

adaptTo()

APACHE SLING & FRIENDS TECH MEETUP
BERLIN, 28-30 SEPTEMBER 2015

Bridging the Gap: Single-Page Apps and AEM
Bruce Lefebvre, Adobe

Hello

[@brucelefebvre](#)

- Introduce the **SPA** pattern
- Propose using **AngularJS** as our framework
- Involve our Authors with **AEM**
- Prosper in App Stores with **PhoneGap**

The Case for Single-Page Apps

SPAs: because your customers won't wait

SPEND \$50 AND SHIPPING IS FREE

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HIKE

CAMP

RUN

TRAVEL & LIFE

SNOW

WATER

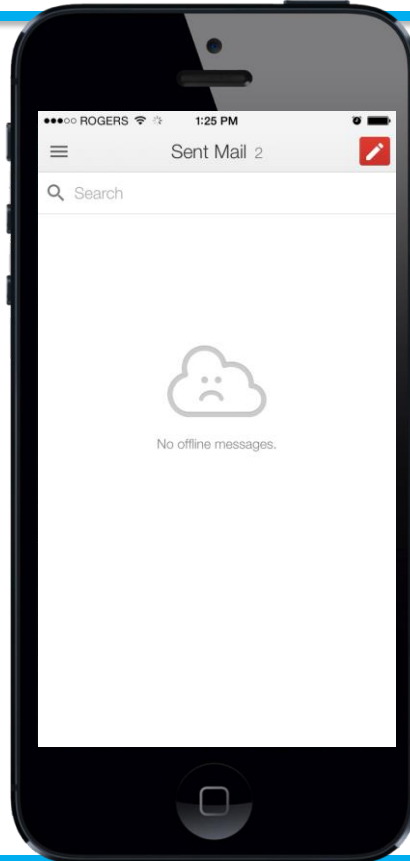
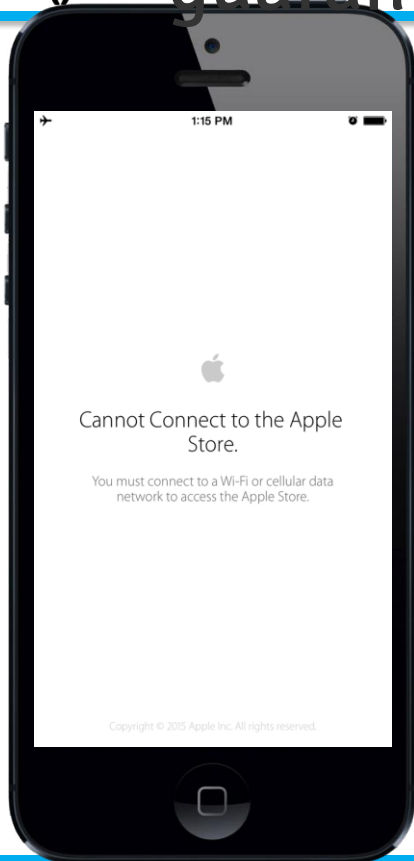
YOGA

ALL

CLEARANCE

FRESH FALL GOODS

SPAs: because connectivity is not a guarantee



Benefits of the SPA pattern

- Fluid, fast transitions between app states
 - Achieve that ‘native app’ feel
- Limits network requests
 - Using page fragments and/or JSON
- Offline capable
- Many framework options available



Cons of the SPA pattern



- SEO challenges
- Initial 'time to glass' increase
- Requires JavaScript
- Many framework options available

Speaking of JavaScript Frameworks...

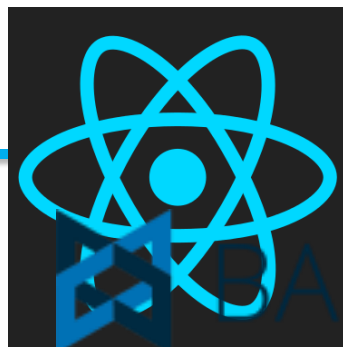


You have options

<Your framework here!>



dojo



prototype

BACKBONE JS



wakanda



jQuery

write less. do more.



