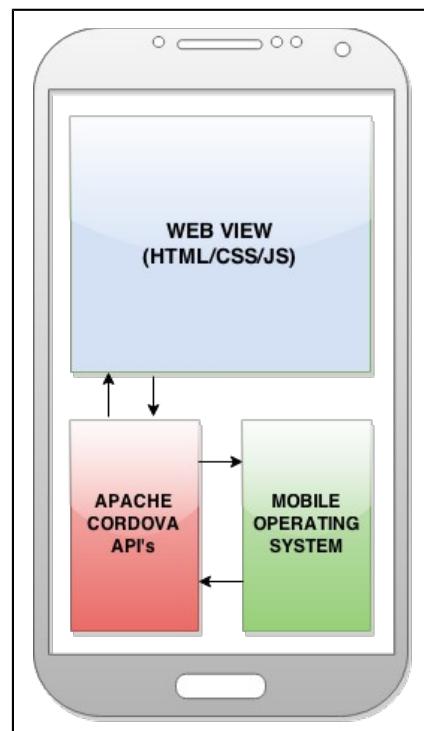


Chapter 2: Welcome to Ionic

What is Apache Cordova?



Software setup

Install Node.js

```
→ ~ node -v  
v0.12.2  
→ ~ npm -v  
2.10.0
```

Install Git

```
→ ~ git --version  
git version 2.3.2 (Apple Git-55)
```

Install Bower

```
→ ~ bower -v  
1.4.1
```

Install Gulp

```
→ ~ gulp -v  
[22:17:58] CLI version 3.8.11
```

Install Cordova and Ionic CLI

```
→ ~ cordova -v  
5.0.0  
→ ~ ionic -v  
1.5.0
```

```
→ ~ ionic

( )      ( )
[ | / \ ] [ | / \ ] [ | / \
| | ( ) | | | | | ( )
|_|\_\_|_|_|_|_|_|\_\_|_|_|
                                CLI v1.5.0

Usage: ionic task args
=====

Available tasks: (use --help or -h for more info)

  start ..... Starts a new Ionic project in the specified PATH
  serve ..... Start a local development server for app dev/testing
  platform ..... Add platform target for building an Ionic app
  run ..... Run an Ionic project on a connected device
  emulate ..... Emulate an Ionic project on a simulator or emulator
  build ..... Locally build an Ionic project for a given platform
  plugin ..... Add a Cordova plugin
  resources ..... Automatically create icon and splash screen resources (beta)
                  Put your images in the ./resources directory, named splash or icon.
                  Accepted file types are .png, .ai, and .psd.
                  Icons should be 192x192 px without rounded corners.
                  Splashscreens should be 2208x2208 px, with the image centered in the middle.
```

Hello Ionic

```
Your Ionic project is ready to go! Some quick tips:

* cd into your project: $ cd example1
* Setup this project to use Sass: ionic setup sass
* Develop in the browser with live reload: ionic serve
* Add a platform (ios or Android): ionic platform add ios [android]
  Note: iOS development requires OS X currently
  See the Android Platform Guide for full Android installation instructions:
  https://cordova.apache.org/docs/en/edge/guide_platforms_android_index.md.html
* Build your app: ionic build <PLATFORM>
* Simulate your app: ionic emulate <PLATFORM>
* Run your app on a device: ionic run <PLATFORM>
* Package an app using Ionic package service: ionic package <MODE> <PLATFORM>

For more help use ionic --help or ionic docs

Visit the Ionic docs: http://ionicframework.com/docs

New! Add push notifications to your Ionic app with Ionic Push (alpha)!
https://apps.ionic.io/signup
+-----+
+ New Ionic Updates for June 2015
+
+ The View App just landed. Preview your apps on any device
+ http://view.ionic.io
+
+ Invite anyone to preview and test your app
+ ionic share EMAIL
+
+ Generate splash screens and icons with ionic resource
+ http://ionicframework.com/blog/automating-icons-and-splash-screens/
+
```

```
→ example1 ionic serve
The port 35729 was taken on the host localhost - using port 35730 instead
Running live reload server: http://localhost:35730
Watching : [ 'www/**/*', '!www/lib/**/*' ]
Running dev server: http://localhost:8100
Ionic server commands, enter:
  restart or r to restart the client app from the root
  goto or g and a url to have the app navigate to the given url
  consolelogs or c to enable/disable console log output
  serverlogs or s to enable/disable server log output
  quit or q to shutdown the server and exit

ionic $ An uncaught exception occurred and has been reported to Ionic

listen EADDRINUSE (CLI v1.5.0)

Your system information:

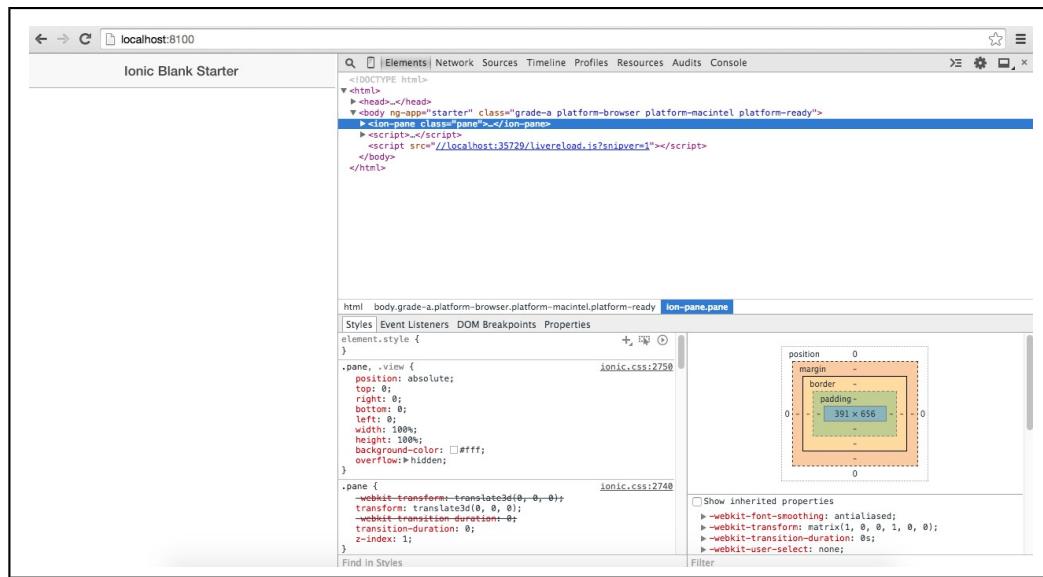
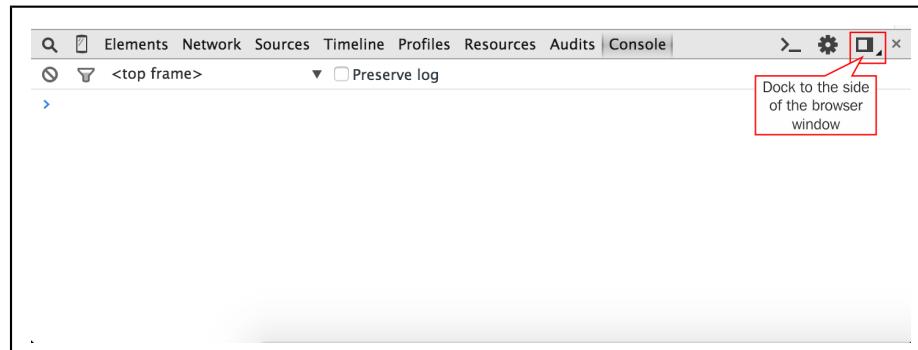
Cordova CLI: 5.0.0
Gulp version: CLI version 3.8.11
Gulp local:
Ionic Version: 1.0.0
Ionic CLI Version: 1.5.0
Ionic App Lib Version: 0.1.0
ios-deploy version: 1.7.0
ios-sim version: 3.1.1
OS: Mac OS X Yosemite
Node Version: v0.12.2
Xcode version: Xcode 6.3.2 Build version 6D2105
```

```
→ example1 ionic serve
Running live reload server: http://localhost:35729
Watching : [ 'www/**/*', '!www/lib/**/*' ]
Running dev server: http://localhost:8100
Ionic server commands, enter:
  restart or r to restart the client app from the root
  goto or g and a url to have the app navigate to the given url
  consolelogs or c to enable/disable console log output
  serverlogs or s to enable/disable server log output
  quit or q to shutdown the server and exit

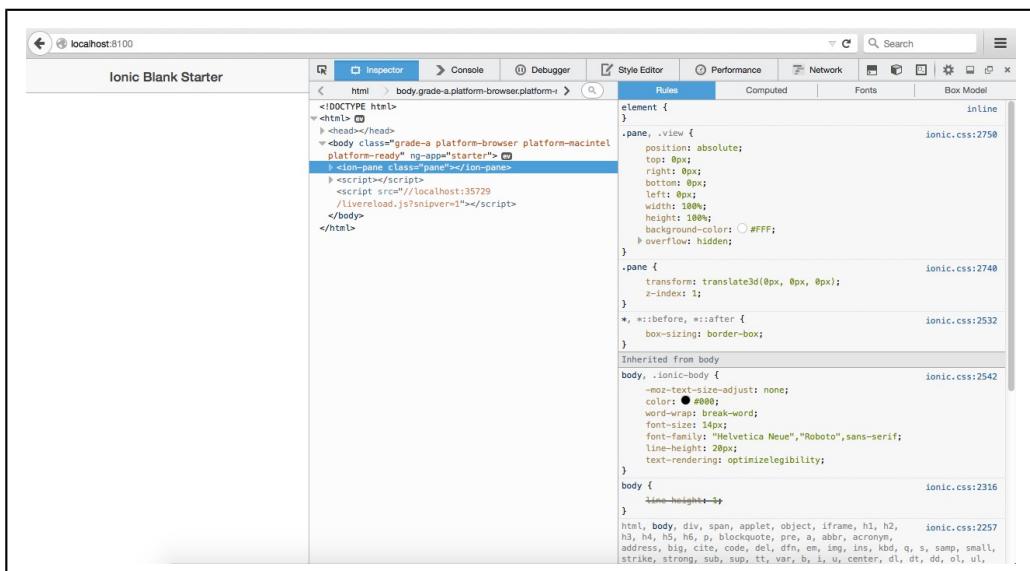
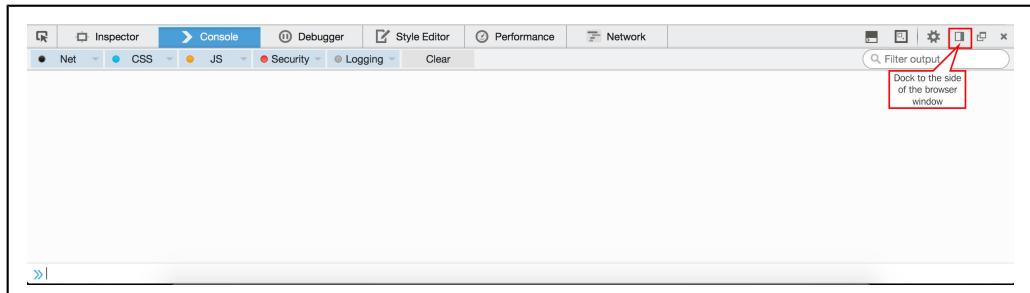
ionic $ █
```

