner, and number of watchers.

Repository	Owner	Watchers
 bootstrap HTML, CSS, and JS toolkit from Twitter	twitter	27,456 watching
 node evented I/O for v8 javascript	joyent	14,518 watching
 rails Ruby on Rails	rails	13,885 watching
 jquery jQuery JavaScript Library	jquery	13,638 watching
 html5-boilerplate A professional front-end template that helps you build fast, robust, adaptable, and future-proof websites.	h5bp	12,276 watching

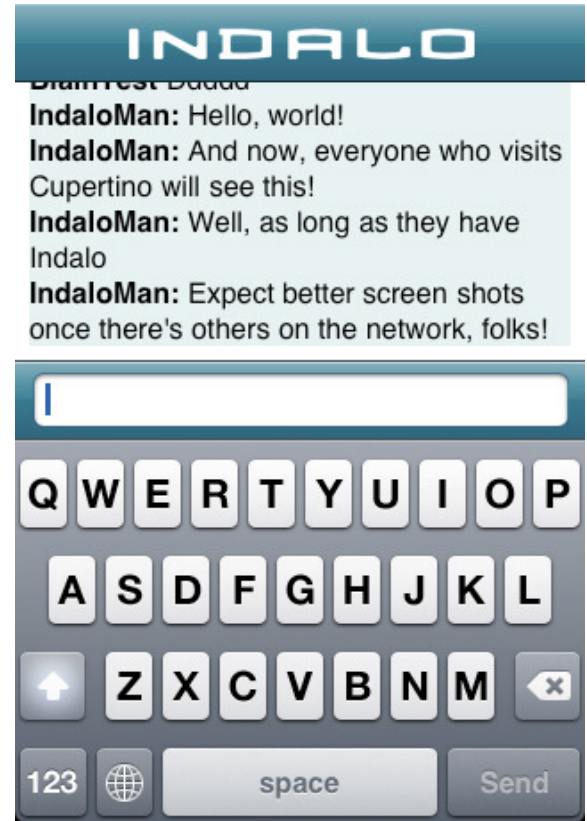
Responsive UI