Kendo UI



polymer

script.aculo.us
it's about the user interface, baby!



mootools



ANGULAR JS

by Google



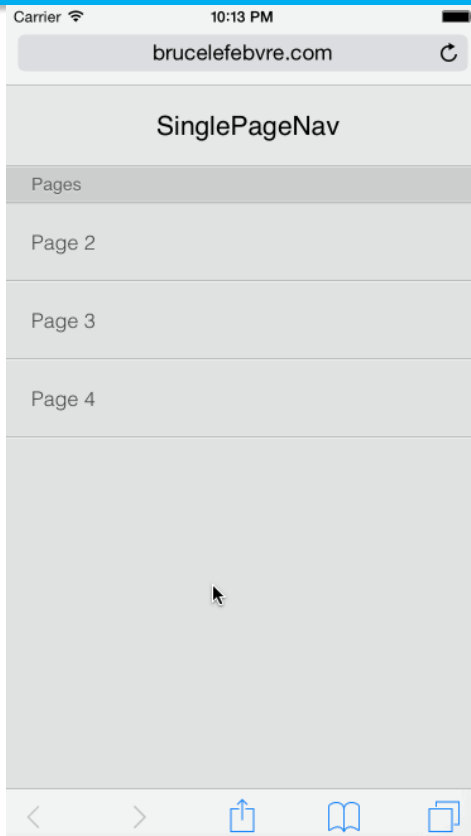
ember

Sencha Ext JS

“When you decide to **not pick a public framework**, you will end up with a framework anyway: ***your own***”

- Ryan Florence, [You Can't Not Have a Framework](#)

<Your framework here!>



- Getting simpler with ES6/2015
- Early AEM Apps used github.com/blefebvre/single-page-nav



brian leroux
@brianleroux



Following

"What are your top 3 frontend tools?"

I respond, "HTML, CSS, and JavaScript".

Framework/library fashion isn't interesting.

RETWEETS
68

FAVORITES
84

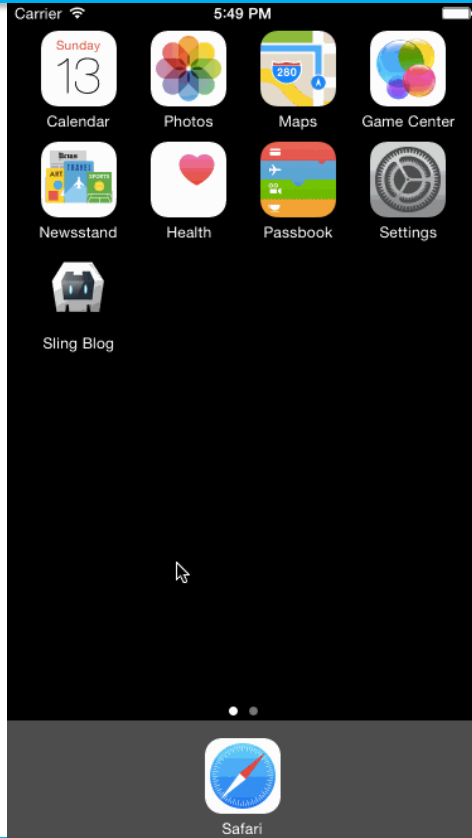


3:28 PM - 17 Sep 2014



Reply to @brianleroux

For example: a Single-Page App



- Only one “complete” page
 - often named index.html
- Everything else is loaded dynamically, as required

<https://github.com/blefebvre/cordova-sling-blog-sample>

Introducing Angular

Proposal: AngularJS

- Opinionated
 - Means less boilerplate
- Extends HTML vocabulary
 - Components (aka Directives)
- Seamless SPA routing
- Huge community & body of knowledge

