



# IONIC

## The Missing SDK For Hybrid Apps

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# Mike Hartington

Developer Advocate for Ionic

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Rhode Island



***“Say, Johnny, I got this great  
idea for an app.”***

***—EVERY DEVELOPER IN THE HISTORY OF DEVELOPMENT***

# CHALLENGES OF NATIVE DEVELOPMENT

Proficiency in each platform required

Entirely separate code bases

Timely & expensive development

Diminishing returns

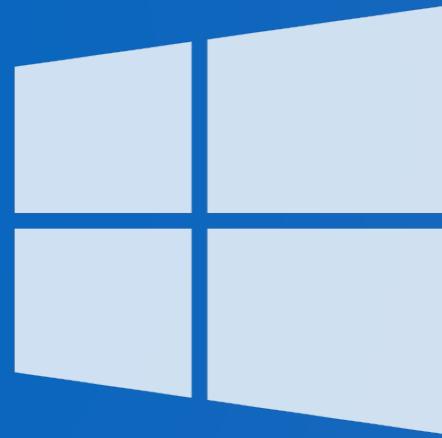
# MORE PLATFORMS, MORE CHALLENGES.



*Obj-C/Swift*



*Java*



*C#/.NET*

# ANY ALTERNATIVES?



**Hybrid Apps: HTML5 that acts like native**

**Direct access to native APIs**

**Develop a single code base (web platform)**

**Write once, Run anywhere**



**ONE DOES NOT SIMPLY**

**WRITE ONCE, RUN ANYWHERE**

*Turns Out, Yes You Can*

***WHAT THEY DON'T  
TELL YOU***

**No UI - Bring your own UI**

**No JS Framework**

**Old Android is not a nice place to work**

**No transitions, gesture support,  
navigation stack**

**MORE ON CORDOVA LATER....**  
**LET'S LOOK AT THIS ANGULAR**  
**THING**

# ANGULAR



MVC Architecture

Reusable components through Directives

Two Way Data Binding

# MODEL

## Factory

```
.factory('Speakers', function($http) {  
  return {  
    getSpeakers: function() {  
      return $http({  
        url: 'https://devnexus.com/s/speakers.json',  
        method: 'GET'  
      })  
    }  
  }  
})
```

## Controller

```
.controller('MainCtrl', function($scope, Speakers) {  
  $scope.speakers = [];  
  
  Speakers.getSpeakers().success(function(data) {  
    $scope.speakers = data;  
  });  
});
```

# VIEW

A single html page that gets populated by a controller

No application logic, just visuals here

ng-controller? ng-repeat?

What are these curly braces?

```
<div ng-controller="MainCtrl">  
  
  <div ng-repeat="speaker in speakers">  
  
    <div>  
      {{speaker.firstName}}  
      {{speaker.lastName}}  
    </div>  
  
    <div>  
      {{speaker.bio}}  
    </div>  
  
  </div>  
  
</div>
```

*Hello World in Angular*

# STATES

Manage application states/views and provides templates, controllers, urls

```
.config(function($stateProvider, $urlRouterProvider) {  
  
    $stateProvider  
        .state('signin', {  
            url: '/sign-in',  
            templateUrl: 'templates/sign-in.html',  
            controller: 'SignInCtrl'  
        })  
        .state('forgotpassword', {  
            url: '/forgot-password',  
            templateUrl: 'templates/forgot-password.html'  
        })  
  
    $urlRouterProvider.otherwise('/sign-in');  
})
```

# DIRECTIVES

```
.directive('blink', function() {
  return {
    restrict: 'E',
    link: function($scope, $element, $attribute) {

      function showElement() {
        $element.css("visibility", "visible");
        setTimeout(hideElement, 1000);
      }

      function hideElement() {
        $element.css("visibility", "hidden");
        setTimeout(showElement, 1000);
      }
      showElement();
    }
  };
})
```

```
<blink>Hello World</blink>
```

