

adaptTo()

APACHE SLING & FRIENDS TECH MEETUP
BERLIN, 22-24 SEPTEMBER 2014

Mobile app development with Apache Cordova and AEM
Bruce Lefebvre, Adobe



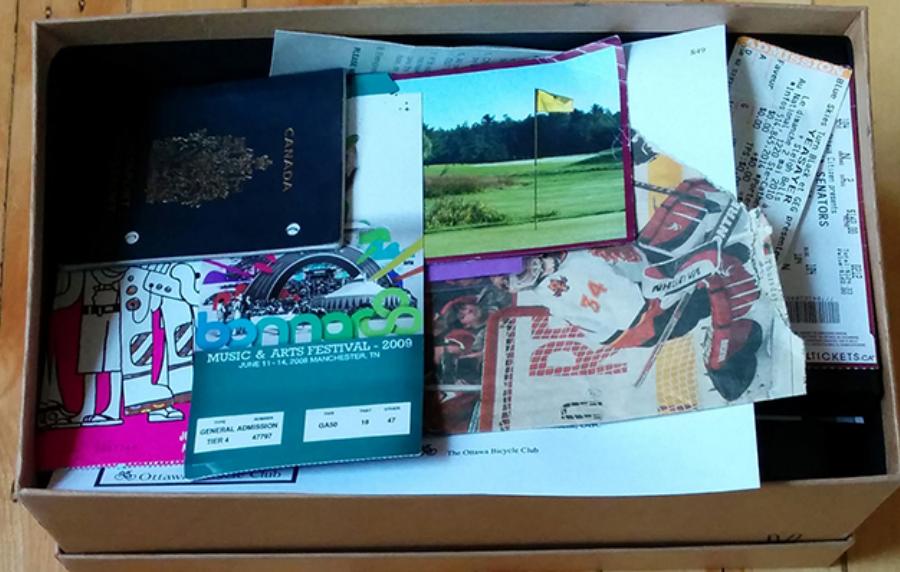
Hello

[@brucelefebvre](#)



agenda.jsp

```
<%  
    out.println("<h1>          AGENDA          </h1>" +  
               "<ul>            " +  
               "  <li>      Problem?      </li>" +  
               "  <li>      Solution       " +  
               "    <ul>            " +  
               "      <li>      Cordova      </li>" +  
               "      <li>      + Sling       </li>" +  
               "      <li>      + AEM        </li>" +  
               "    </ul>            " +  
               "  </li>            " +  
               "</ul>          ");  
%>
```



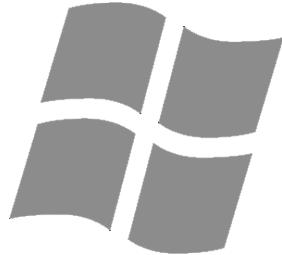
Problem?



2014



Java



C#, C++



Objective-C



Java

2016

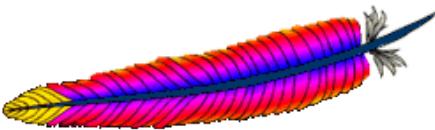


?????

Goal: Avoid proprietary vendor traps

The Open Web

- Opinion: The web solved cross platform
- Open & standardized (for the most part)