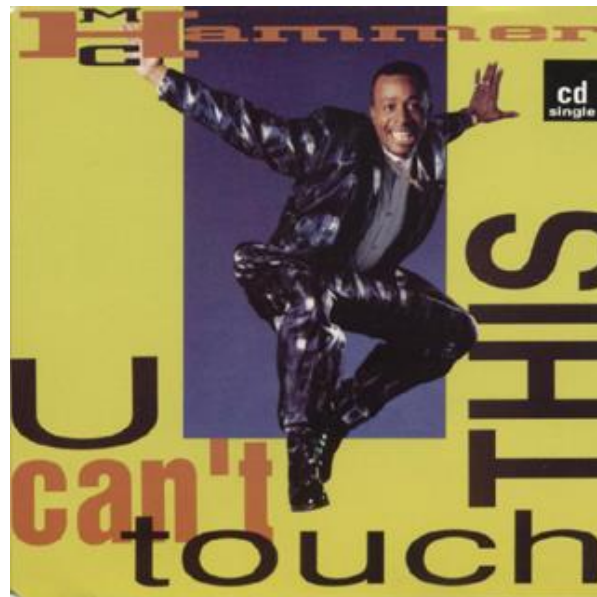


Your first Angular component

- Augment the HTML vocabulary as you wish
- For example:

```
<cant-touch-this>  
  can't touch this!  
</cant-touch-this>
```

bit.ly/cant-touch



Your first Angular component

```
app.directive('cantTouchThis', function() {  
  var link = function(scope, element, attrs) {  
    element.on('mouseenter', function() {  
      // move element to random location  
    });  
  };  
  return {  
    // link this directive to the DOM  
    link: link  
  };  
});
```

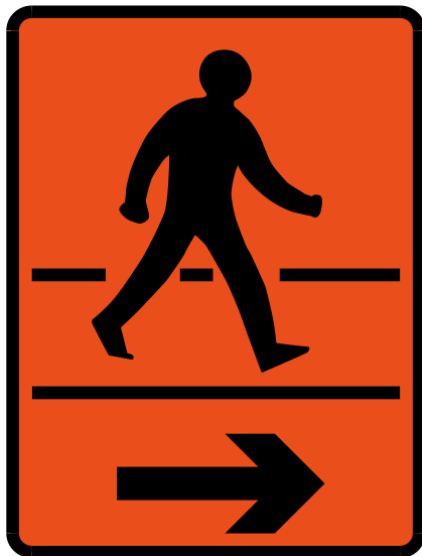
can't touch this!

Result

bit.ly/cant-touch

In ~30 lines of JS, we've extended HTML

Basic Routing in Angular



HTML:

```
<div ng-app="MyApp">  
  <a href="#/page1">Page 1</a>  
  <a href="#/page2">Page 2</a>  
  <ng-view />  
</div>
```

bit.ly/basic-routing

JS:

```
$routeProvider
  .when('/page1', {
    template: '<h3>Page 1 content!</h3>'
  })
  // define other routes here
  .otherwise({
    redirectTo: '/page1'
  });
```



bit.ly/basic-routing

- Provide data to your template

Route Config:

```
$routeProvider
  .when('/page1', {
    template: '<h3>Page 1. Hello {{name}}!</h3>',
    controller: 'PageController'
  })
```

bit.ly/basic-routing2



PageController:

```
.controller('PageController', function($scope) {  
    $scope.name = 'Bruce';  
}]);
```



bit.ly/basic-routing2



- Where the work gets done
- Lazily instantiated for speed
- Singletons
- Core Angular services include:
 - `$http`
 - `$scope`
 - `$location` (and many more)

- Each service is a factory function

```
app.factory('counterService', function() {  
  var count = 1;  
  return function() {  
    return count++;  
  }  
}  
);
```

bit.ly/basic-service

Goal: Authorable content in an Angular SPA



- Single page apps vs. page based system
 - Access control?
 - Reusability of author's skillset?
 - Content reuse across channels?
 - Automated testing?



Rebecca Lieb

@lieblink



Follow

ex-Googler: "Managing content is hard. We tried it at Google & decided to focus on easier stuff, like self-driving cars."

← Reply ↻ Retweeted ★ Favorite ⋮ More

RETWEETS

534

FAVORITES

321



12:18 PM - 9 Oct 2014

Solution

- Serve complete page on author
- Produce partials for SPA
- Routes generated based on hierarchy
- `go(..)` navigates based on `wcmmode` :