***WHAT THEY DON'T  
TELL YOU***

No UI - Bring your own UI

Angular likes to be in control

Ng-Repeat is a Double-edged Sword

You have to think Angular

Bit of a learning curve

***THE BEST OF  
BOTH WORLDS***

# Cordova

Create cross platform  
mobile apps

No JS framework

Started around 2009

# Angular JS

Create scalable  
web apps

Structured JS framework

Started around 2009

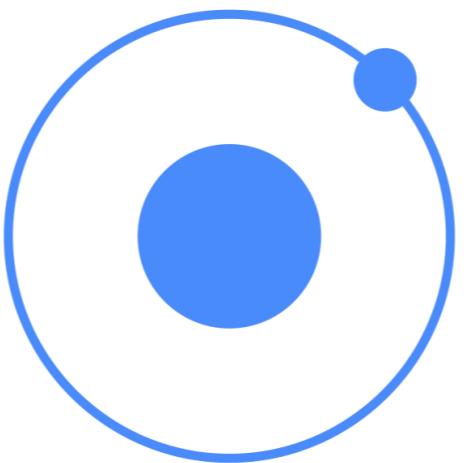
# WHAT DO WE NEED NOW

A bridge between web and native

Rich, native-style UI components

Gestures, Transitions, Navigation Stacks

UI APIs, not just jQuery widgets



ionic

*Howdy*

*“Focus on building your app.  
Not on how your app should work”*

# WEB TECHNOLOGIES YOU ALREADY KNOW AND LOVE

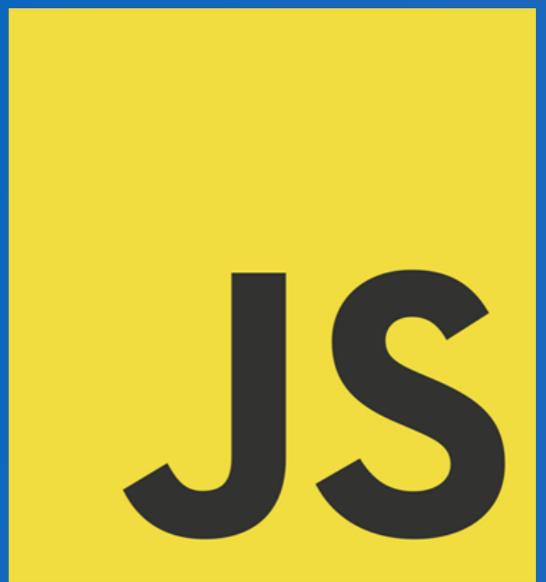
HTML



CSS



JS



# **STANDING ON THE SHOULDERS OF ANGULAR**

**Proven for large-scale web app development**

**Extends the HTML vocabulary**

**UI Components using Directives and Services**



**CSS generated from the Sass preprocessor**

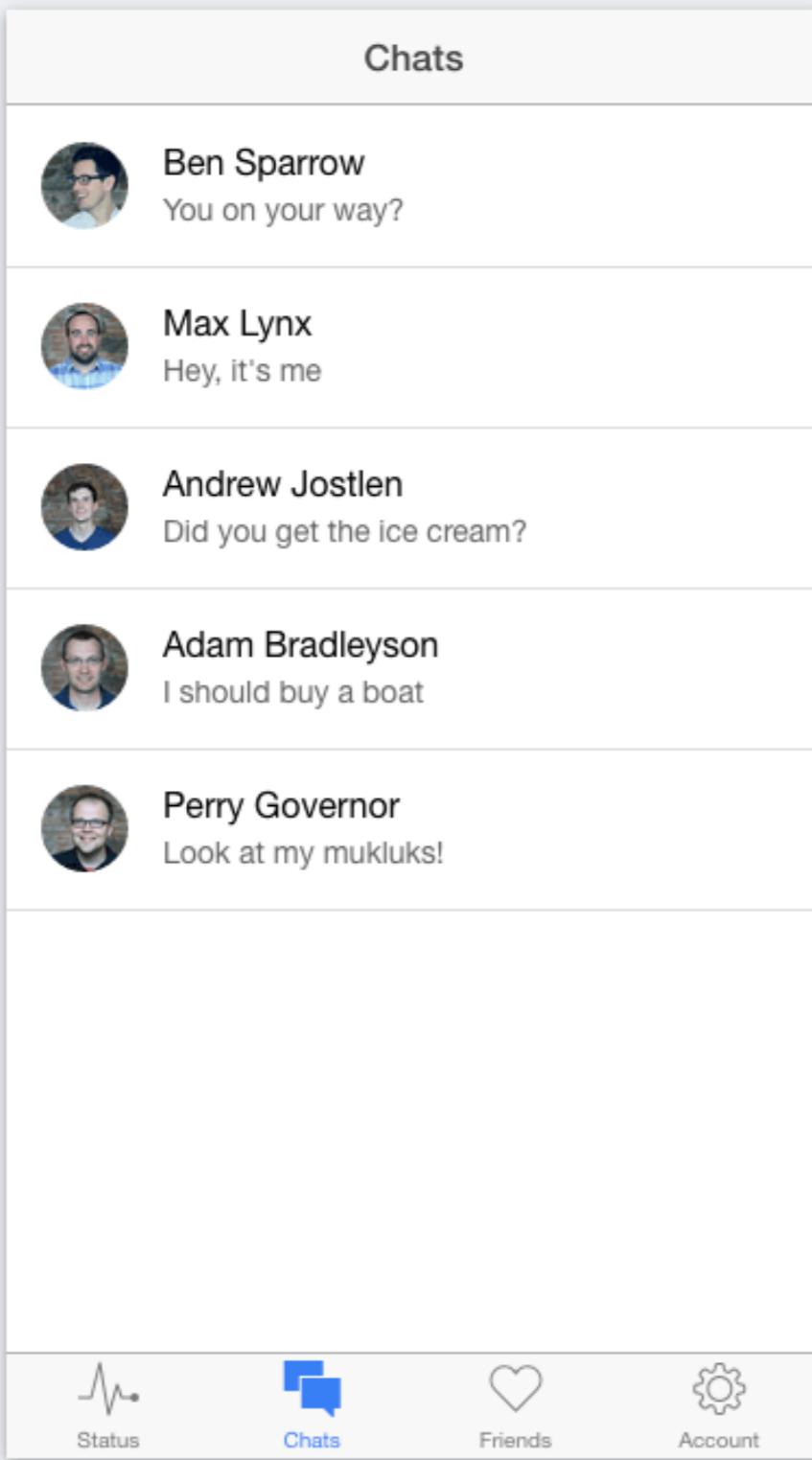
**Quickly give your app its own look and feel**