The browser developer tools setup

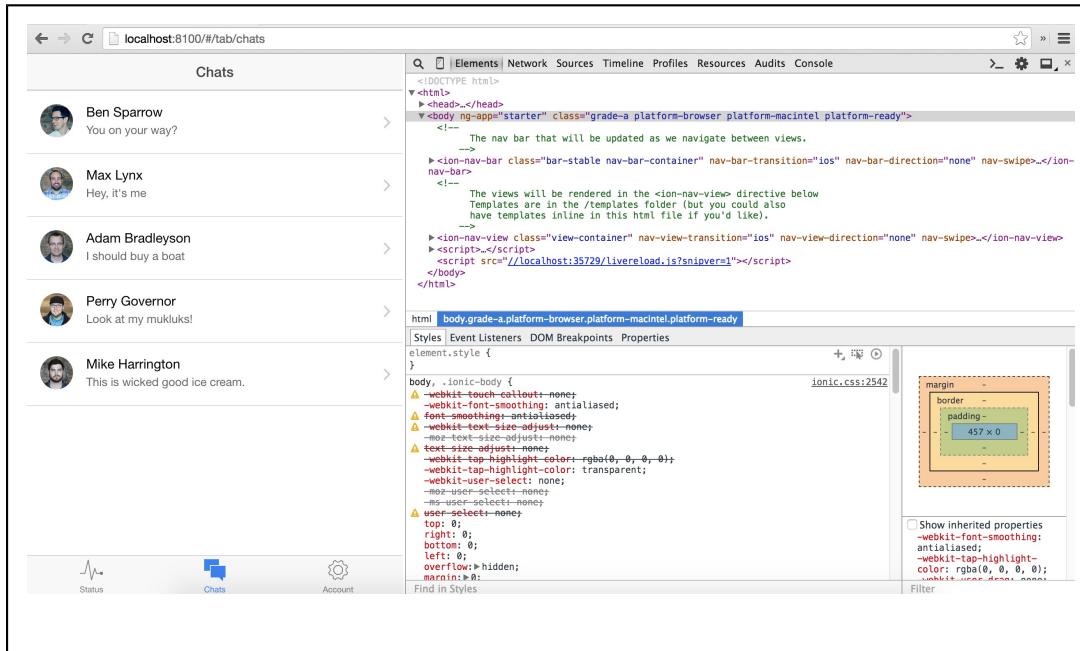
Google Chrome



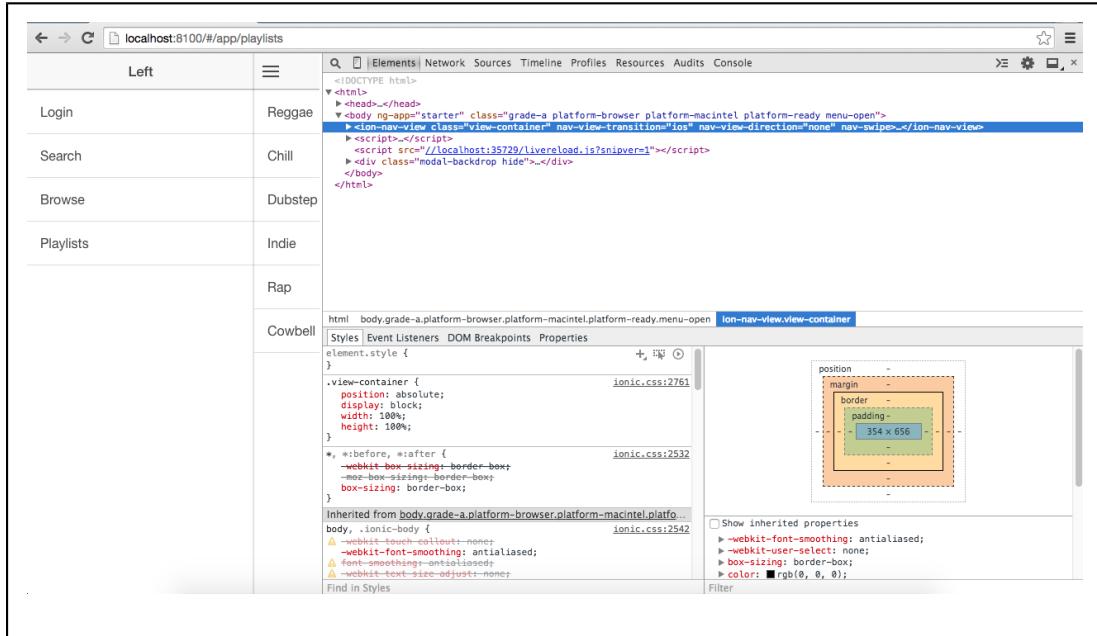
Mozilla Firefox



Scaffolding the tabs template



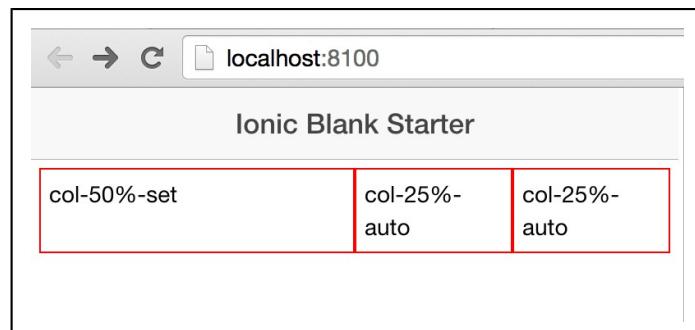
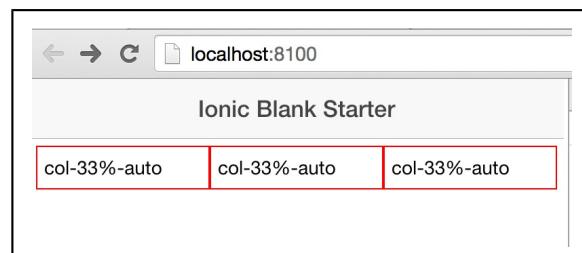
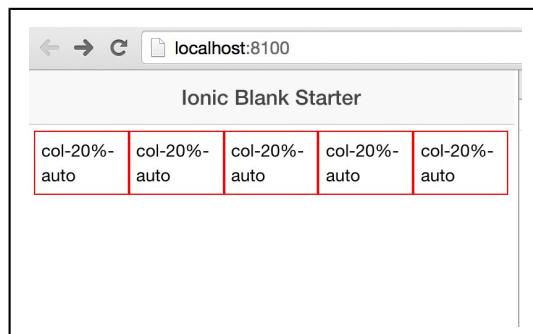
Scaffolding the side menu template

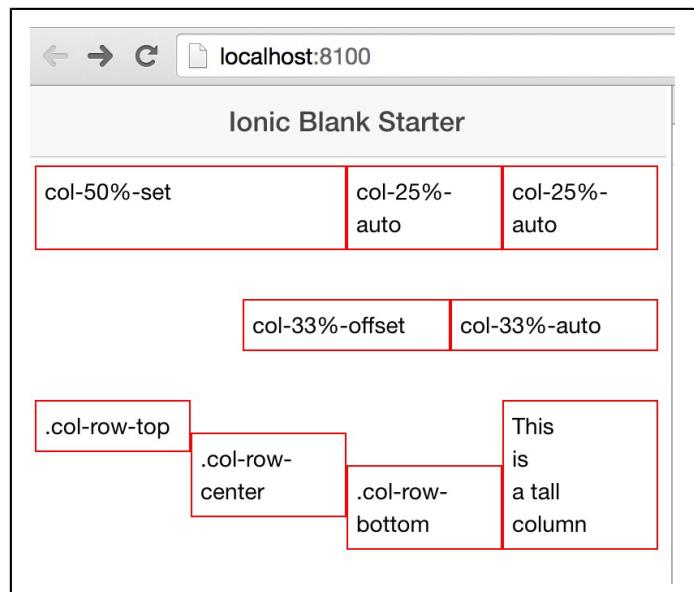
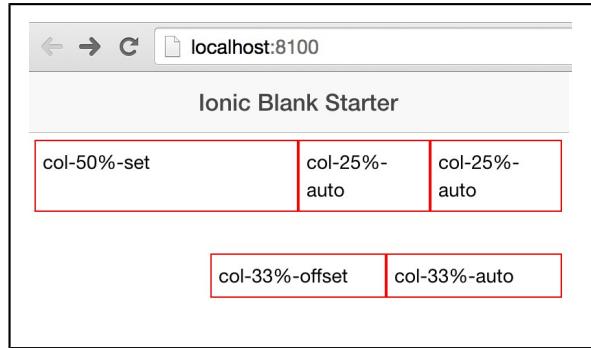


