Build a Mobile App In An Evening (using Ionic)

Kevin Bluer

Welcome!

Tonight's Goal

"For you to come away with an appreciate of the aspects that go into a mobile application using the Ionic Framework"

Agenda

Agenda

◉ About Me (and You)

◉ A Brief History of Hybrid Mobile Development

◉ Cordova & PhoneGap

◉ Introducing Ionic Framework

◉ Review of Services

◉ Hello World

◉ Real World example with Emergency JS :)

◉ Summary / Q&A

About Me (and You)

About Me

◉ London + New York + HK

◉ BSc (UK) and MSc (US)

◉ Consultant & Instructor

　　◉ Microsoft, The Economist Group, MTV Networks, JP Morgan, Google, General Assembly

◉ Specialize in web and mobile app development

◉ https://github.com/kevinbluer

About You

- Name

- What You Do

- Experience Level

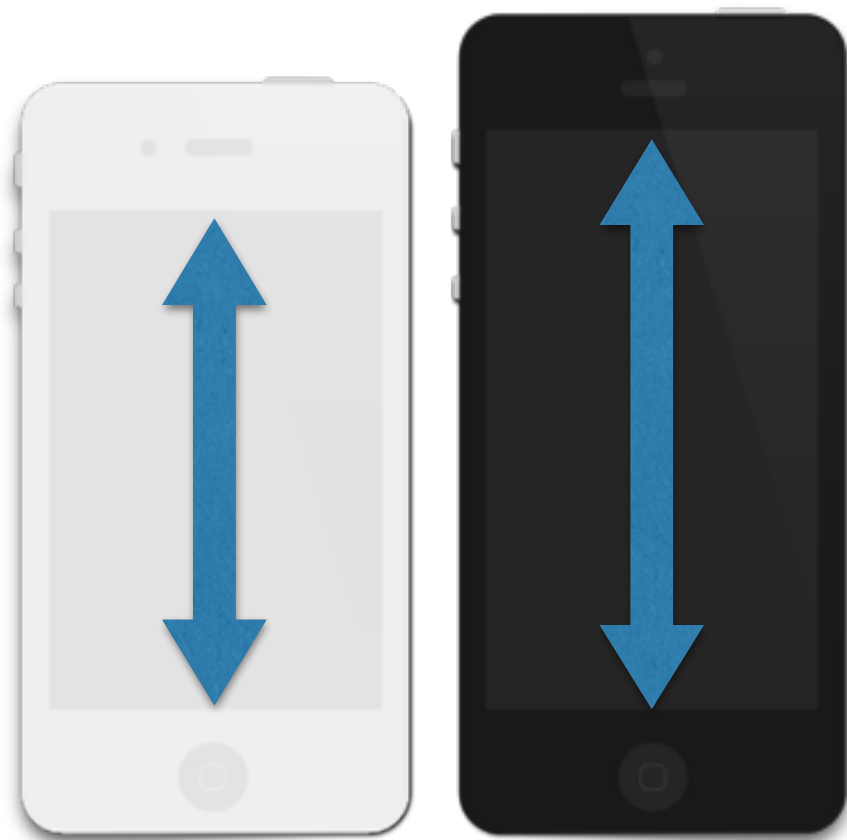 - Software development in general

  - Ionic

A Brief History of Hybrid Mobile App Development

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What is Hybrid?

- Process of building Mobile Applications using HTML, CSS, and JavaScript

- **Fully fledged** mobile applications

  - Access (the majority of) the devices sensors

  - Can be deployed to the stores

- "Build once, run anywhere"

Technically Speaking…

- Web View Control (UIWebView on iOS, WebView on Android)

- HTML / CSS / JS Presented Full Screen

- Abstraction Layer That Exposes Device API's (e.g. Camera, GPS, Storage, etc)

Pros + Cons

- **Pros**
  - Very fast to get started (great starting off point)
  - Cheaper / skills readily available
  - Particularly good if you have an existing web interface to your product or service
- **Cons**
  - Performance (although that's increasingly becoming less of an issue)
  - Lag in terms of latest native API support