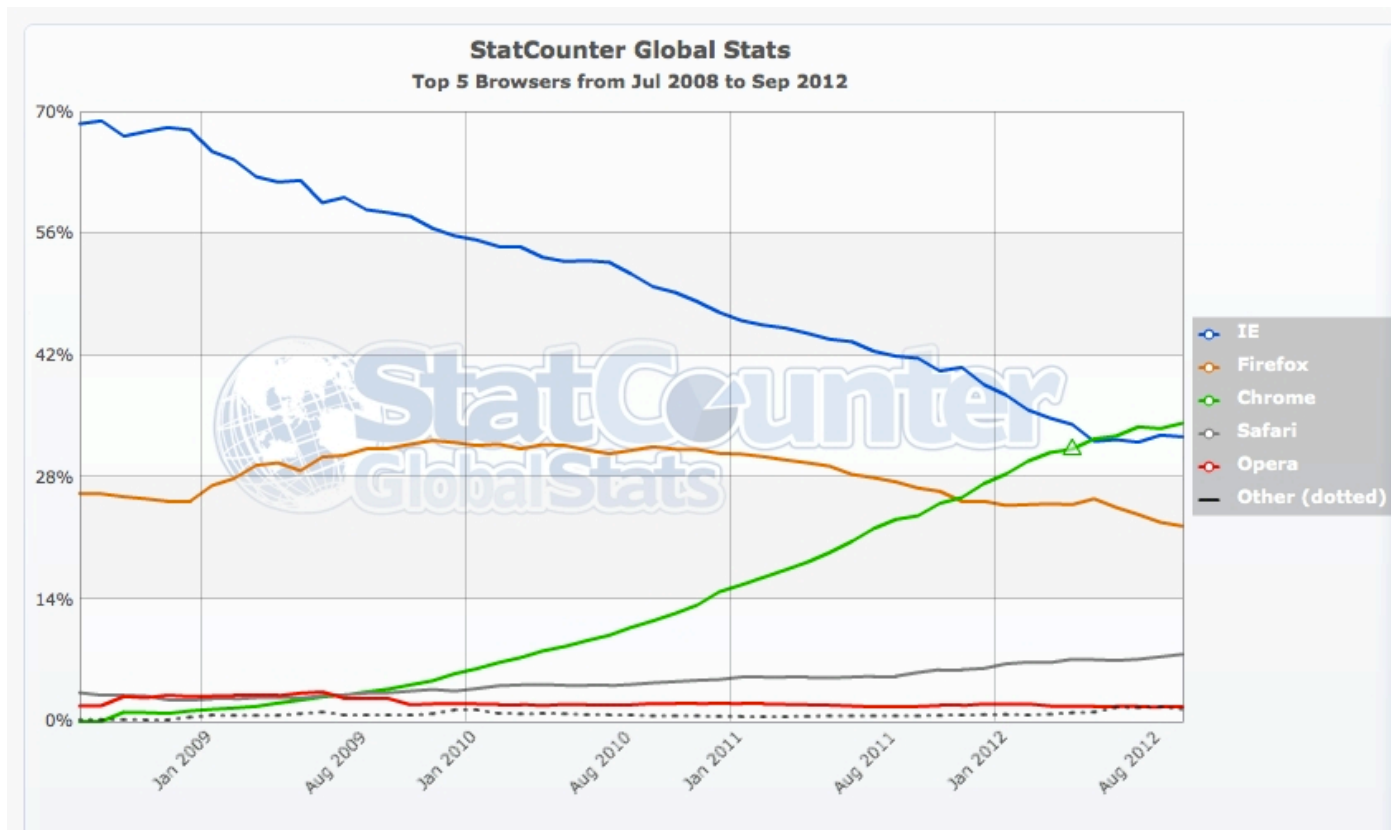
<http://earthhour.fr>

- iPhone UIWebView
 - Formatting Text

Indalo is an iPhone App Kevin Helped Write



Browser Usage



JavaFX 2.0 Platform

Immersive Application Experience

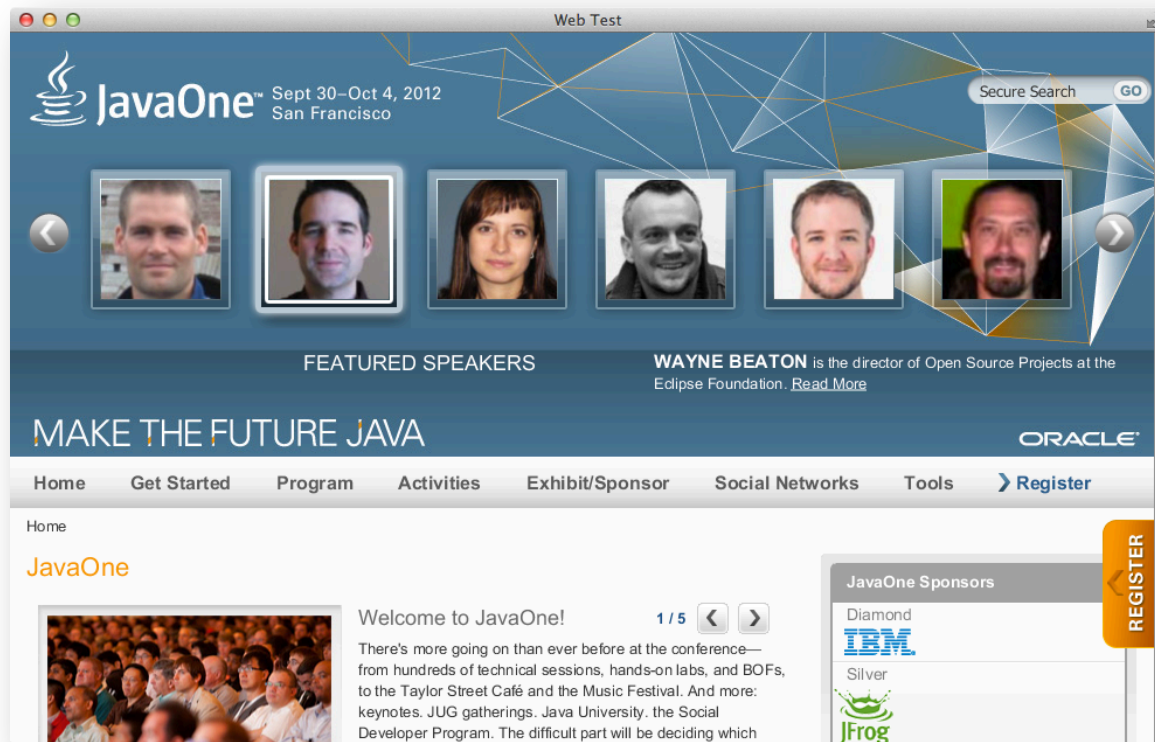
- Cross-platform Animation, Video, Charting
- Integrate Java, JavaScript, and HTML5 in the same application
- New graphics stack takes advantage of hardware acceleration for 2D and 3D applications
- Use your favorite IDE: NetBeans, Eclipse, IntelliJ