Chapter 3: Ionic CSS Components and Navigation

Ionic CSS components

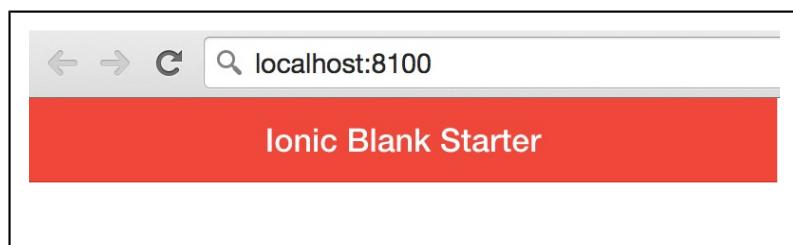
Ionic grid system

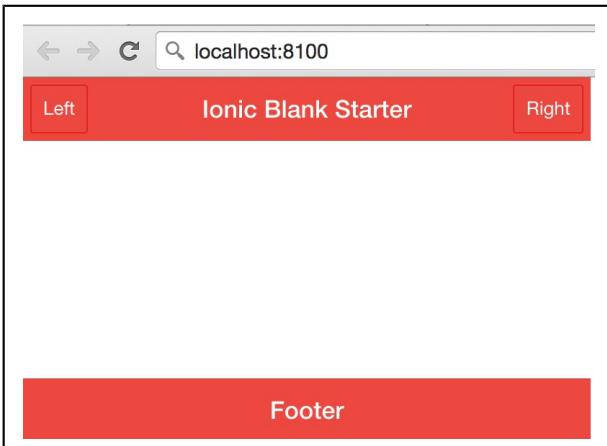
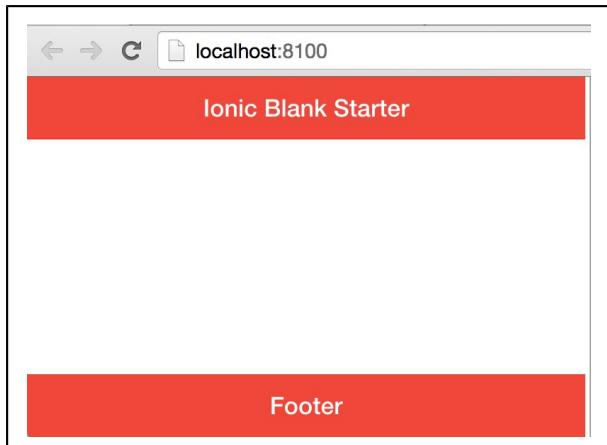




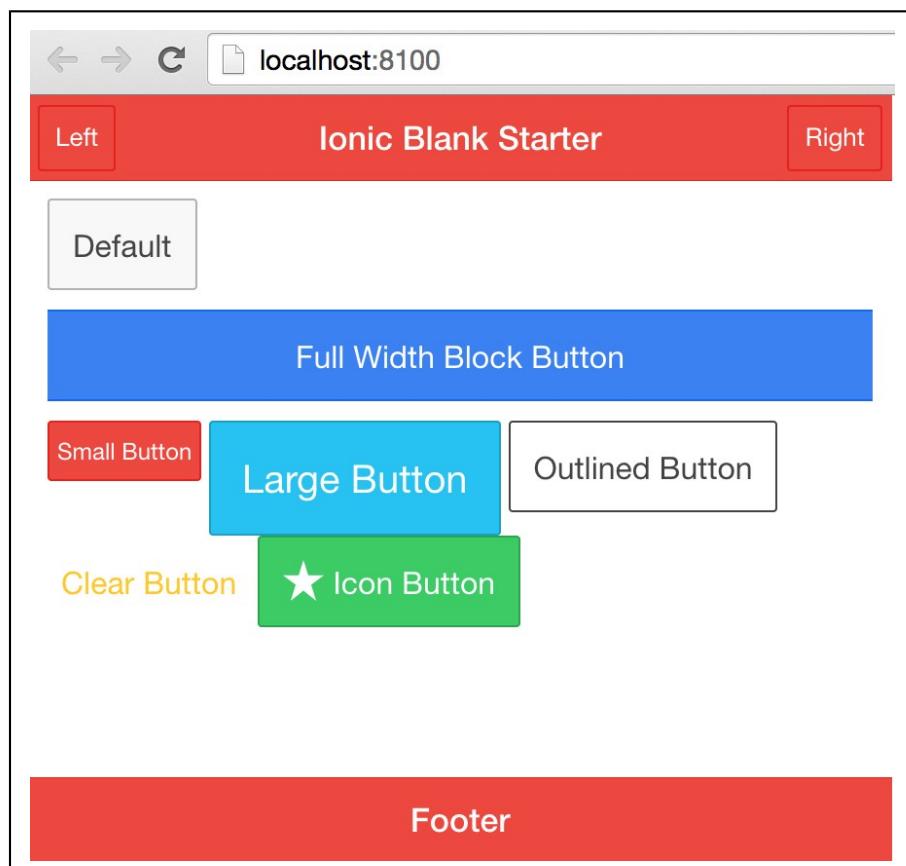
Page structure

| | |
|-----------|-------------------------------------|
| light | <input type="checkbox"/> |
| stable | <input type="checkbox"/> |
| positive | <input checked="" type="checkbox"/> |
| calm | <input checked="" type="checkbox"/> |
| balanced | <input checked="" type="checkbox"/> |
| energized | <input checked="" type="checkbox"/> |
| assertive | <input checked="" type="checkbox"/> |
| royal | <input checked="" type="checkbox"/> |
| dark | <input checked="" type="checkbox"/> |

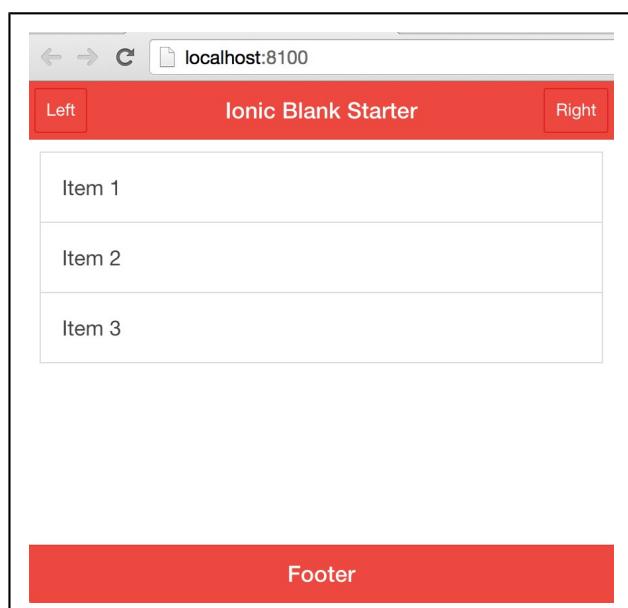




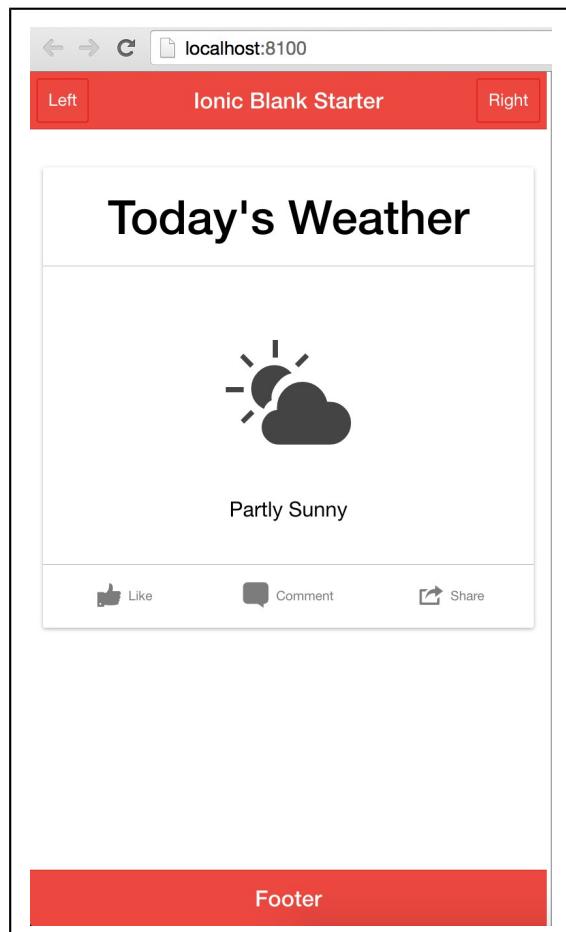
Buttons



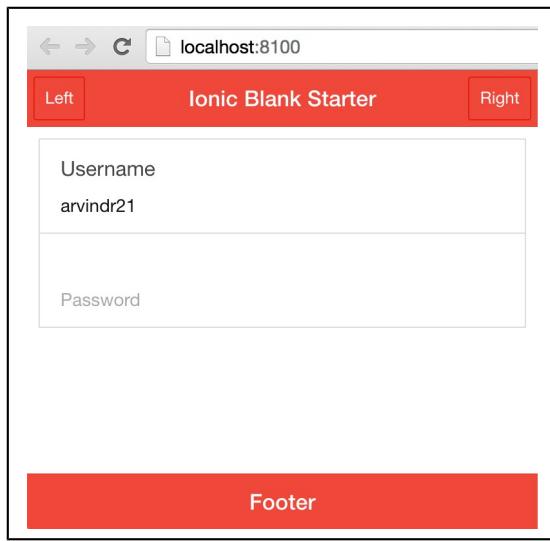
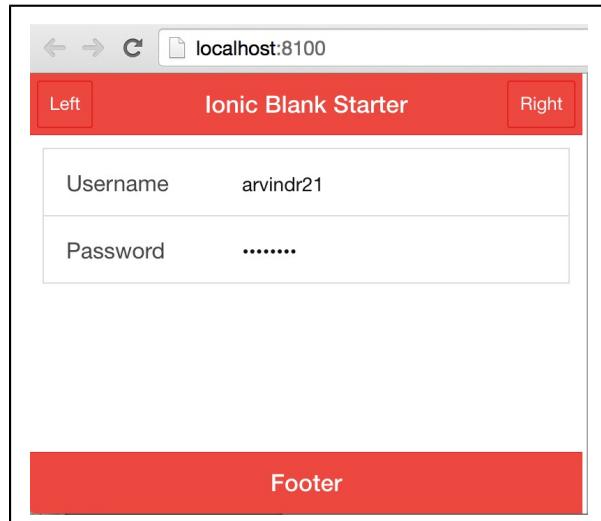
Lists

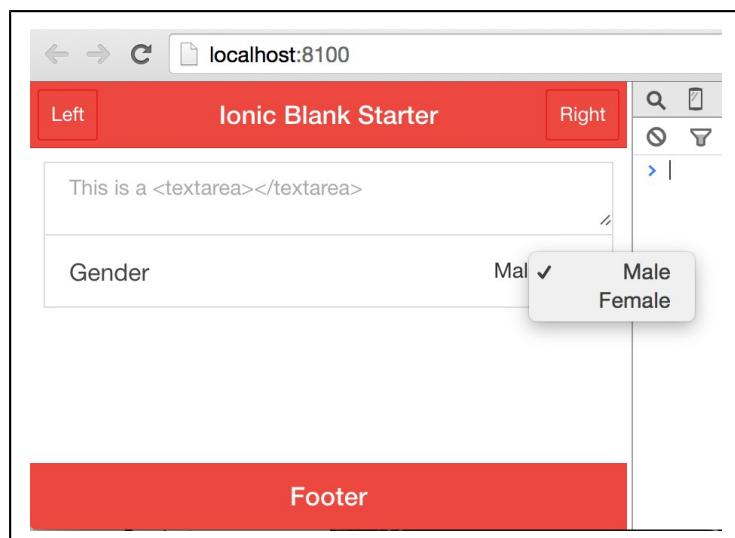
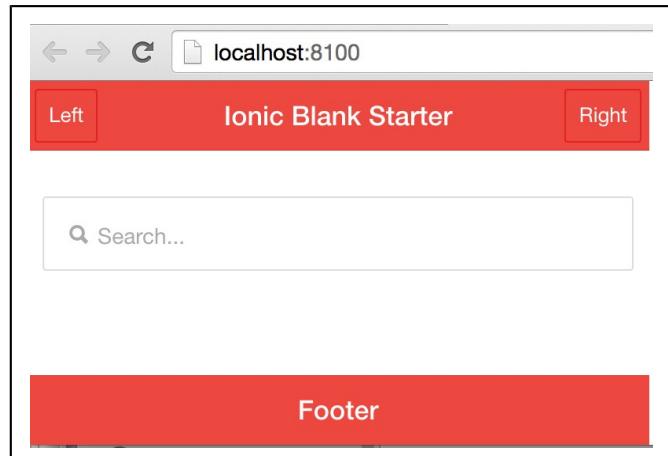