**CSS designed to be easily overridden**

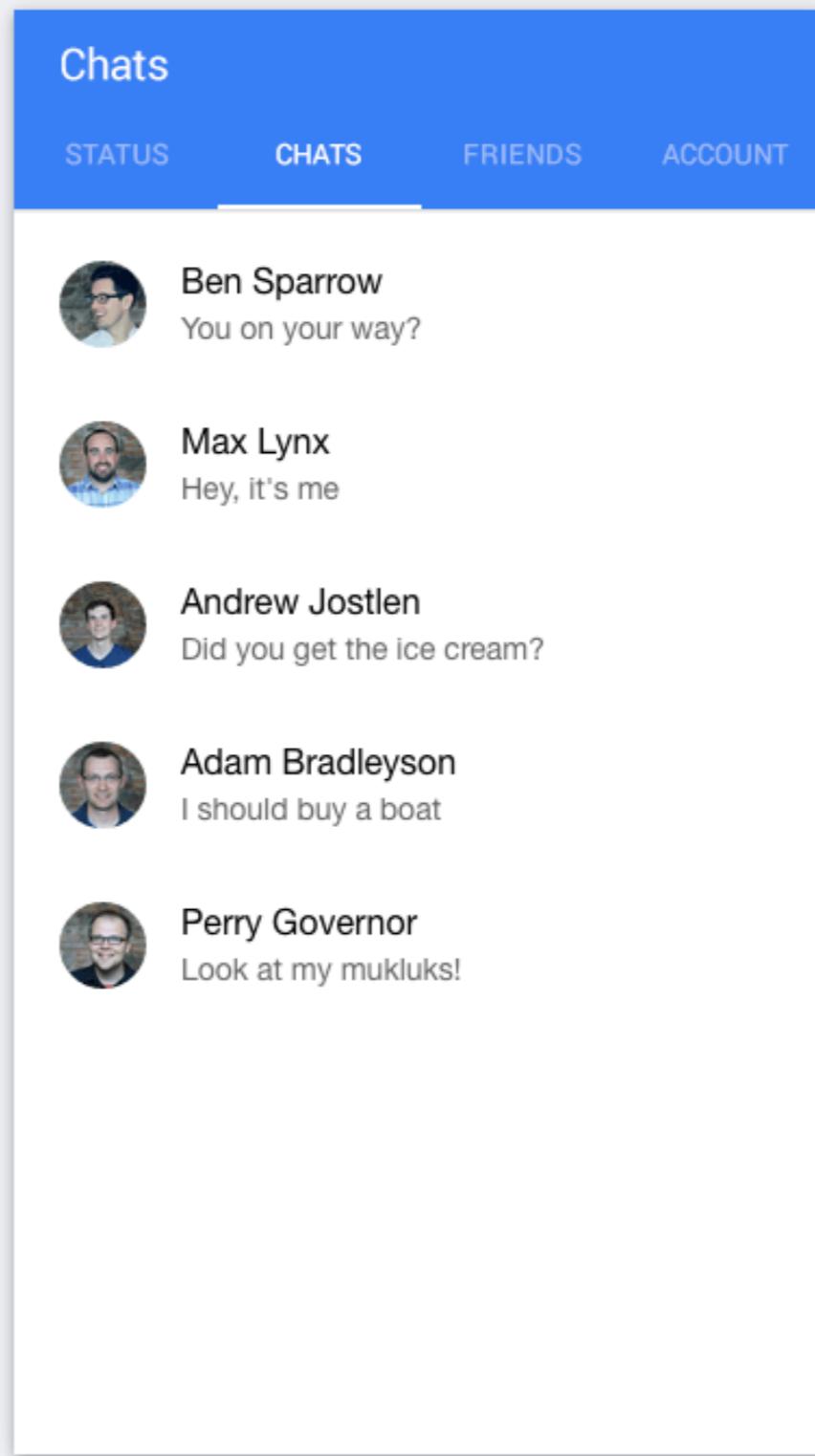
**Variables based with default settings**