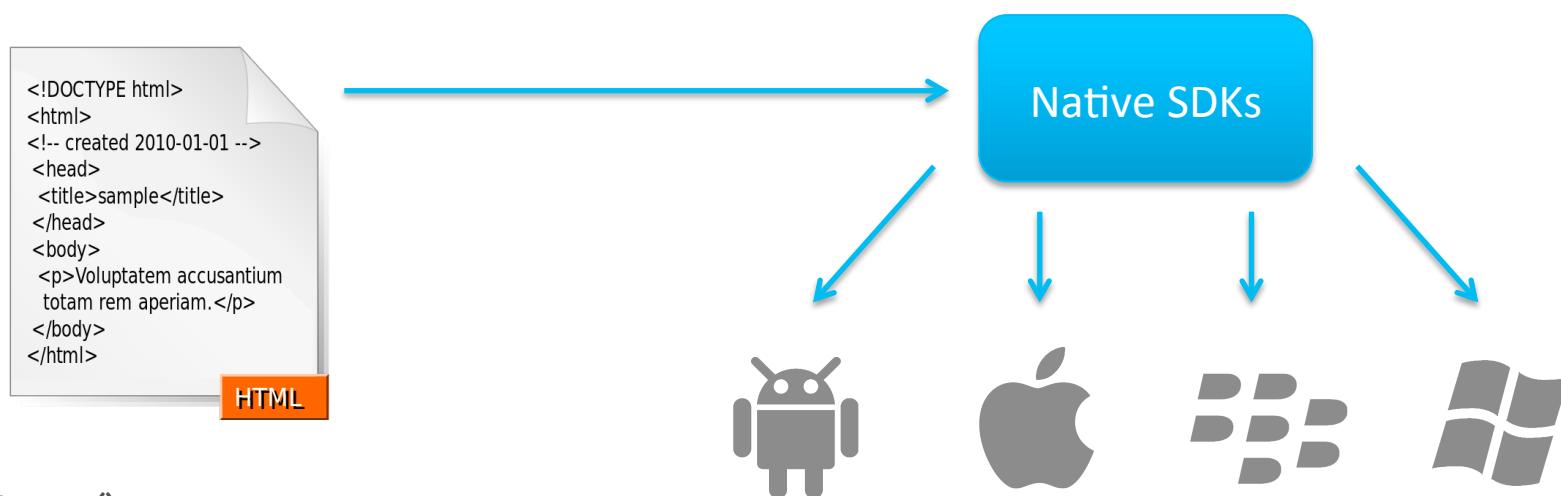




Goal: Presence in app store(s)

Enter Hybrid Applications

- Web app wrapped in a device native shell
- Write once, run everywhere*
 - *aka “the promised land”





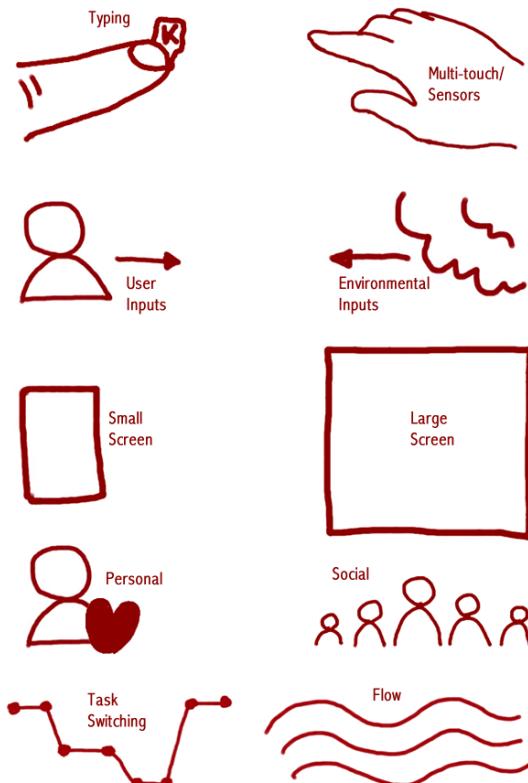
But... Web vs. Native!

- Both built on the same set of technologies
- Web capabilities sufficient for most apps

“If a browser doesn’t do something its not because it can’t;
it’s just because we haven’t gotten around to implementing that part yet.”

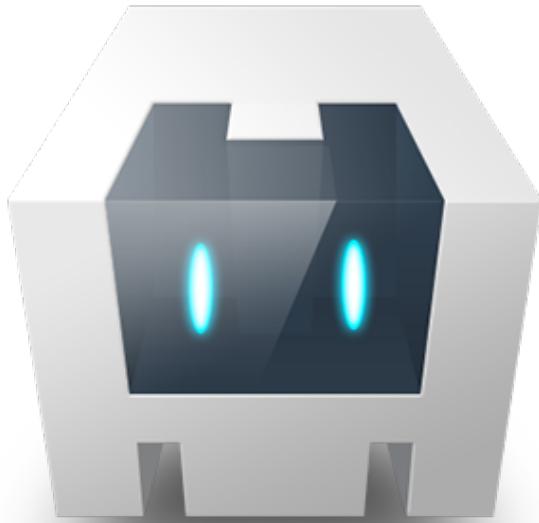
-Brian LeRoux

But the web can't...



- Access device features, like:
 - Camera
 - Device motion
 - File system
 - Location
- Provide background notifications
- Render without connectivity
 - or even poor connectivity
- Or can it?