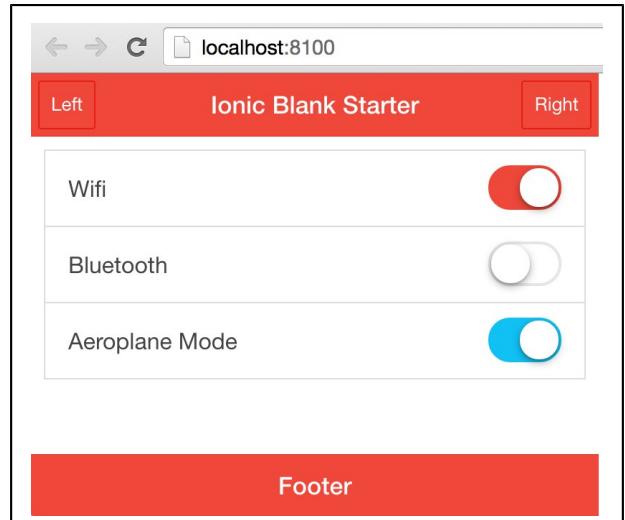
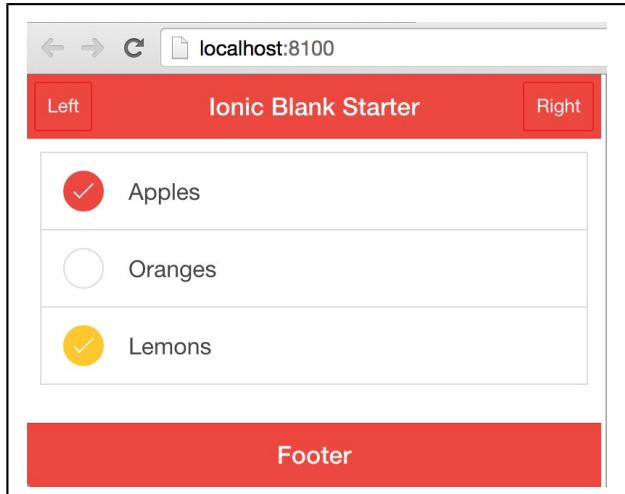
Cards

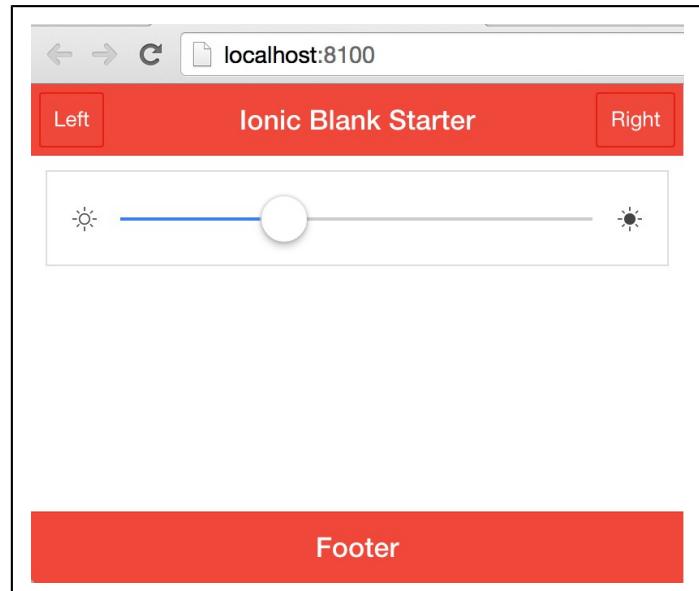


Form elements

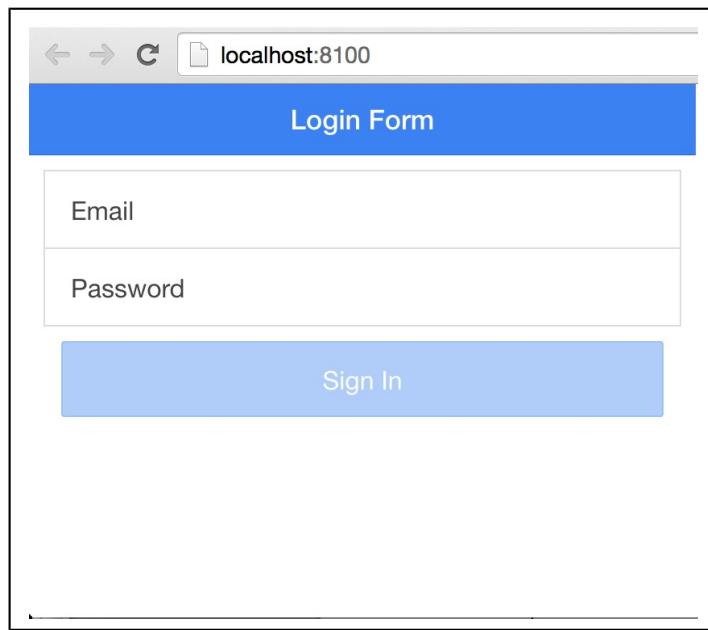


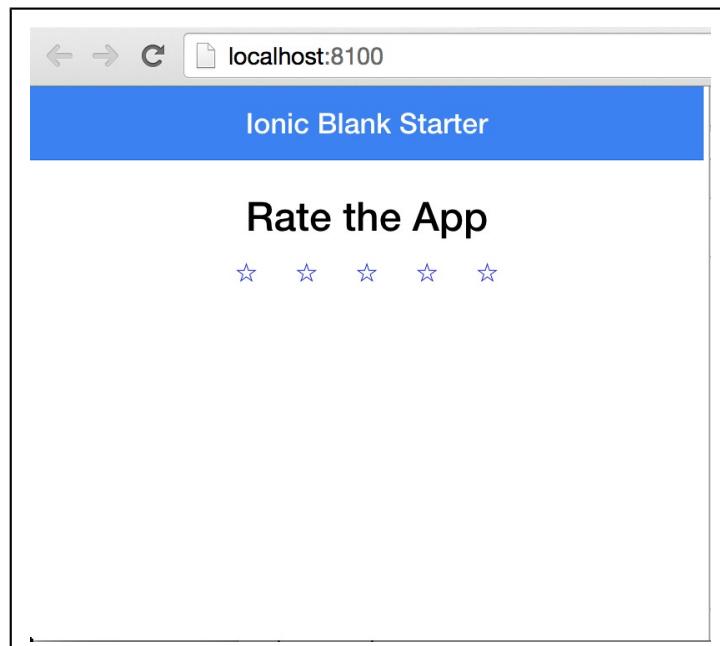
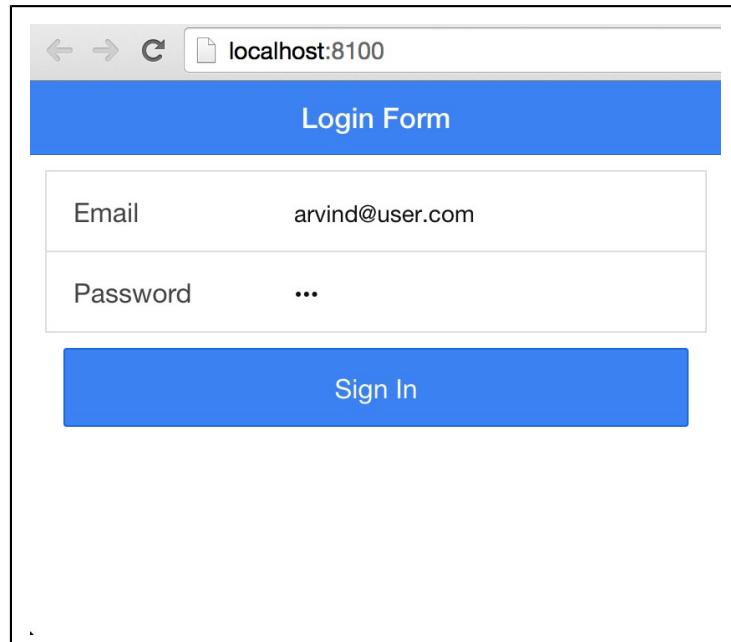