Displaying HTML in JavaFX

```
public class WebViewTest extends Application {  
    public static void main(String[] args) {  
        launch(args);  
    }  
    @Override public void start(Stage stage) {  
        WebView webView = new WebView();  
        webView.getEngine().load("http://oracle.com/javaone");  
        Scene scene = new Scene(webView);  
        stage.setScene(scene);  
        stage.setTitle("Web Test");  
        stage.show();  
    }  
}
```

Displaying HTML in JavaFX



Calling JavaScript from Java

```
String script = "alert('We have got a message, Houston!');";  
eng.executeScript(script);
```

And back again...

Calling Java from JavaScript

```
public class JavaApplication {  
    public void exit() {  
        Platform.exit();  
    }  
}
```

```
JSObject window = (JSObject) webEngine.executeScript("window");  
window.setMember("app", new JavaApplication());
```

```
<a href="" onclick="app.exit()">Click here to exit application</a>
```

JavaScript to Java Type Conversion

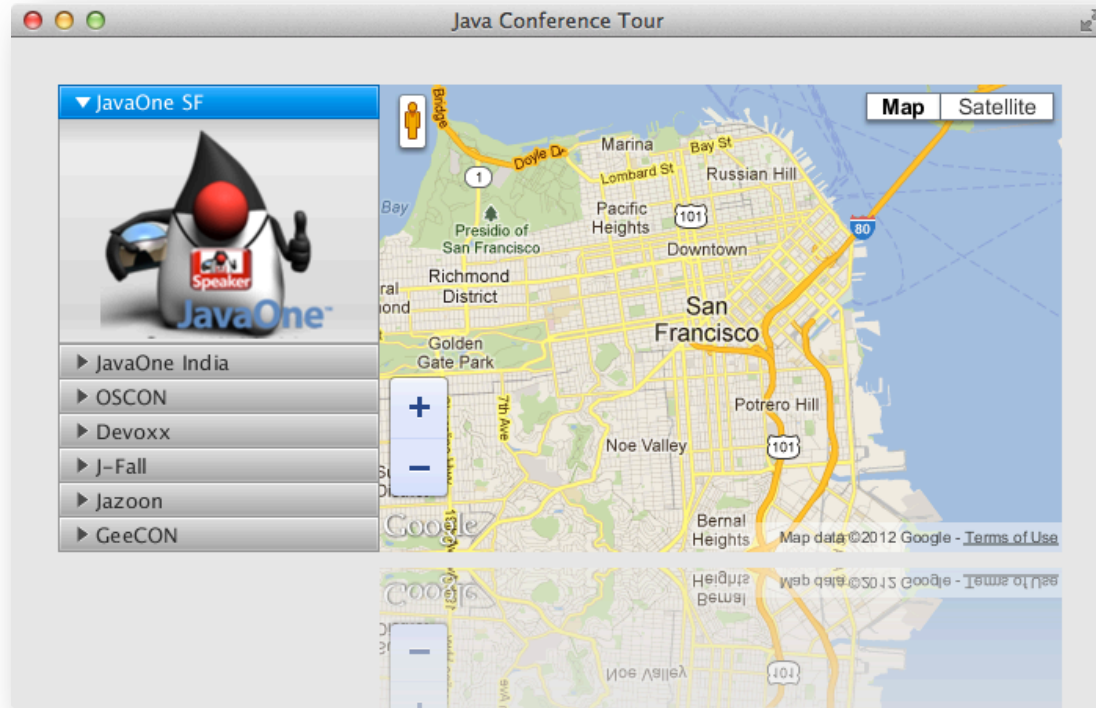
JavaScript	Java
null	null
undefined	"undefined"
number	java.lang.Number (Integer or Double)
string	java.lang.String
boolean	java.lang.Boolean
object	netscape.javascript.JSObject