# PLATFORM CONTINUITY

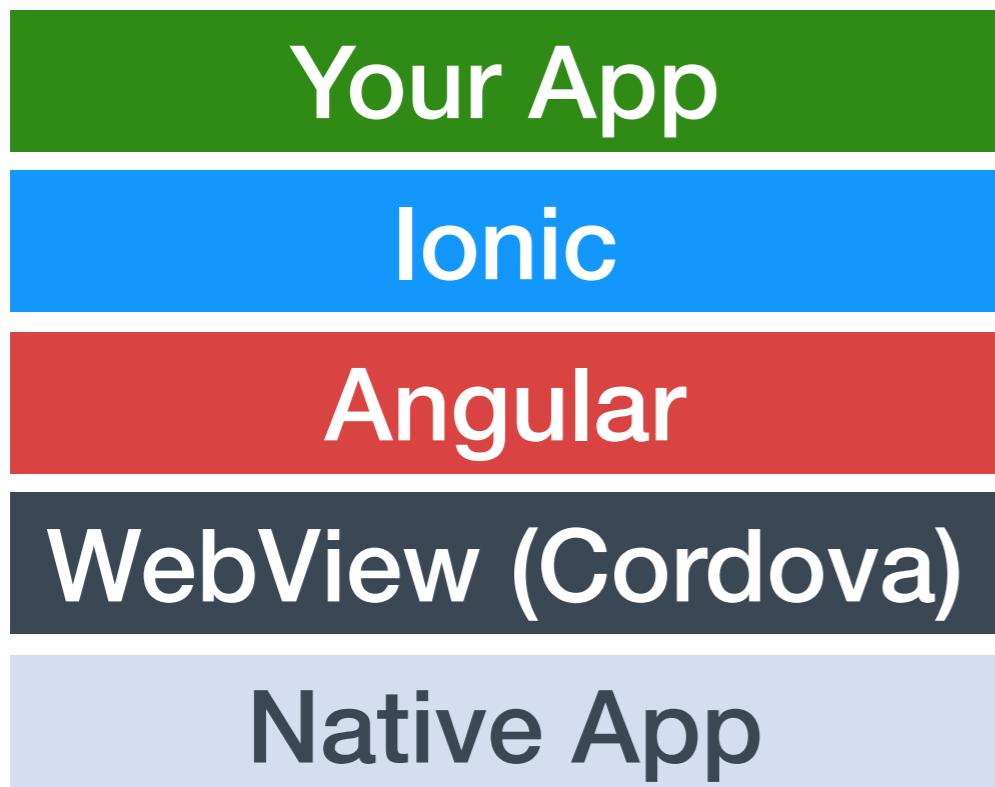
iOS



Android



# How It All Comes Together



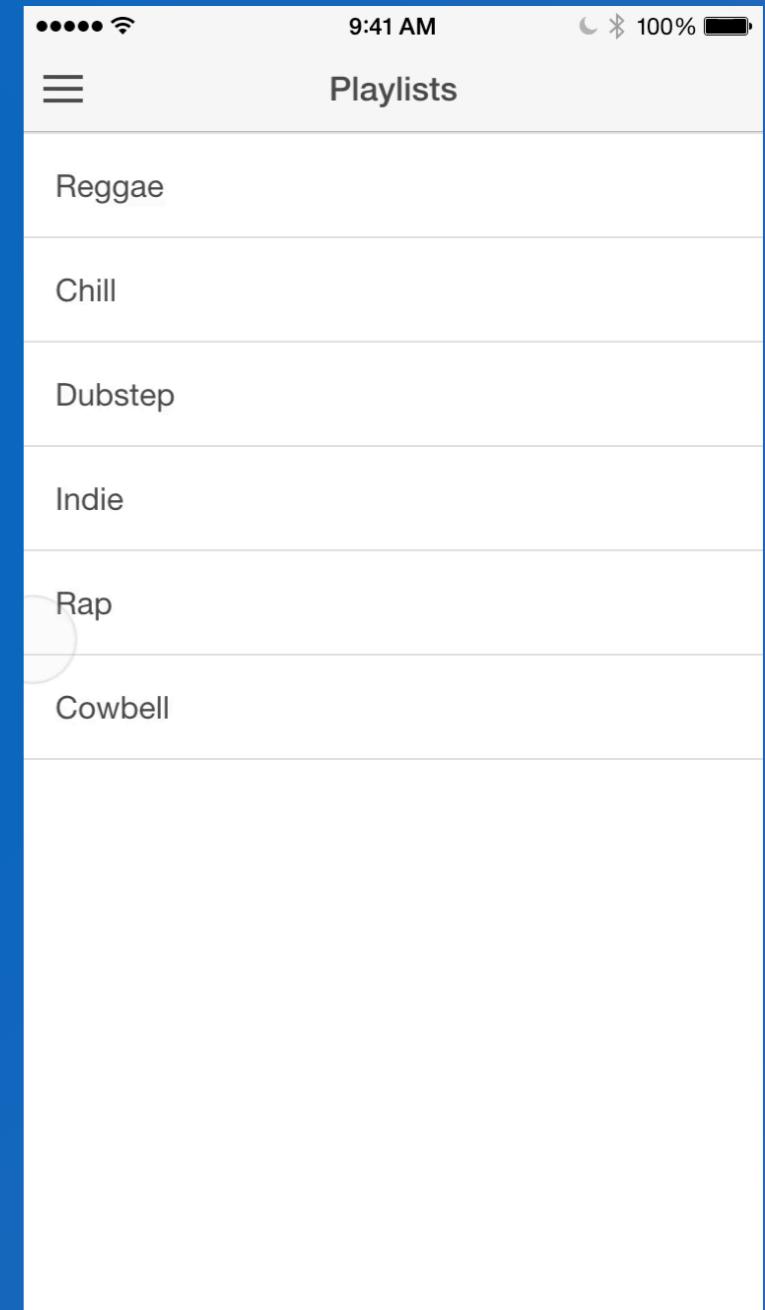
# SIDE MENUS

```
<ion-side-menus>
```

```
  <!-- Left menu -->
  <ion-side-menu side="left">
    </ion-side-menu>

  <!-- Center content -->
  <ion-side-menu-content>
    <ion-nav-view></ion-nav-view>
  </ion-side-menu-content>
```

```
  <!-- Right menu -->
  <ion-side-menu side="right">
    </ion-side-menu>
</ion-side-menus>
```



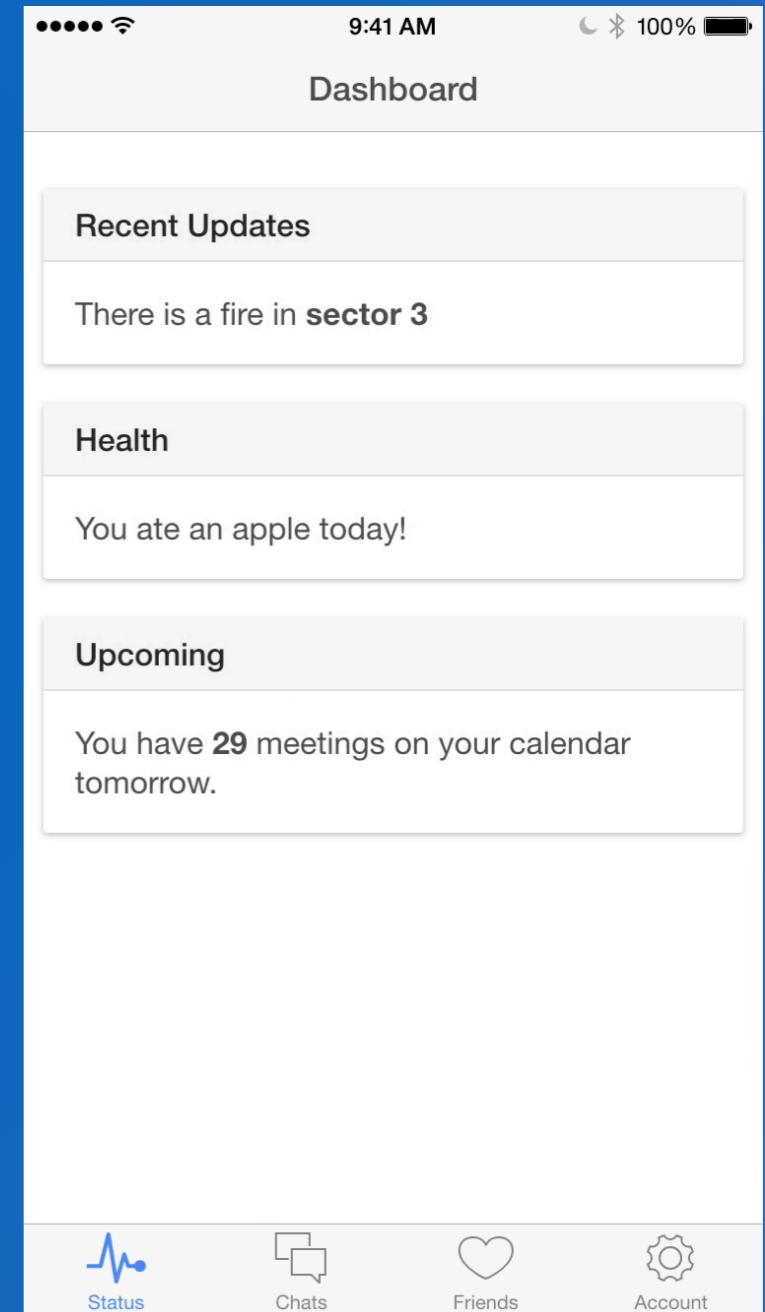
# TABS

Nested views

Each tab has its own nav history

Abstract states in AngularUI Router

```
<ion-tabs class="tabs-icon-top">  
  <ion-tab icon="ion-home">  
    <ion-nav-view name="home-tab">  
    </ion-nav-view>  
  </ion-tab>  
</ion-tabs>
```