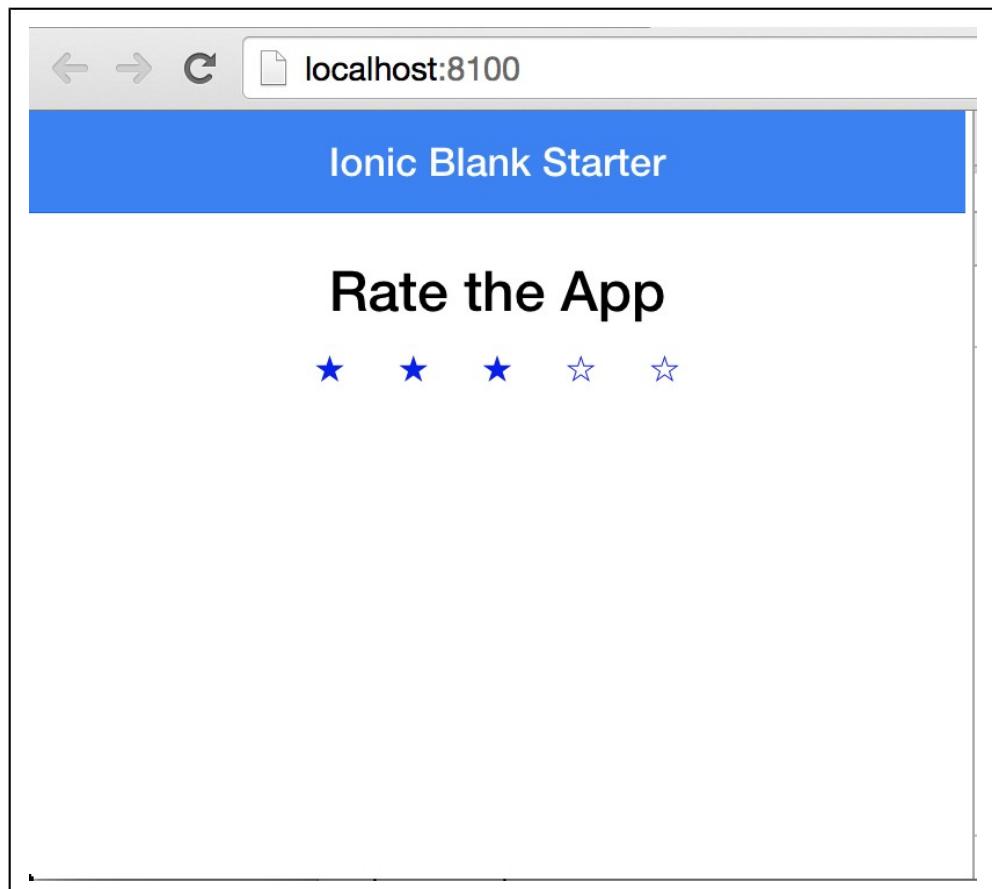




Integrating Ionic CSS components with AngularJS

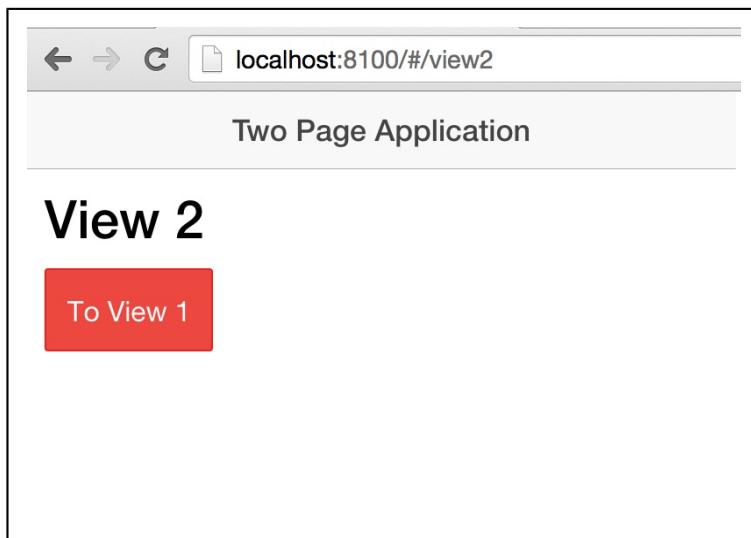
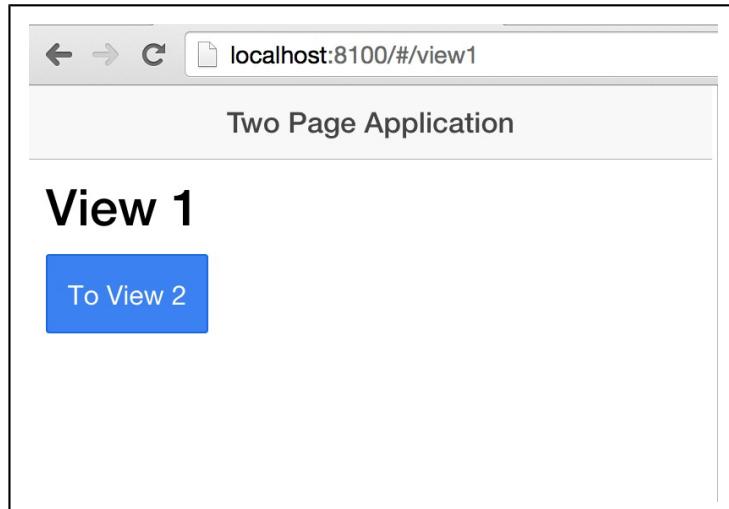


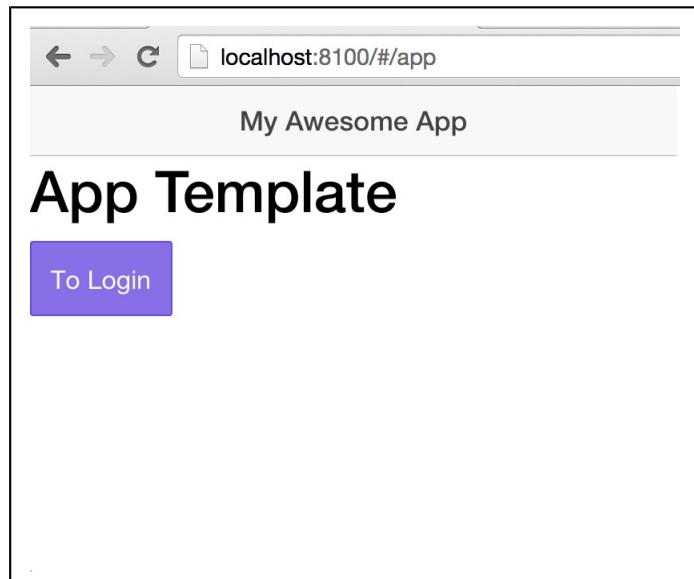
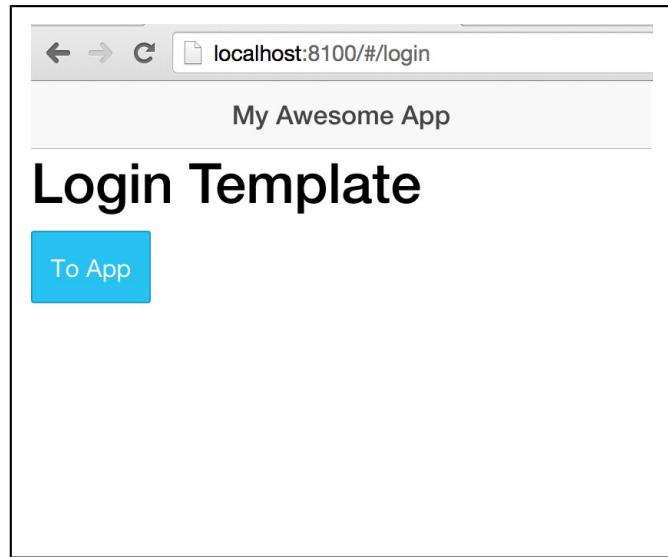


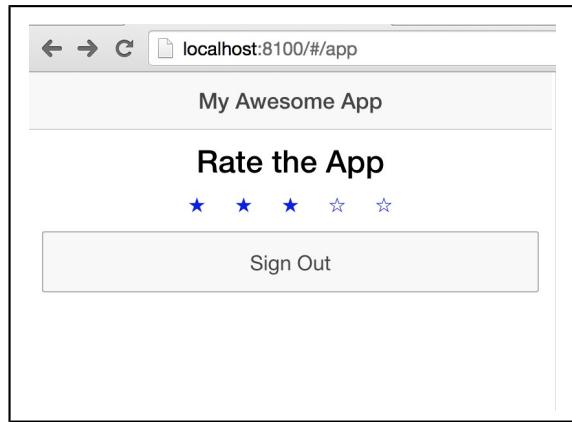


The Ionic router

A simple two-page app





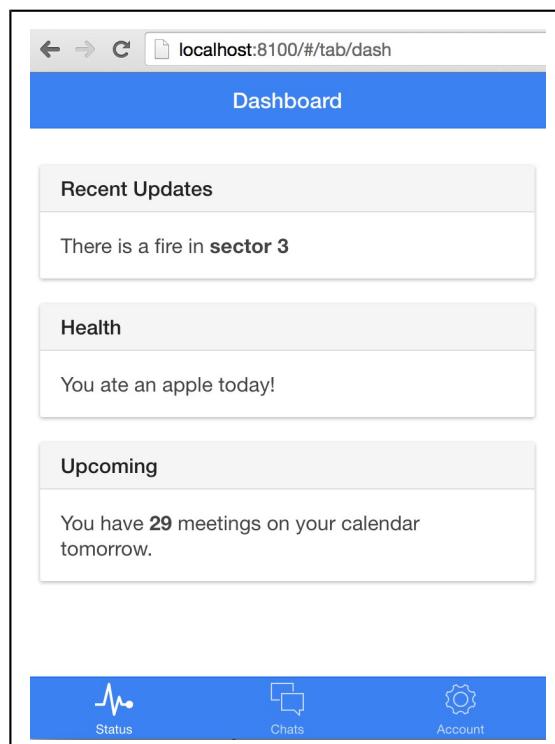


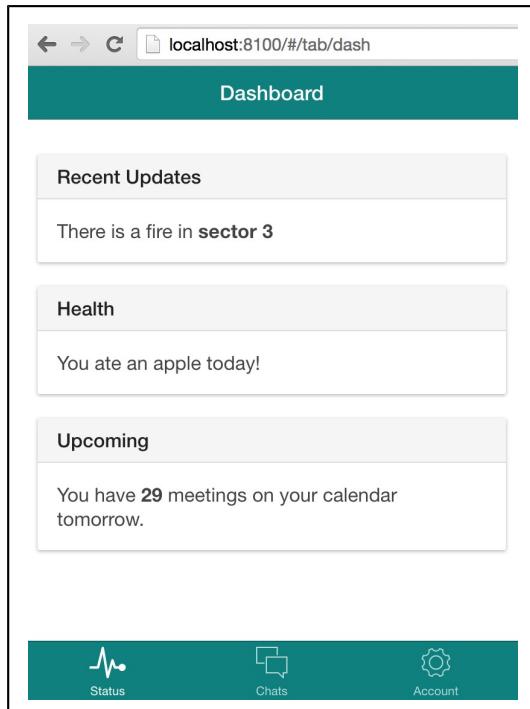
The image shows two adjacent browser windows. The left window is titled "localhost:8100/#/login" and contains a "Login" form with fields for "Email" and "Password", and a "Sign In" button. The right window is titled "localhost:8100/#/register" and contains a "Register" form with fields for "Email", "Password", and "Re-Enter Password", also with a "Sign In" button. Both windows have a purple header bar.