Enter Apache Cordova



Build apps with web tech you know and love

Cordova

- A cross-platform app framework
- Initially PhoneGap, created by Nitobi
- Donated to ASF in 2011 as Cordova
 - of which PhoneGap is a distribution

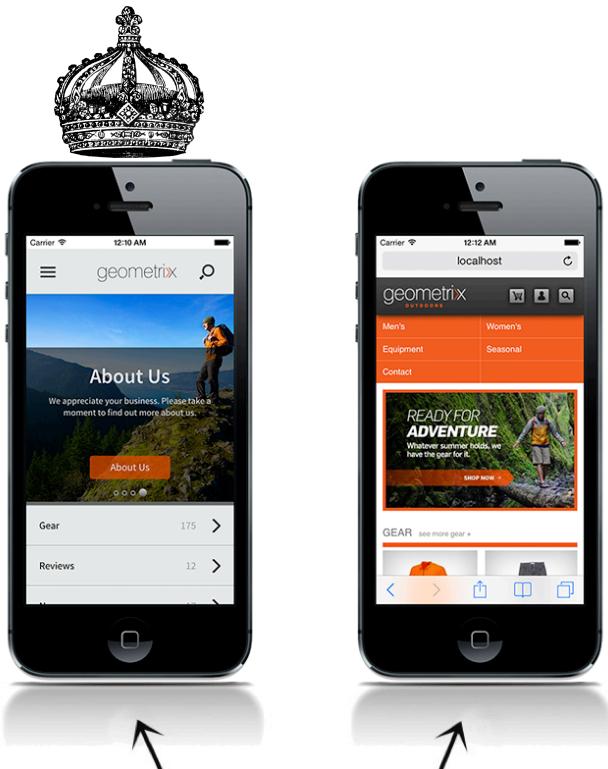


Cordova



- **Supported platforms**
 - iOS
 - Android
 - BB10
 - WP7, WP8, Windows 8
 - Amazon Fire OS
 - Tizen
 - and more...

Cordova Plugins



- **Device APIs:**
 - Camera
 - Geolocation
 - Accelerometer
 - File
 - Contacts
 - Events
 - Connection
 - Notification
 - Storage
 - InAppBrowser
 - Device
 - Compass
 - Globalization

Cordova CLI

- **Command line interface features**
 - Bootstrap a new app
 - build/install/run app on a specific platform
 - Locally or via PhoneGap build
 - Manage plugins



Let's give it a try

Cordova CLI at a glance



- **Create your app:**

```
cordova create helloAdaptTo
```

- **Add a platform:**

```
cd helloAdaptTo
```

```
cordova platform add ios
```

- **Run your app on a simulator:**

```
cordova emulate ios
```

Cordova + Sling

- Goals:
 - Repurpose existing content
 - Fetch & present data with minimum server side customization
 - Authenticate with the server



Cordova + Sling

- Bonus goals
 - Post content from device
 - Be indistinguishable from a native app
 - Offline access to content



Less talk, more action

bit.ly/blog-app



Goal: Repurpose existing content

- server/espblog/[…]/apps/espblog/json.esp

```
{  
    "title": "<%=post.title%>",  
    "link": "<%= serverURI %><%=post%>.json",  
    "description": "<%=post.posttext%>",  
    "pubDate": "<%=df.format(post.created.getTime())%>",  
    "resources": {  
        "attachments": [  
            <% renderMedia(post, "attachments"); %>  
        ]  
    }  
}
```



Goal: Fetch & present data

- [www/js/controllers.js](#)

```
$http.get(slingHostURI + '/content/espblog/posts.list.json')
    .success(function(data, status) {
        $scope.connected = true;
        $scope.blogPostList = data.posts;
    })
    .error(function(data, status) {
        $scope.connected = false;
        console.error('Blog post list fetch failed');
    });
});
```



Goal: Authenticate with the server

- [www/js/controllers.js](#)

```
$http({  
    method: 'POST',  
    url: slingHostURI + '/j_security_check',  
    data: formData,  
    headers: {  
        'Content-Type': undefined  
    },  
    transformRequest: formDataObject  
})  
...  
basicAuthentication.setCredentials(formData.j_username, formData.j_password);
```

Cordova + Sling

- Reuse existing content
- Reuse existing infra
- Reuse existing web skills
- Write once, run cross-platform



Cordova + AEM --- PhoneGap Enterprise





PhoneGap Enterprise

- **Highlights**
 - Update app content w/o writing code
 - Integration with Adobe Mobile Services
 - Over the Air content updates
 - AngularJS integration
 - Geometrixx reference implementation