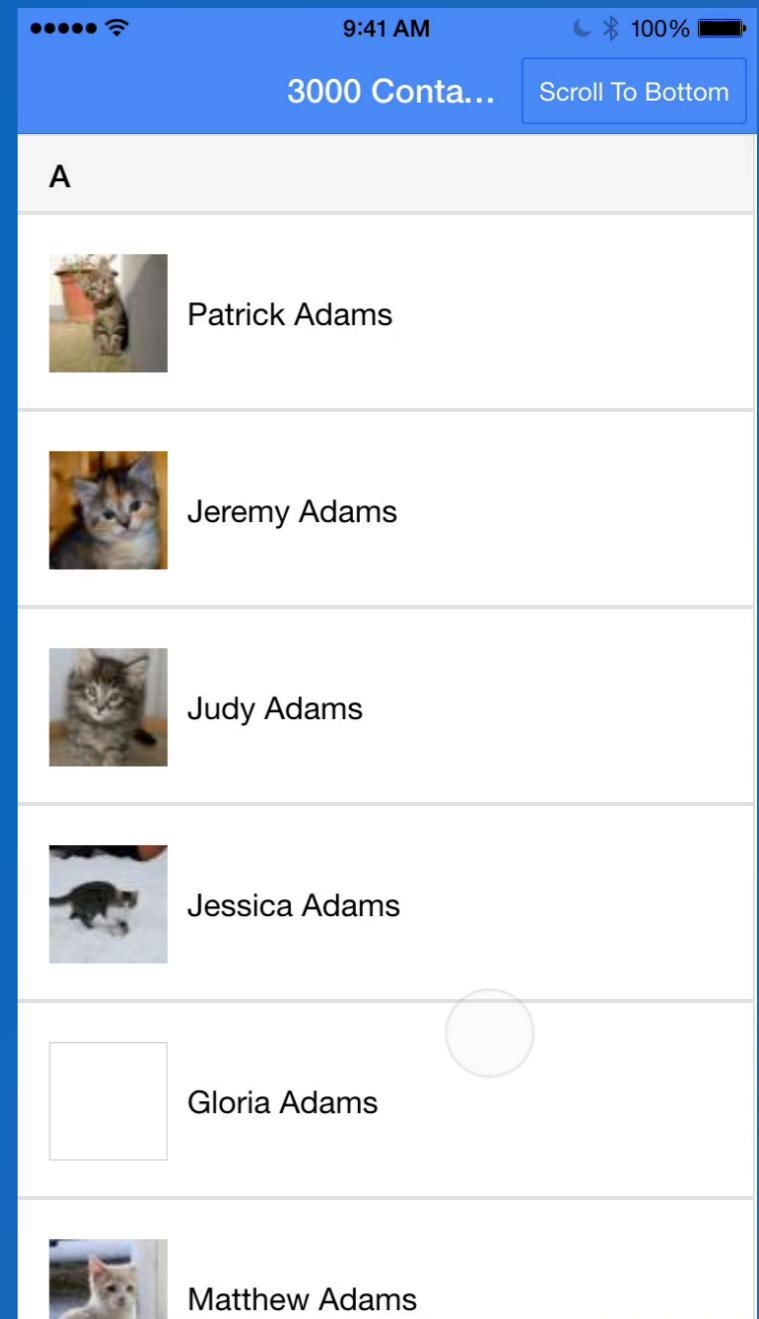
# COLLECTION REPEAT

Replacement for ng-repeat

Inspired by iOS's UICollectionView

Only renders the viewable items

```
<ion-content>
  <div class="list">
    <a class="item"
      collection-repeat="item in items">
      {{item.name}}
    </a>
  </div>
</ion-content>
```