Lots of Flavors

◉ **PhoneGap / Cordova**

◉ Appcelerator / Titanium

◉ Xamarin

◉ Sencha

◉ React Native

◉ Mobile Web Frameworks (Ratchet, Fries, etc)

◉ Etc

Cordova & PhoneGap

History (and odd relationship)

◉ Framework for building native apps using web-based languages

◉ Formally Nitobi (company behind PhoneGap) and acquired by Adobe in 2011

◉ Upon acquisition, open sourced under Apache Foundation (with the Cordova moniker)

◉ Now at version 4.0 (so pretty mature)

More specifically…

◉ Generator + container ("**www**")

◉ CLI (Command Line Interface)

◉ Build Service (build.phonegap.com)

◉ Plugin Ecosystem (since 3.0)

```
create <path>        create a phonegap project
serve                serve a phonegap project
build <platform>     build a specific platform
install <platform>   install a specific platform
run <platform>       build and install a specific platform
local [command]      development on local system
remote [command]     development in cloud with phonegap/build
platform [command]   update a platform version
plugin [command]     add, remove, and list plugins
help [command]       output usage information
version              output version number
```

Plugin Ecosystem

- ◉ "A plugin is a bit of add-on code that provides an interface to native components" (and more)

- ◉ Since 3.0

- ◉ Available at http://plugins.cordova.io

- ◉ Installed / Managed via the CLI

  - ◉ "cordova plugin add org.apache.cordova.device"

Code Sample (it's JavaScript)

```javascript
navigator.camera.getPicture (
  onCameraSuccess,
  onCameraError,
  {
    quality: 50,
    destinationType: Camera.DestinationType.DATA_URL
  }
);

function onCameraSuccess (imageData) {
  var image = document.getElementById('myImage');
  image.src = "data:image/jpeg;base64," + imageData;
}
```

Introducing Ionic

Introducing Ionic

◎ "Free and open source, Ionic offers a library of mobile-optimized HTML, CSS and JS components, gestures, and tools for building highly interactive apps"

◎ It's also…

  ◎ "Performance obsessed"

  ◎ "Native focused"

  ◎ "Beautifully designed"

  ◎ "A powerful CLI"

Technically Speaking...

◉ Builds on top of Cordova (extends its CLI)

◉ Reasonably "opinionated" structure to building and organizing your apps

   ◉ Collect ion of CSS components

   ◉ Large AngularJS-based collection of directives, delegates, etc (e.g. ion-nav-view, ionList, $ionicPopup, etc)

LOTS of Innovations

◉ Creator (https://creator.ionic.io/)

◉ View (http://view.ionic.io)

◉ Analytics (https://apps.ionic.io)

◉ Push (https://apps.ionic.io)

◉ Ionicons (http://ionicons.com)

◉ Market (http://market.ionic.io/)

◉ Deploy (update with needing to resubmit to the app stores)

Quick Look: Ionic Creator

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Ionic Creator for Prototyping

◉ Available at (http://creator.ionic.io/)