Responding to Browser Events

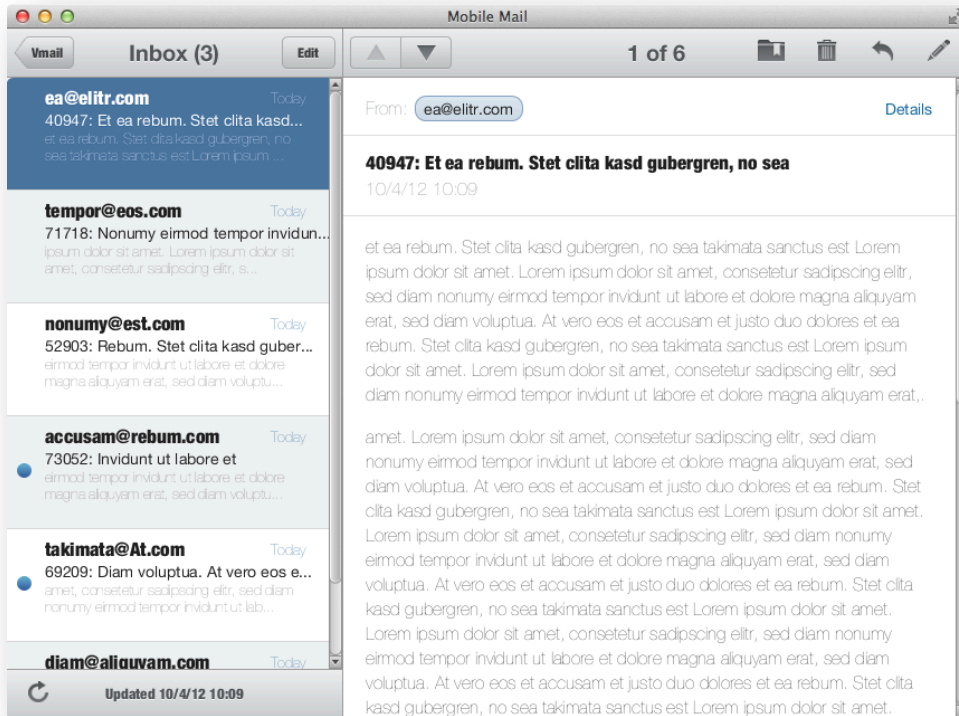
`fullPage` – Spawn a second web view/engine

- `Resize` – Web page moves or resizes the window object
- `Status` – Web page changes the status text
- `Visibility` – Hide or show the window object
- `Popup` – Spawn a second web view/engine

Use Case 1: The Java Conference Tour app



Use Case 2: Packaging Your EE Apps



Upcoming Local Events

- Silicon Valley Code Camp
 - October 6 & 7
 - siliconvalley-codecamp.com

SiliconValleycodecamp_12

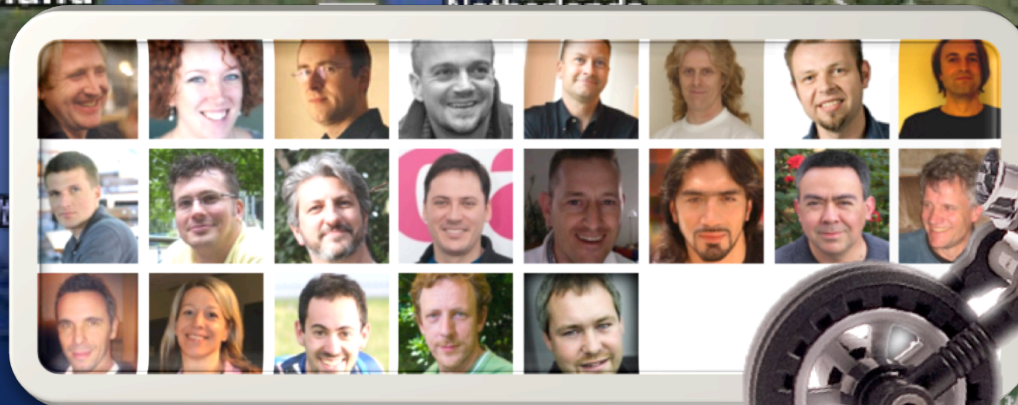


- DevFest West
 - October 20 & 21
 - DevFestWest.com
 - Google Developer Group



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OCT 29 TO NOV 11

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