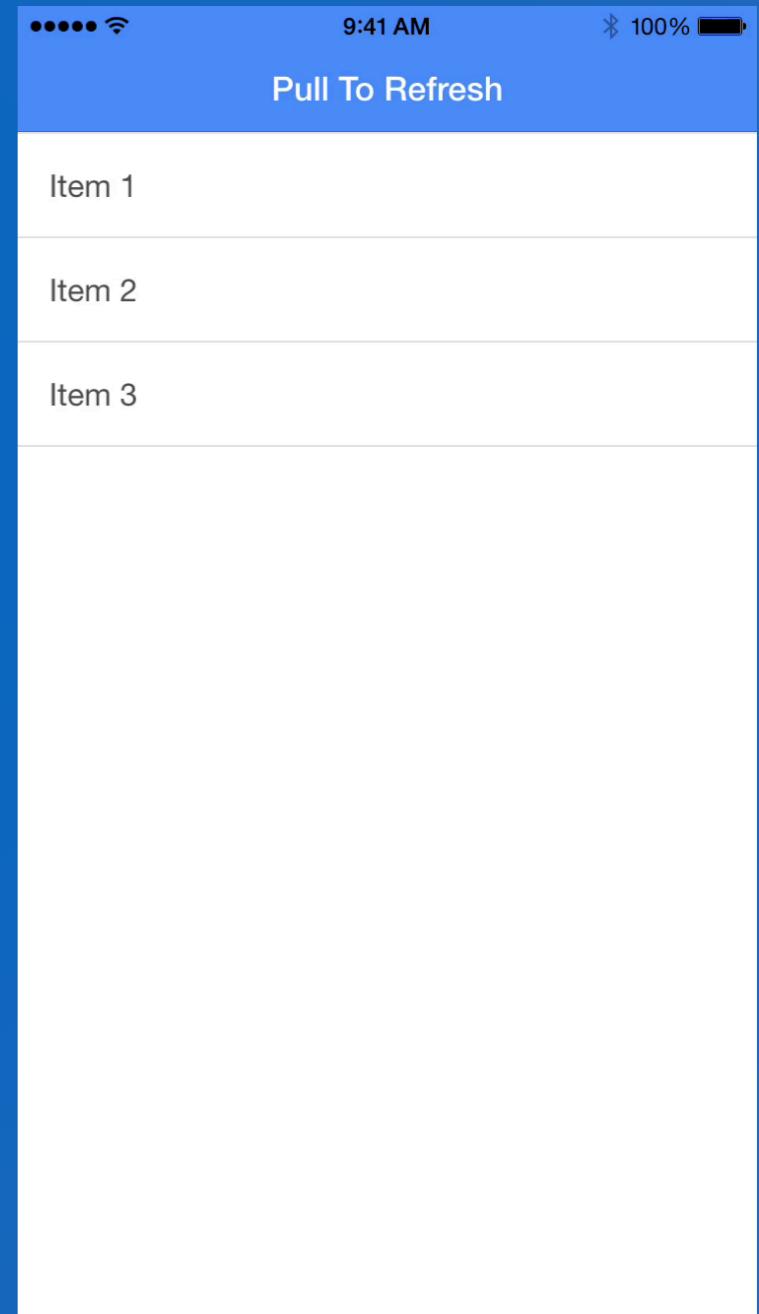
# PULL TO REFRESH

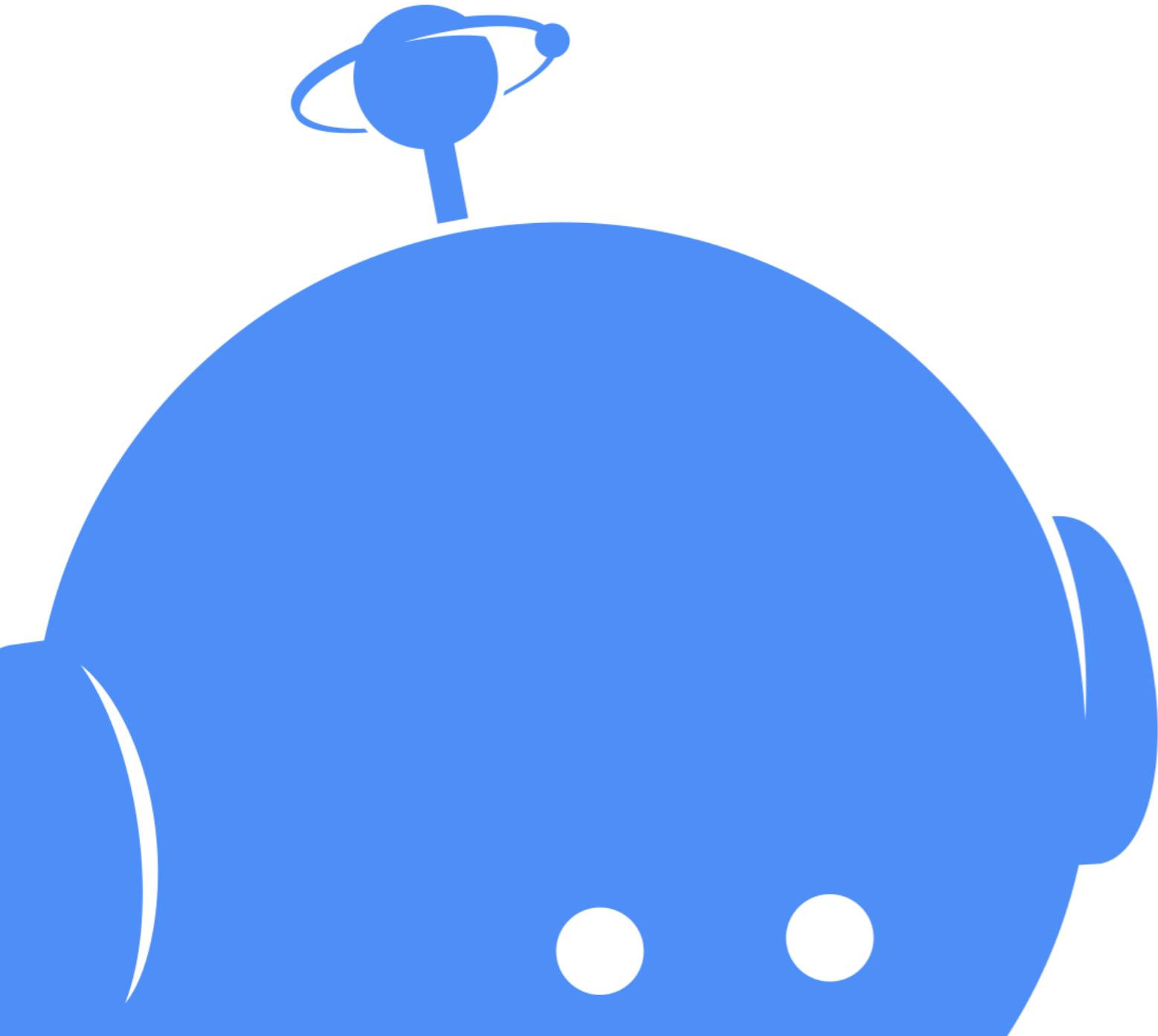
Common design pattern to fetch data

Takes a simple function

Customize loading text and icon

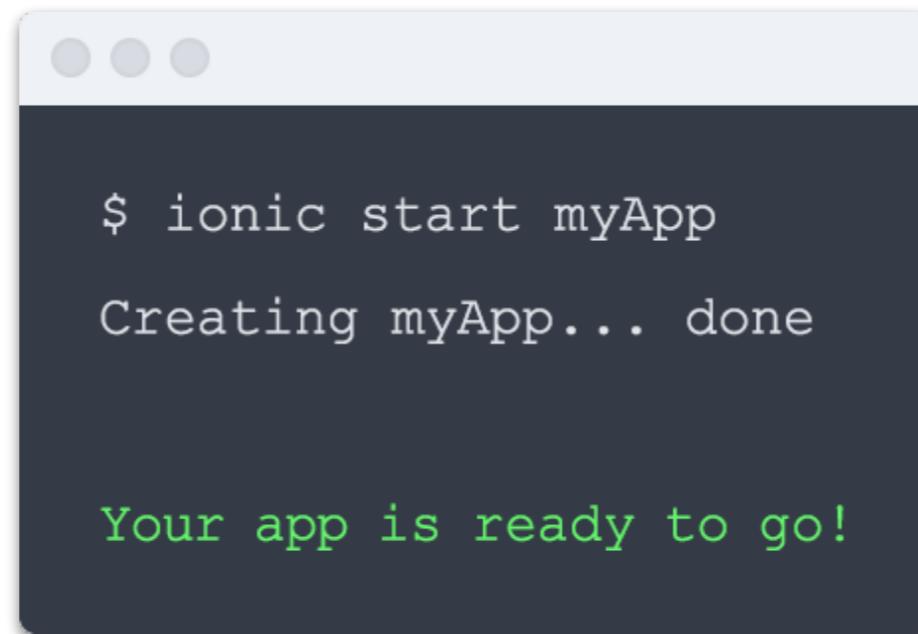
```
<ion-content>
  <ion-refresher on-refresh="fetchMore()">
    </ion-refresher>
    <ion-list>
      <ion-item></ion-item>
    </ion-list>
  </ion-content>
```