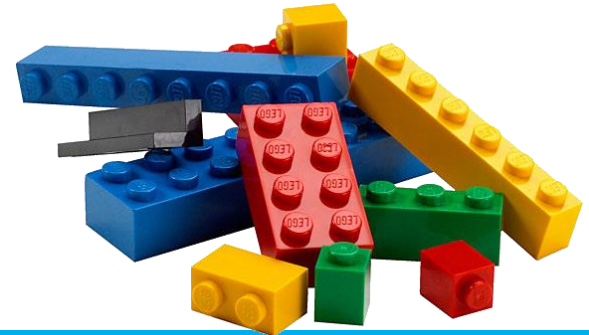
```
<a ng-click="go ( '/content/phonegap/app/en/home/subpage ' ) ">  
  Subpage  
</a>
```



- Via Sling, each page produces:
 - “Partial”
`subpage.template.html`
 - Data
`subpage.angular.json`
 - Supporting assets
- `sling:resourceType` inheritance FTW!

Angular Components in AEM

- **Include** `cq:template` node
 - **Prop:** `frameworkType: angular`
- **Optional: define a controller**
 - Via `controller.jsp`
- **Optional: include a data file**
 - Via `angular.json.jsp`



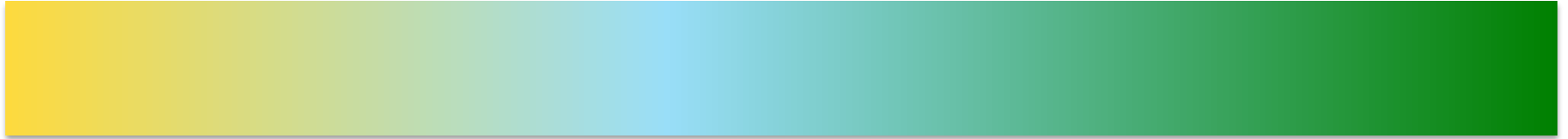
Goal: App store presence

Things you can do on Mobile

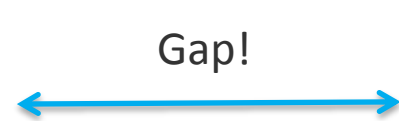


Nothing

ALL the things



Mobile website



Native app

(2015)