AEM Mobile Time Stamped

Application

First Launches and Upgrades

Versions

Crashes

Revenue

Lifetime Values

Actions

View States

> Usage

> Devices

> Acquisition

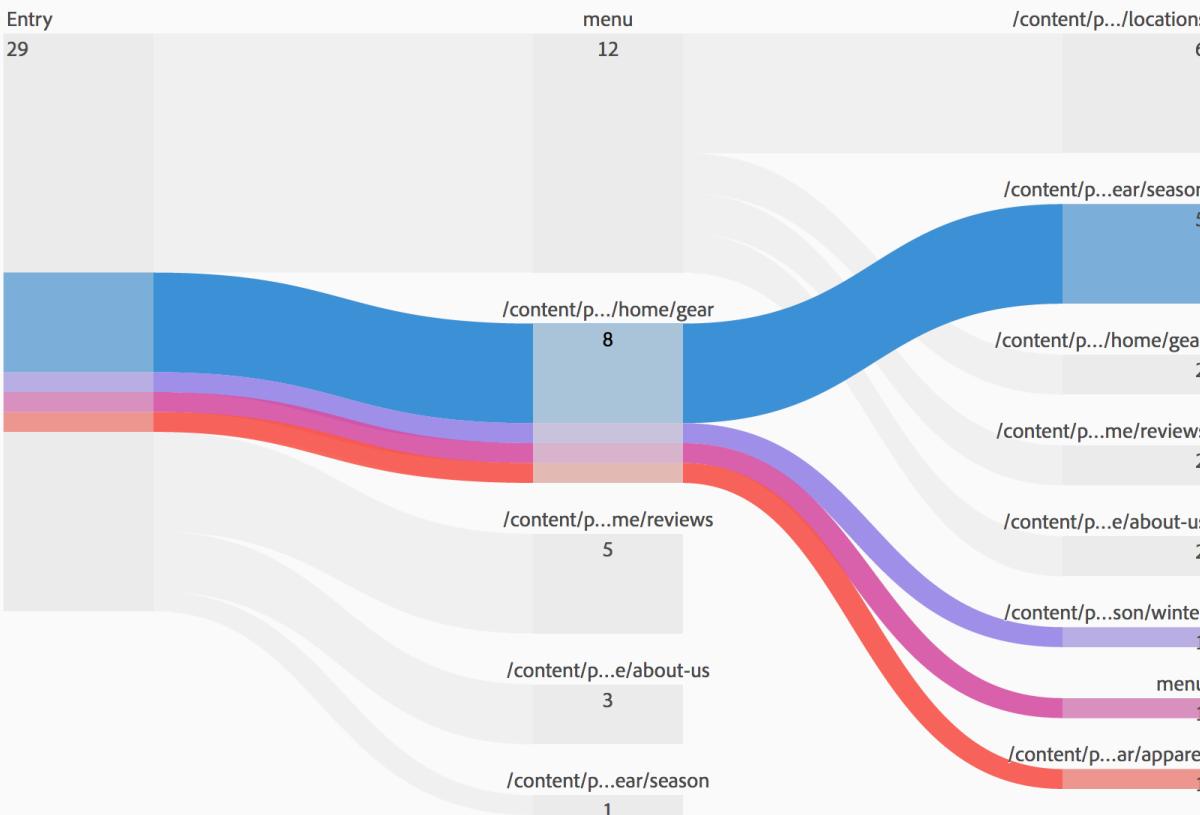
> Target

> Settings

Customize

Filter

Last 30 days



Pathing Chart

This chart represents paths taken from one state to another.

Each node, shaped as a box, represents a state in the path.

Tapping or clicking a node will provide additional options to modify the chart:

Focus

Shows paths coming into and going out of node

Expand

Shows additional paths coming or going from the node

Collapse

Removes paths coming or going from the node

PhoneGap Enterprise demo

bit.ly/aem-pg

Recap

- Problem?
- Solution
 - Cordova
 - + Sling
 - + AEM



bit.ly/blog-app



bit.ly/aem-pg

Questions?

[@brucelefebvre](https://twitter.com/brucelefebvre)

Appendix

Resources

- [Cordova + Sling blog app Github repository](#)
- [PhoneGap Kitchen Sink Github repository](#)
- [PhoneGap Beliefs, Goals, and Philosophy](#) – Brian LeRoux
- [PhoneGap, Cordova, and what's in a name?](#) – Brian LeRoux
- [PhoneGap Documentation](#) – v. 3.5.0

Creative Resources

- ‘But the web can’t’ slide
<http://www.designcaffeine.com/uncategorized/mobile-magic-moments-transform-the-trivial/>
- ‘Cordova CLI’ slide <http://www.stradiji.com/wp-content/uploads/2013/03/swiss-army-knife.png>
- ‘Cordova Plugins’ slide <http://www.freshtilledsoil.com/native-app-vs-mobile-website/>
- Apache httpd <http://httpd.apache.org/>
- ECMA logo http://en.wikipedia.org/wiki/Ecma_International
- W3C <http://www.w3.org/>
- WHATWG <http://www.whatwg.org/>
- AngularJS <https://angularjs.org/>
- Sling <http://sling.apache.org/>
- HTML <http://en.wikipedia.org/wiki/HTML>