*...but there's more to Ionic*

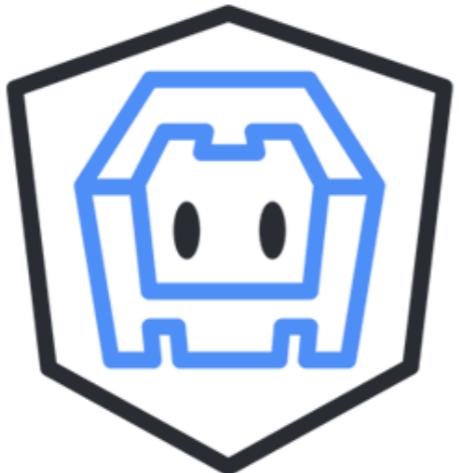
**npm install -g ionic cordova**



**Starter projects ready for customization**

**LiveReload both local and native builds**

**Build and run native apps**



# ngCordova

**60+ AngularJS** extensions on top of the **Cordova API**



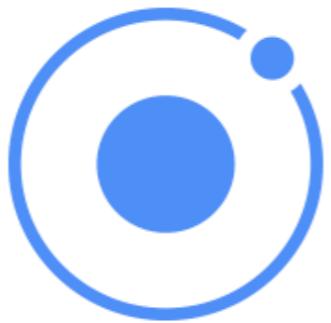
**TOUCH ID**



**OAUTH**



**CAMERA**



IONICIO

ionicpush

ionicanalytics

ionicupdate

ionictest

ionicpackage





# ionicview

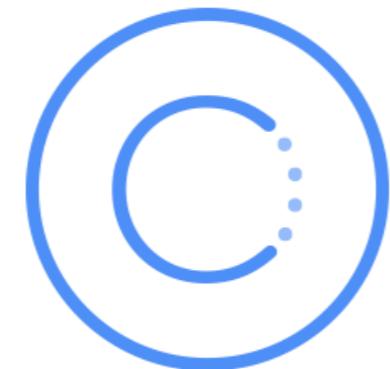
The image shows two smartphones side-by-side, both displaying the Ionicview application. The left phone is white and shows a list of apps under 'MY APPS'. The right phone is black and shows a list of apps under 'My apps'.

**Left Phone (Ionicview interface):**

- Carrier:** Carrier **Time:** 3:14 PM
- MY APPS**
  - Barkpark**  
ID: J3383634  
SIZE: 32MB  
MODIFIED: FEB 11 2014
  - Weather tracker**  
ID: J3383634  
SIZE: 32MB  
MODIFIED: FEB 11 2014
  - Grumblr**  
ID: D37DD3A5

**Right Phone (Ionicview interface):**

- Time:** 4:28
- My apps**
  - Barkpark**  
ID: J3383634  
SIZE: 32MB  
MODIFIED: FEB 11 2014
  - Weather tracker**  
ID: J3383634  
SIZE: 32MB  
MODIFIED: FEB 11 2014
  - Grumblr**  
ID: D37DD3A5



# ioniccreator

Untitled Project

EDIT TEST

PAGES

- Home
- H1 Heading text
- Button**
- Footer
- Text block
- Image

COMPONENTS

- Header
- Footer
- Button
- List
- Card
- Input

Helvetica 12 B I U ↗

13:57 42%

Hubstruck

Fall in love with others on Github

Email

Password

Log in

Don't have an account? [Sign Up](#)

TEXT

log in

LINK

Home

ICON

ion-social-github

Align

TYPE

Block

STYLE

Positive

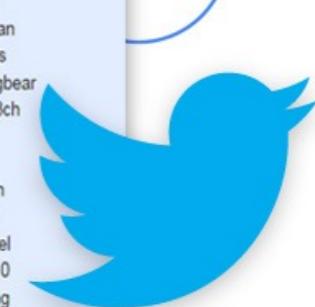
This screenshot displays the Ionic Creator interface, a drag-and-drop UI builder for Ionic projects. The main workspace shows a login screen for 'Hubstruck' with fields for Email and Password, and a 'Log in' button. The left sidebar lists project pages and components. The right sidebar contains a properties panel for the selected 'Button' component, showing options for text, link, icon, type, and style.



let me give you a few links to look at, and then give me some more specific questions: /coinjnt.info/coinshield  
stry-scam-clone-coins/  
//bitcointalk.org/index.php?topic=657601.0  
Coinshield: Pure SHA3, Decentralized Checkpoints, Block Rewards Never Half  
ield.io  
N thread is pretty clear-cut, in my opinion  
  
definitely needs to be a defined list of trusted community members who are the ones tha on coins though  
reat, thnxs much tokypotato  
udge KryptoKash-CSD  
ait  
n trade in my Diode for CSD?  
te



Members  
Aikavan  
BrownPanick  
bumbacoin  
CoinShield  
CryptoGoon  
CryptoNews247  
dimitrisven  
dogedDEV  
fgleich  
GameGear  
gamospitos  
go6000  
Herbsman  
imeinebits  
laughingbear  
leetsp33ch  
lider  
maxalt  
mogreen  
mumus  
Naphaniel  
patb4010  
PVmining  
RagingBull



**ionic**

all categories | **Latest** | New (55) | Unread (45) | Top | Categories

Topic

Native Scrolling: Android Testers Wanted

Ionic owes much of its early success to Javascript Scrolling. Since earlier mobile browsers didn't allow for proper native scroll events, JS scrolling was essential for things like Pull To Refresh, Infinite Scrolling, Li... [read more](#)

What are you building with Ionic? We want to know! 29

Hey Ionic devs! I'm trying to build a list of some of the top apps and comp... Ionic that possibly need some privacy around the project (ie, they would p... feel comfortable submitting to the showcase ... [read more](#)