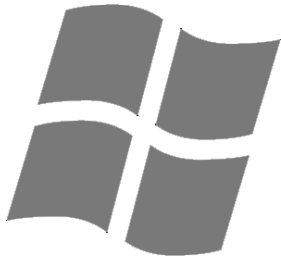
Mobile platforms 2015



Java



Objective-C,
Swift



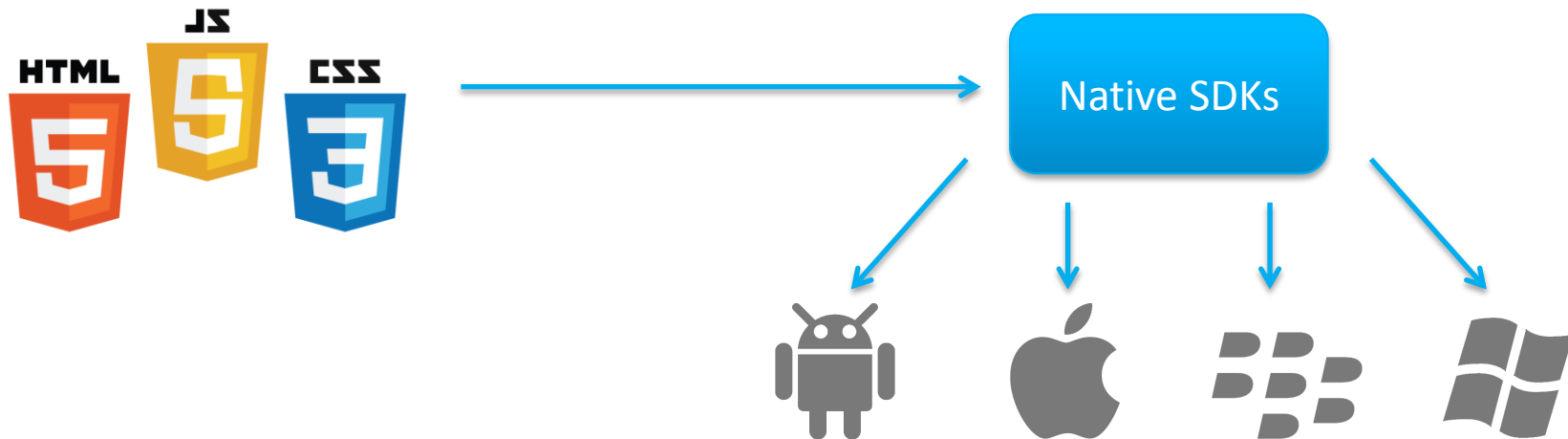
C#, C++



Java

Enter Cordova/PhoneGap

- 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



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

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
```


Let's bring it all together



+



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AEM Apps: In Action

Experience Manager

- Projects
- Sites
- Apps
- Publications
- Forms
- Assets
- Screens
- Personalization >
- Communities >
- adaptTo() 2015 >
- Commerce >

Select + Create

| Geometrbx | Geometrbx Unlimited App |
|---|--|
| Modified By Administrator 1 year ago | Modified By Administrator 3 months ago |
|  |  |

localhost:4502/aem/apps.html

- Manage app content w/o writing code
- Push Over the Air content updates
- AngularJS integration
- Send push notifications from AEM