◉ Visual prototyping of applications

◉ Similar role to Balsamiq Mockups, UXPin, Proto.io although generates actual code!
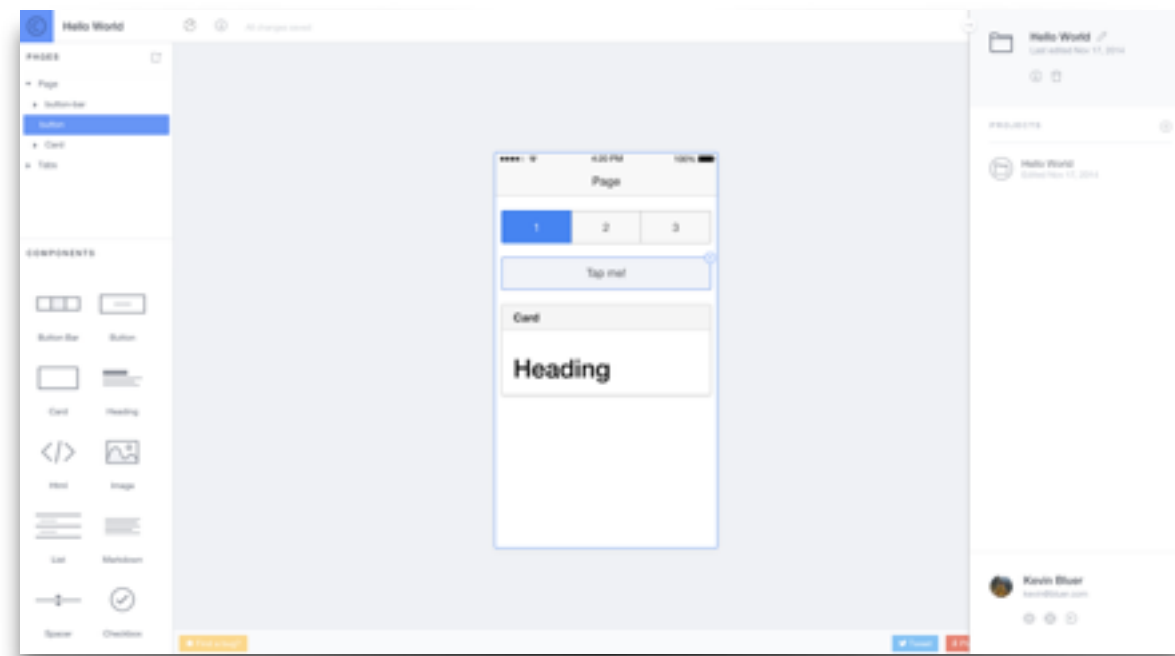
Export!

Export

Ionic CLI   ZIP File   Raw HTML

Start a new Ionic app using the ionic tool:

```
$ npm install -g cordova ionic
$ ionic start [appName] creator:e97932c2bcc0
```
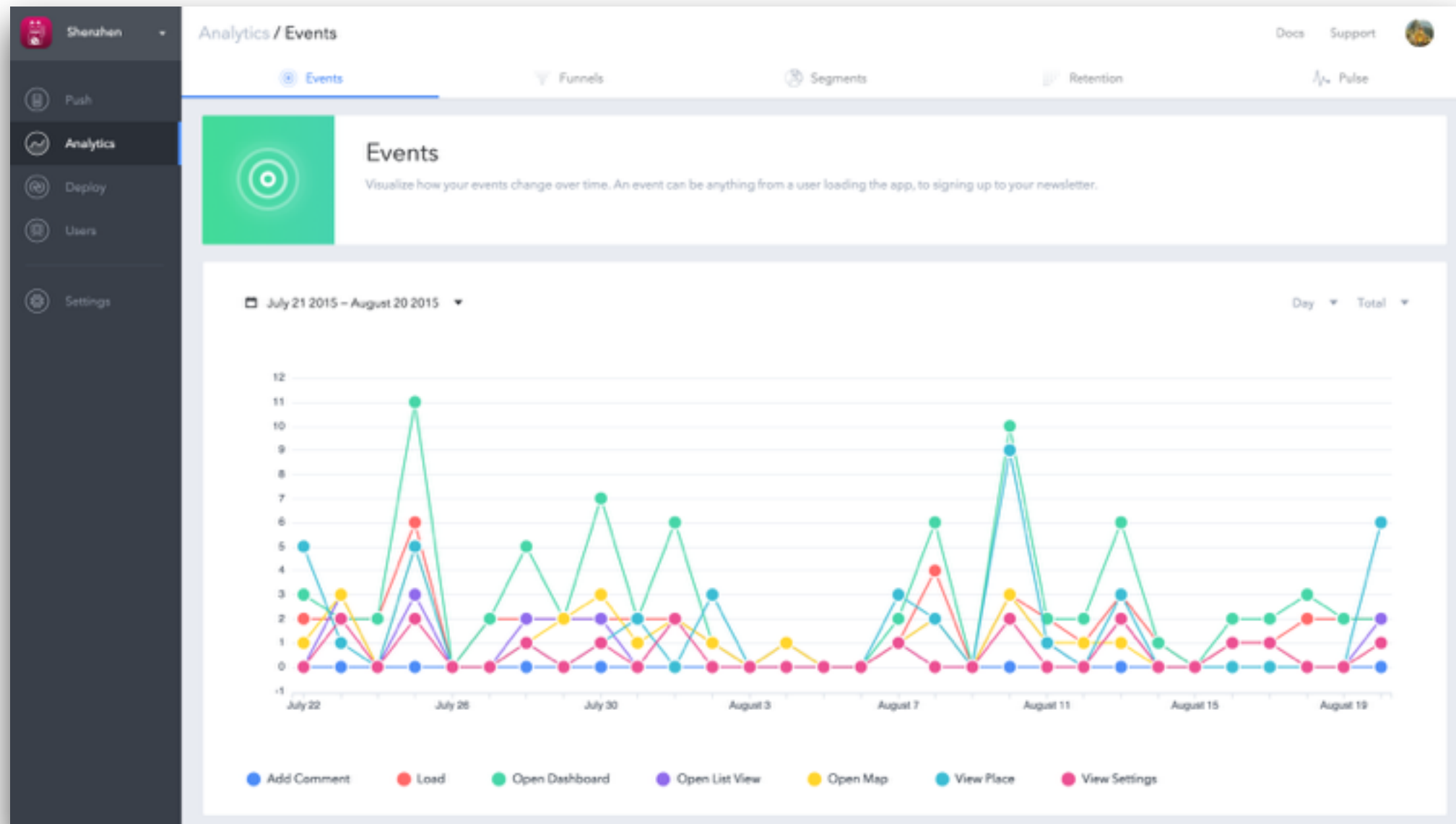
See the getting started page for more information