Crosswalk Integration Beta in Ionic CLI (v1.3.2) 137

The Ionic CLI has Crosswalk integration and we need some testers! Current Version of the CLI 1.3.2 Installing the CLI \$ npm install -g ionic # or if your on osx \$ sudo npm install -g ionic Note, you must have th... [read more](#)

Icon and Splash Screen Image Generation from the CLI

We just added a feature in v1.2.14 of the CLI to automatically generate icons and splash screens using source files: Icon and Splash Screen Image Generation Give it a spin and let us know how it goes and what we can ... [read more](#)

Ionic View App



**driftyco / ionic**

Advanced HTML5 mobile development framework and SDK. Build incredible hybrid apps with web technologies you already know and love. Best friends with AngularJS. <http://ionicframework.com/> — Edit

3,667 commits | 44 branches | 26 issues | 157 contributors

branch: master + ionic /

ajoslin authored 4 hours ago amend(collectionRepeat): make sure it doesn't try to getComputedStyle... latest commit 873cded5c9

docs(gestures): update header link 13 days ago

demo/ionSlideBox): update top border 5 months ago

amend(collectionRepeat): make sure it doesn't try to getComputedStyle... 4 hours ago

Fixed touch scrolling and the js errors on ionic 1 month ago

chore(): update-angular.sh 3 months ago

amend(collectionRepeat): fix typo in scss 6 hours ago

fix(popover): only pop upwards if there's room above 3 days ago

chore(build): automate release process 1 year ago

chore(ionic-angular): add .idea files to ionic-angular 9 months ago

HTTPS clone URL: <https://github.com/driftyco/ionic>

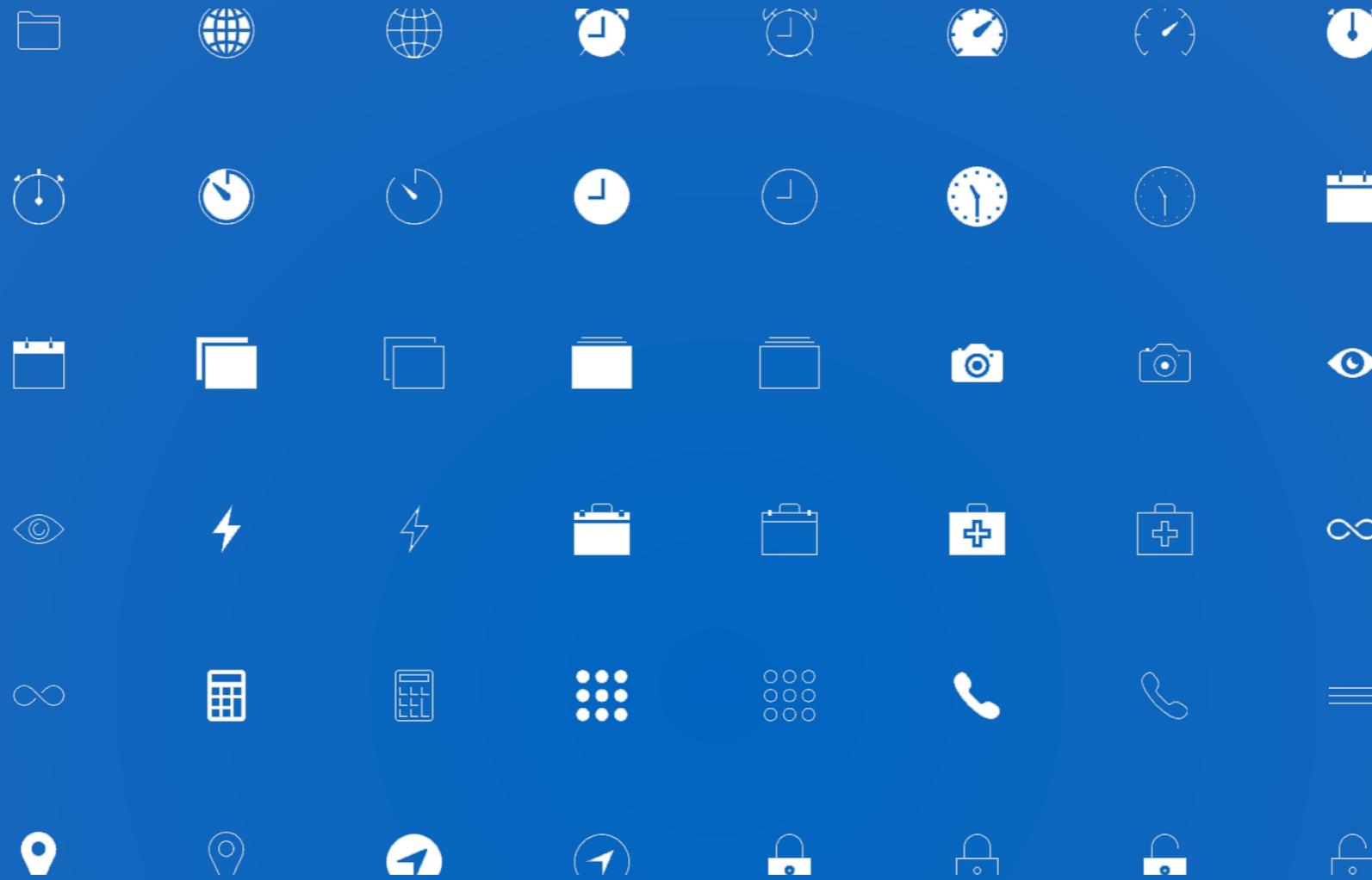
You can clone with HTTPS, SSH, or Subversion.

Clone in Desktop | Download ZIP



**FORUM**

ionic



# DID I MENTION ICONS?

Ionicons

Over 700 MIT licensed font-icons included

```
~> ionic start |
```

**DEMO TIME!**

**MAY THE DEMO GODS BE WITH US**

# GETTING STARTED

[Christophe Coenraets Cordova tutorial](#)

[Dan Wahlin's Angular in 60-ish minutes](#)

[Ionic in Action Book](#)

[Ionic Forum](#)

# ANGULAR 2?

NG-Conf 2015 | Angular 2 & TypeScript

New syntax and much more power

Incredible Fast

New Router



O V2

A V2



</HTML>

@MHARTINGTON

<https://github.com/mhartington/PhillyETE>