Chapter 4: Ionic and SCSS

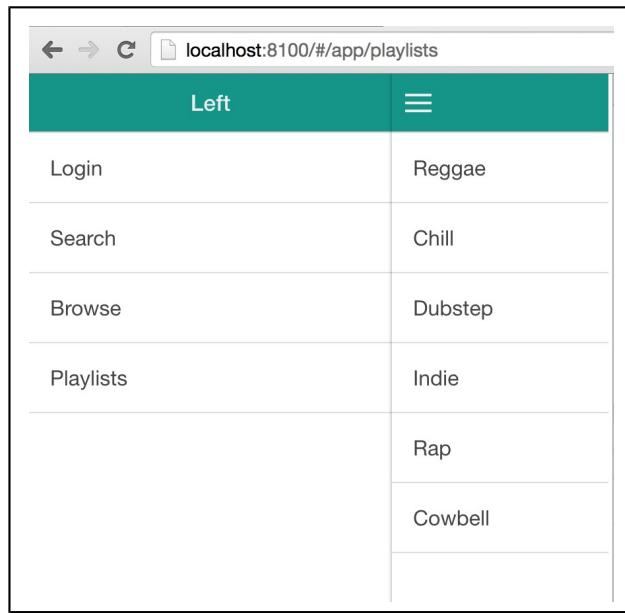
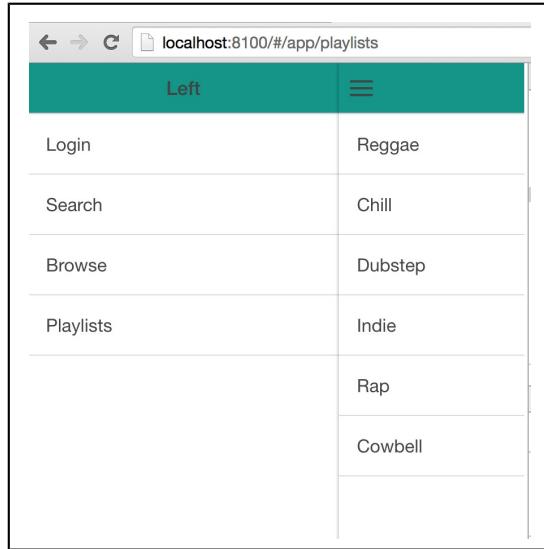
Working with Ionic SCSS

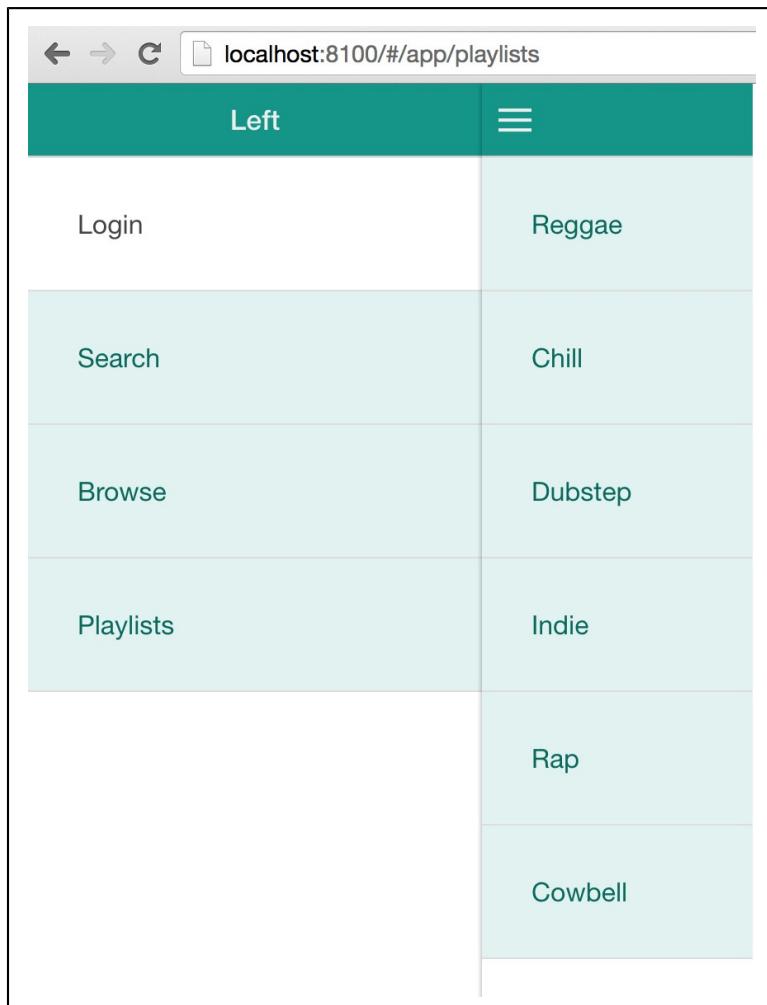
Basic swatch

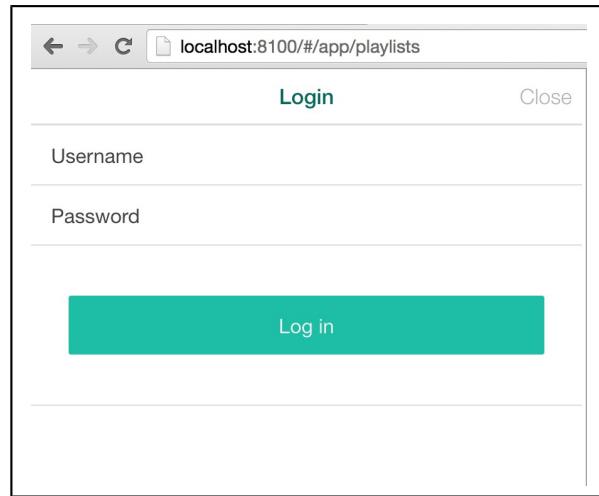




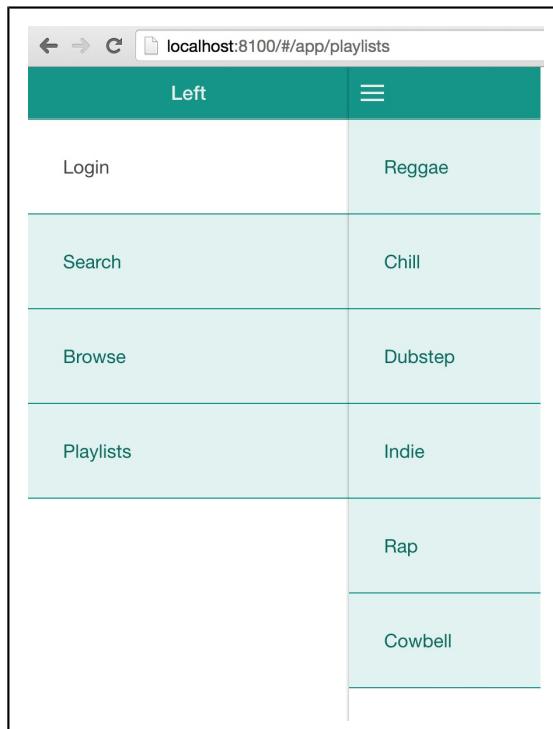
Building a swatch







A screenshot of a login dialog box. At the top, there are navigation icons (back, forward, refresh) and a URL bar showing "localhost:8100/#/app/playlists". The title of the dialog is "Login". In the center, there are two input fields: "Username" and "Password", each with a placeholder line below it. Below the password field is a large teal button with the text "Log in" in white.

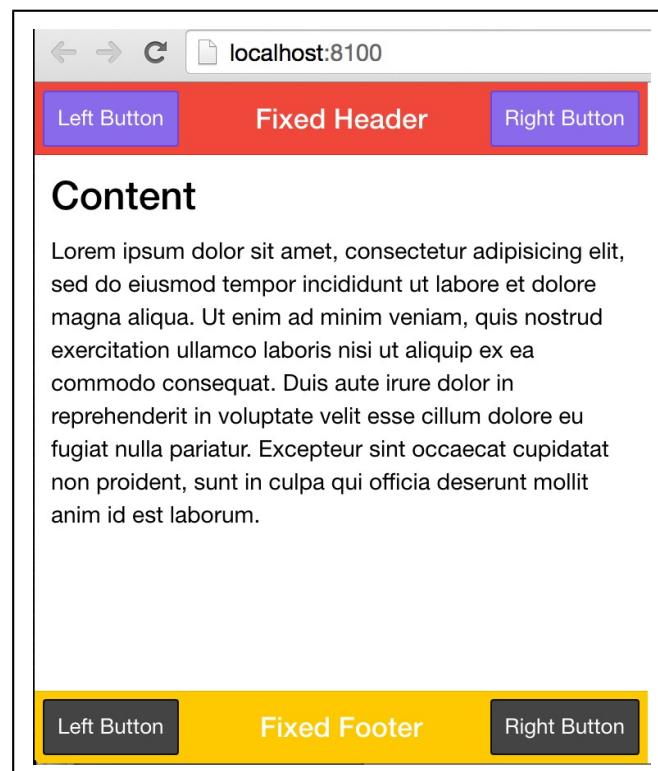


A screenshot of a mobile-style interface. The top navigation bar shows "localhost:8100/#/app/playlists". On the left, there is a dark teal header with the word "Left" and a three-line menu icon. The main content area is divided into two columns by a vertical line. The left column contains five items: "Login", "Search", "Browse", "Playlists", and an empty space. The right column contains five corresponding items: "Reggae", "Chill", "Dubstep", "Indie", "Rap", and "Cowbell".