Quick Look: Ionic Analytics

Ionic Analytics

Quick Look: Market (and Codepen)

Codepen Gallery

◉ Great way to learn too!

◉ CodePen

  ◉ Large and well maintained gallery of controls and samples (codepen.io/ionic)

    ◉ E.g. http://codepen.io/ionic/pen/rxysG

    ◉ E.g. http://codepen.io/ionic/pen/AjgEB

◉ Market

  ◉ Brand new and largely free stuff :)

Ionic in the Wild

Ionic Showcase

◉ "A showcase of the most beautiful apps built with Ionic" (http://showcase.ionicframework.com)

◉ Keychain Logistics…great example of fit

Demo 1.0
"Hello World"

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Follow Along...

◉ Pre-requisites:

   ◉ Install Node / NPM

   ◉ Platform tools: https://www.npmjs.com/package/ionic

   ◉ Ionic Account (optional)

   ◉ Note the platform dependencies for building iOS and Android versions

Ionic "Hello World"

- Installation: *sudo npm install -g cordova ionic*
- Get an app up and running in 4 commands…
    - ***ionic start myApp tabs*** *(and cd)*
    - ***ionic platform add ios*** *(or Android)*
    - ***ionic build ios***
    - ***ionic emulate ios*** *(requires ios-sim)*
- Add / Edit some "stuff"
- Push to mobile local device
    - ***ionic emulate ios --device*** *(or via IDE)*