- App analytics with Adobe Mobile Services

AEM Mobile Time Stamped

Customize

Filter

Last 30 days

Application

First Launches and Upgrades

Versions

Crashes

Revenue

Lifetime Values

Actions

View States

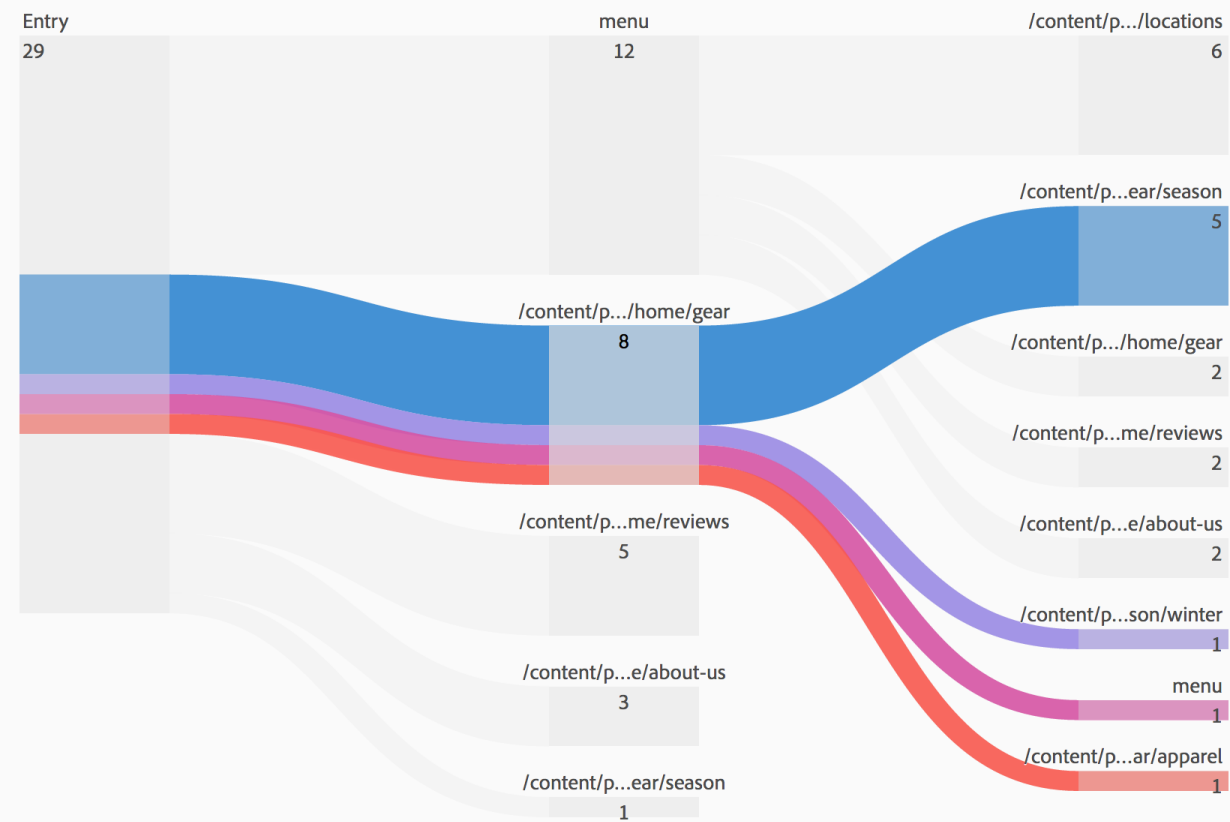
Usage

Devices

Acquisition

Target

Settings



Pathing Chart

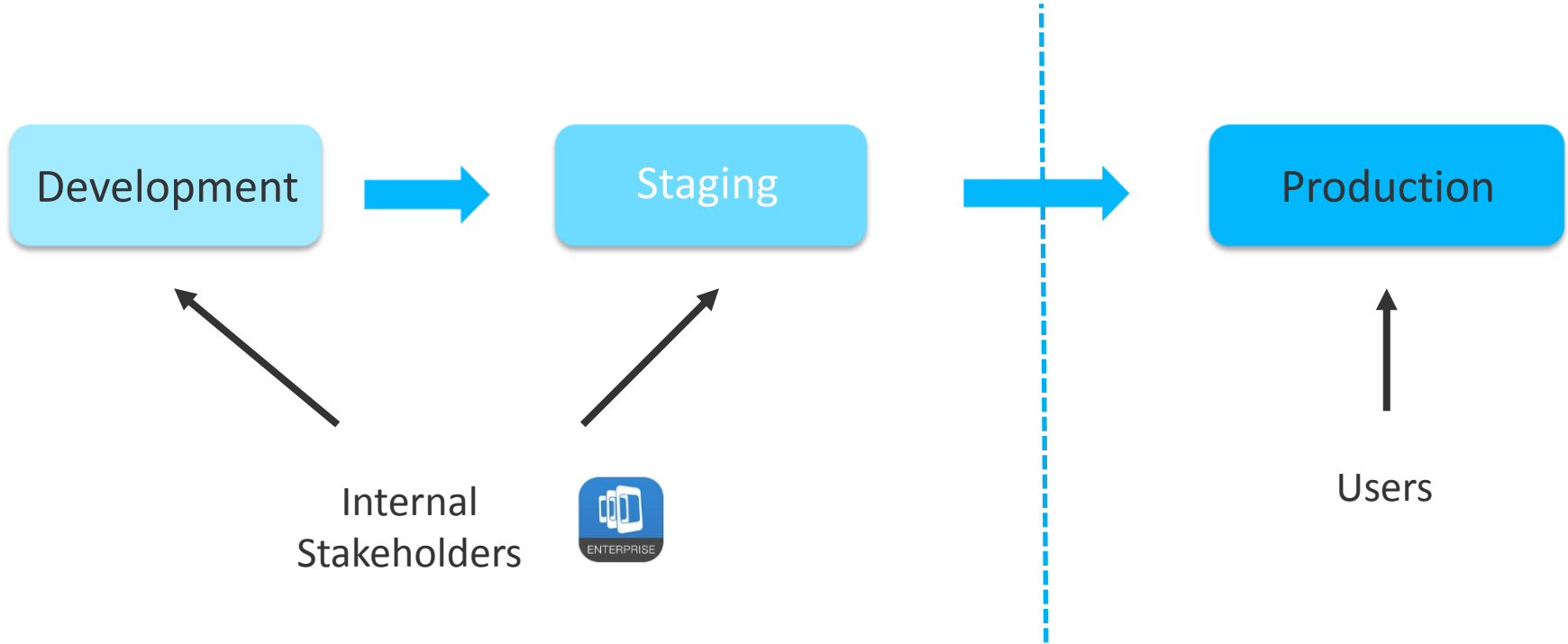
This chart represents paths taken from one state to another.

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” Viewer App



AEM Apps: Demo time!



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bit.ly/aem-pg

Thanks!

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

References

- [You Can't Not Have a Framework](#) - Ryan Florence
- [Thumbs up image](#)
- [Thumbs down image](#)
- [U can't touch this](#) – MC Hammer
- [Pedestrian Detour](#)
- [N64 controller Gray](#) – Evan-Amos
- [Hardhat and gloves](#) – Compliance and Safety
- [Devices image](#)
- [Unixstickers 'all the things'](#)