Chapter 5: Ionic Directives and Services

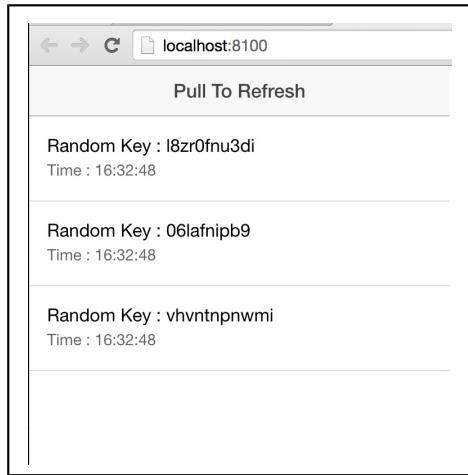
Ionic Platform service

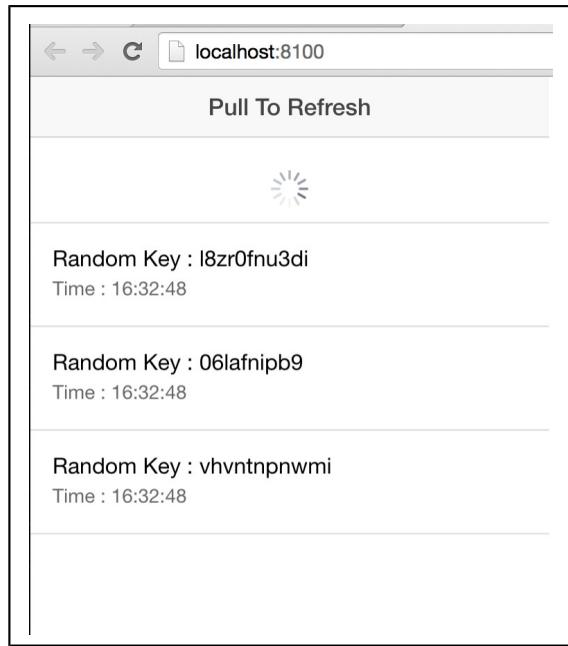
Headers and footers

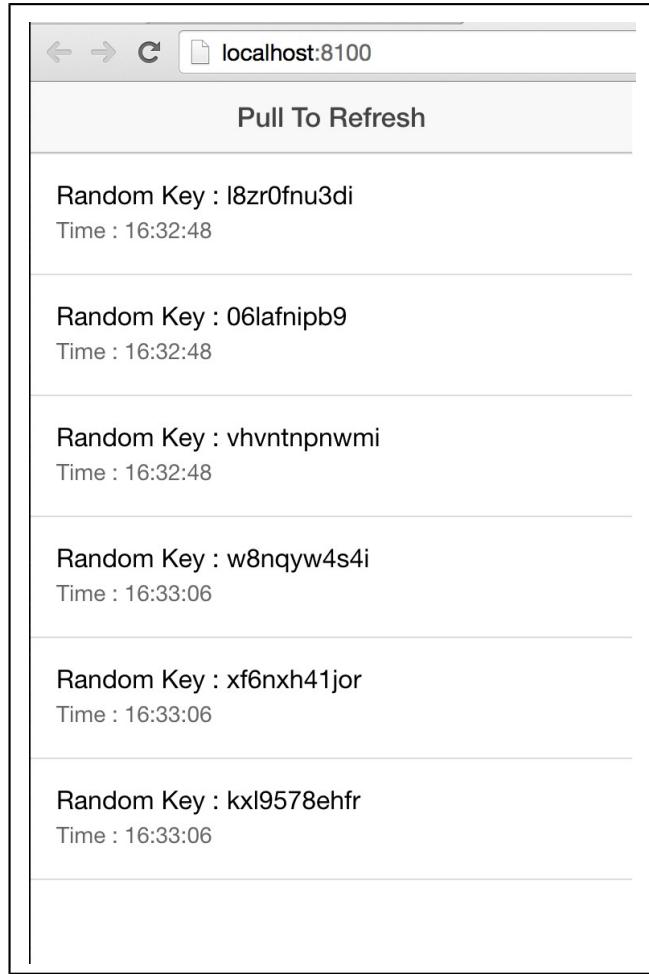


Content

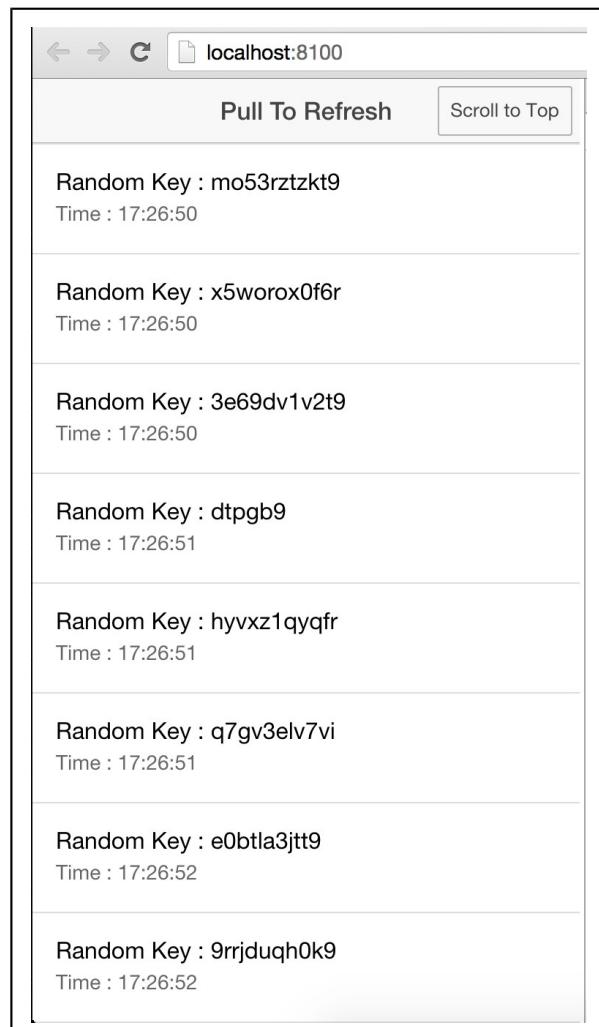
ion-refresher



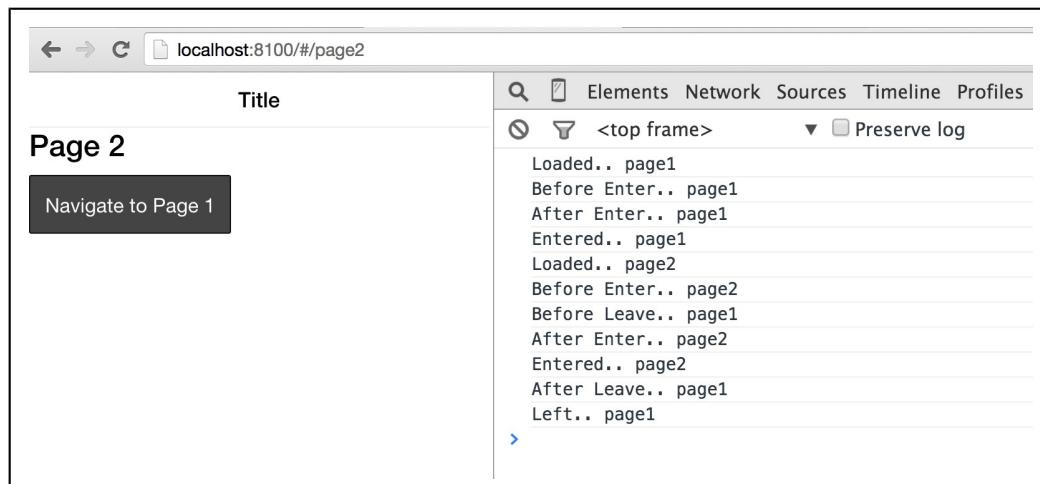




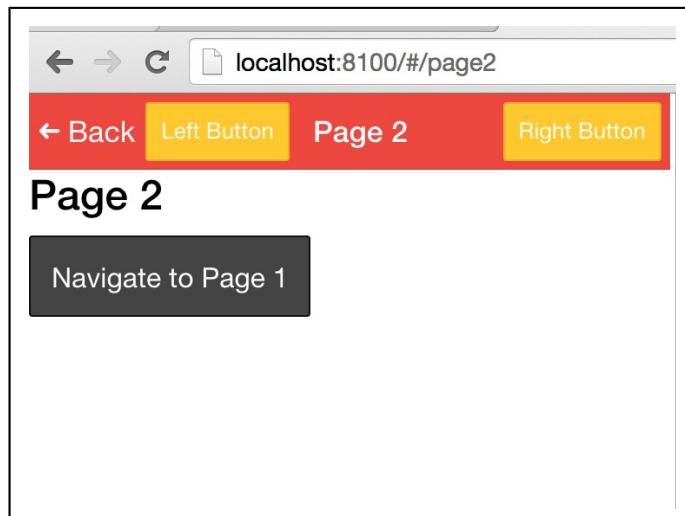
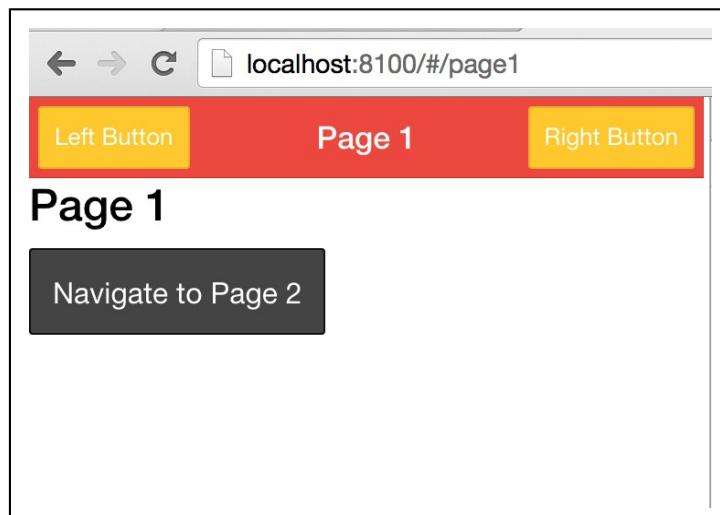
\$ionicScrollDelegate

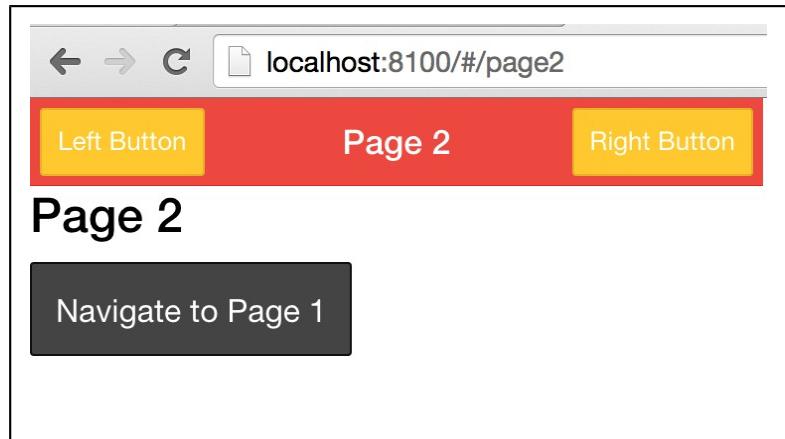


Ionic view events

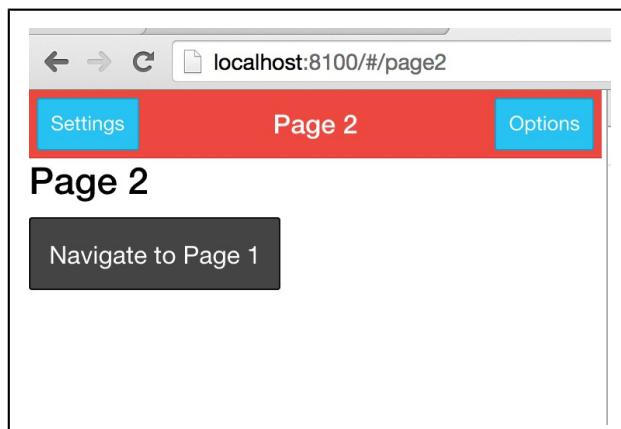
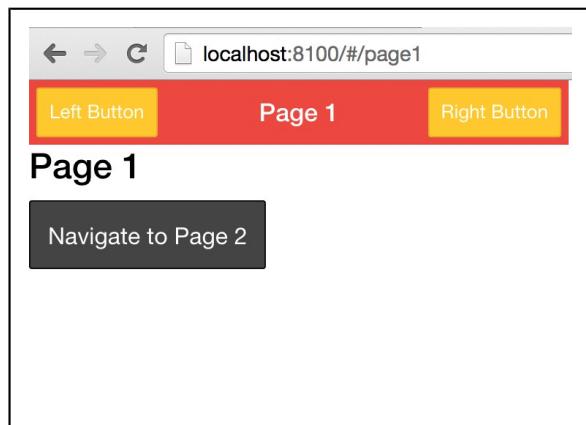