Ionic Upload / View

- Ability to push builds "to the cloud" and open on the Ionic View app (available in the store)
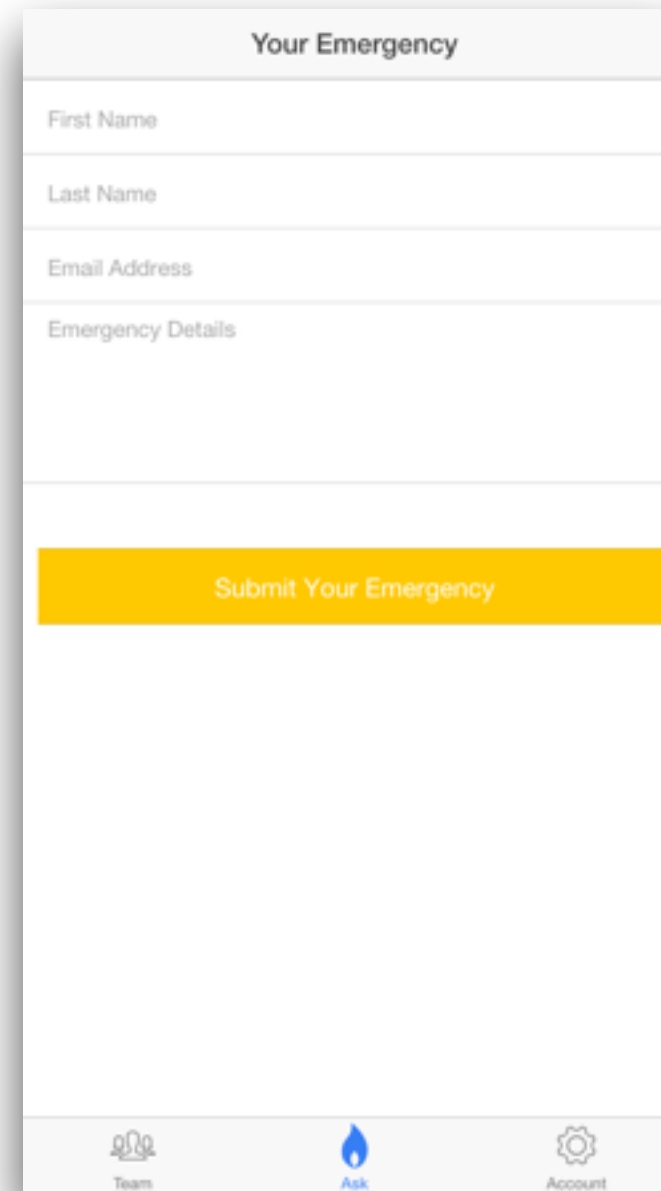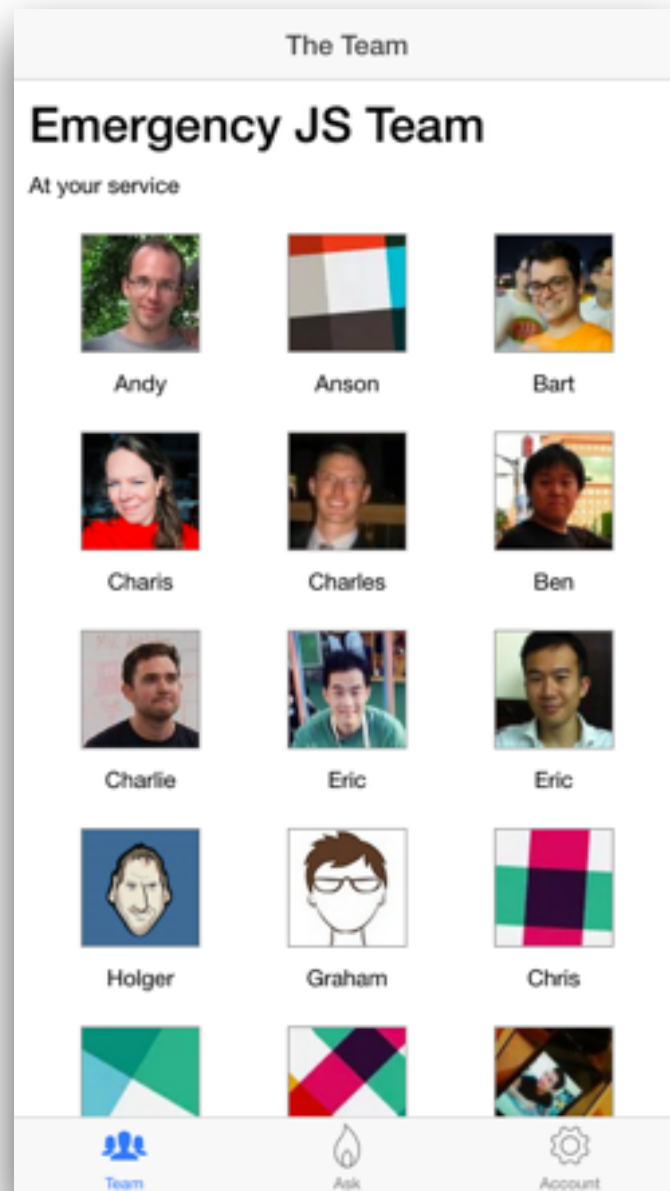
- *ionic upload*
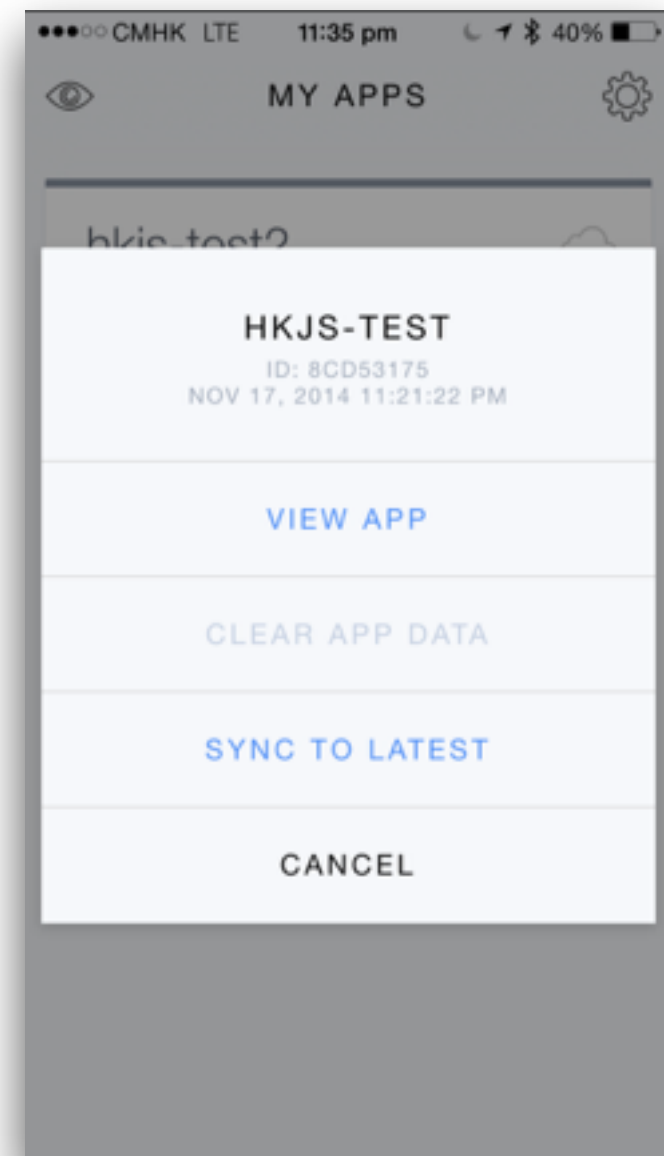
Demo 2.0
"Real World"

Introducing Emergency JS

◉ A means of connecting with the Hong Kong JS community during "JavaScript emergency"

◉ Feel free to review the code in real-time:

  ◉ https://github.com/hongkongjs/emergencyjs-ionic

◉ Notes

  ◉ Uses the Slack API :)

Introducing Emergency JS

Code Review

◉ Review Core Areas

◉ Update the Settings Screen

◉ Include Modal Popup upon save

◉ Add an additional tab

Generating Assets

◉ Historically a pain in the butt!

◉ Now it's SIMPLE :)

Code Review

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Backends

Backends

◉ Given it's all JS / Angular it can easily be plugged into existing RESTful API's and services

◉ E.g. parse.com, firebase.com, contentful.com, forecast.io

Next Steps

Future Enhancements

◉ Improved Style

◉ Statistics / Infographic on Welcome Tab

◉ Tracking of your request

◉ Push notification when you receive a response

◉ Ask individual team members

◉ Analytics

◉ Wire up to a Backend Data

Ionic Next Steps

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Ionic Next Steps

◉ Install: *sudo npm install -g cordova ionic*

◉ Review the getting started guide (ionicframework.com/getting-started/)

◉ Check out the Showcase (showcase.ionicframework.com)

◉ Register for Ionic Creator (creator.ionic.io)

◉ Use Ionicons (ionicons.com)

◉ Checkout their Codepen (http://codepen.io/ionic)

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Q&A

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