ion-nav-bar

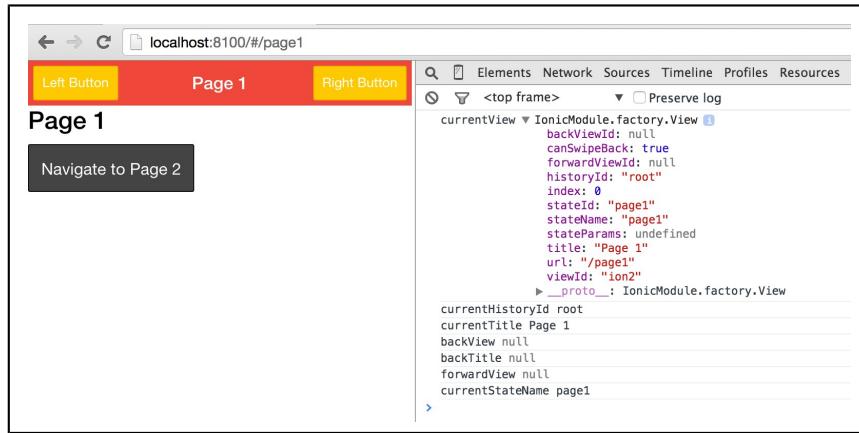
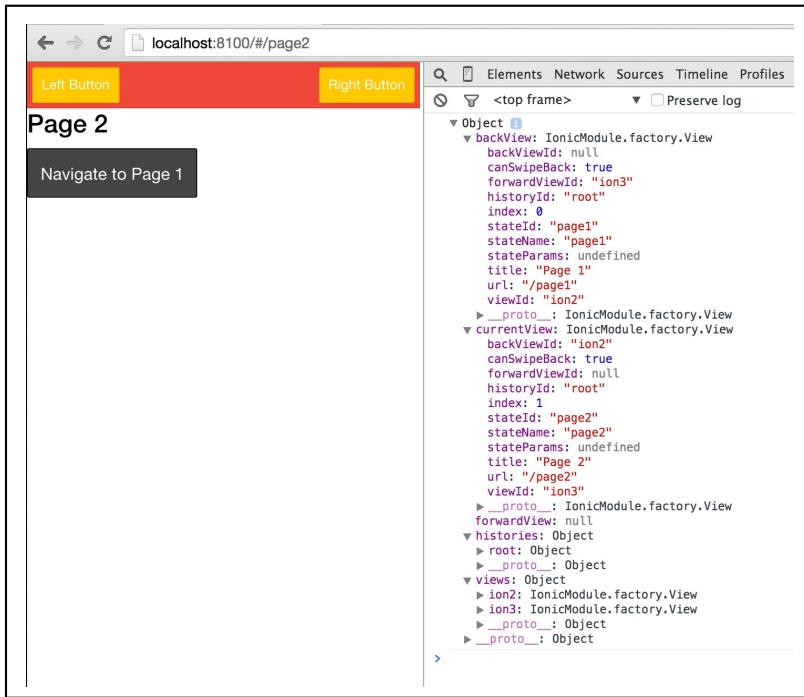


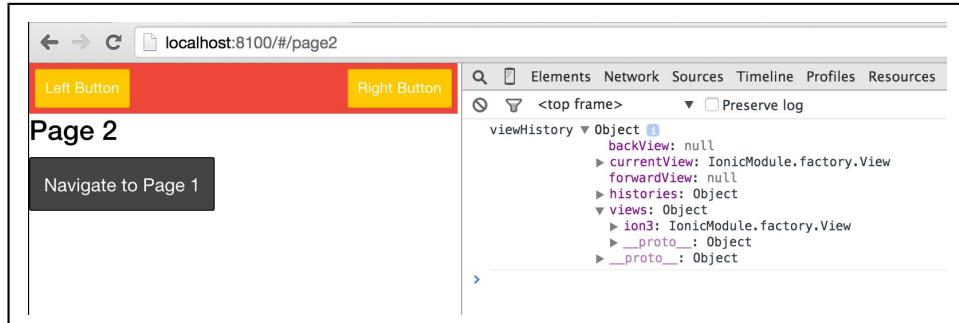
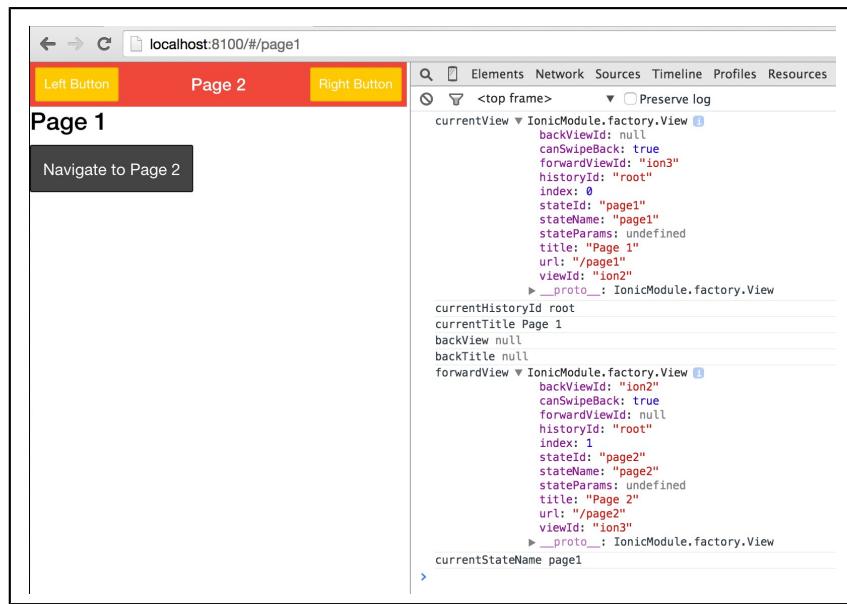
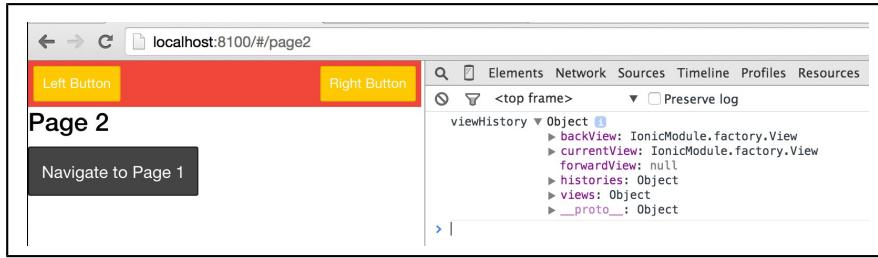


ion-nav-buttons

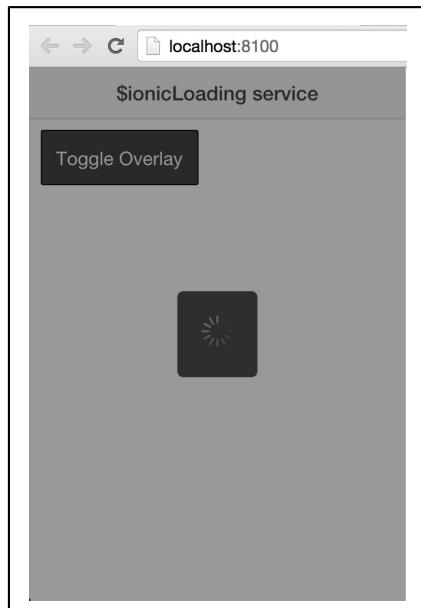
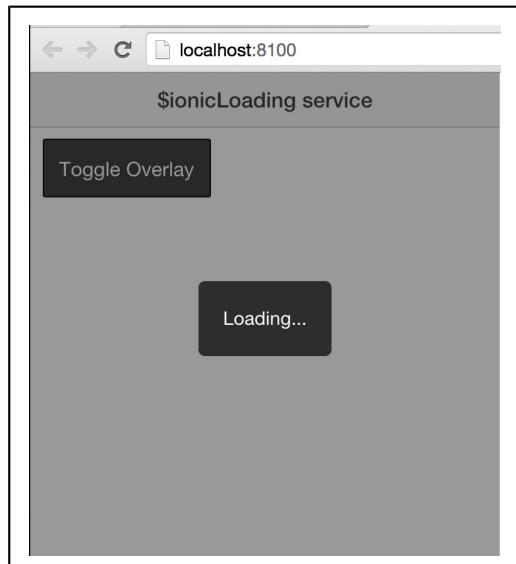


\$ionicHistory

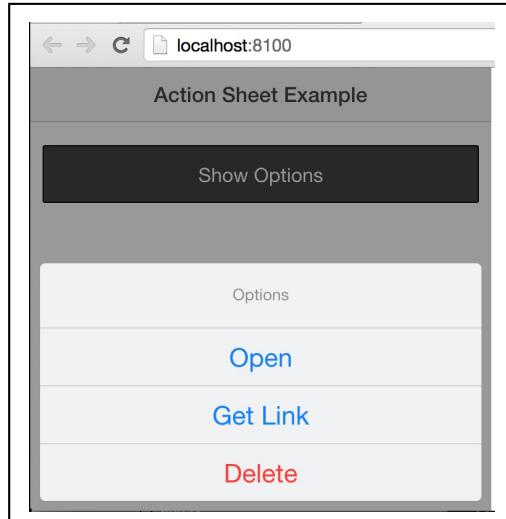




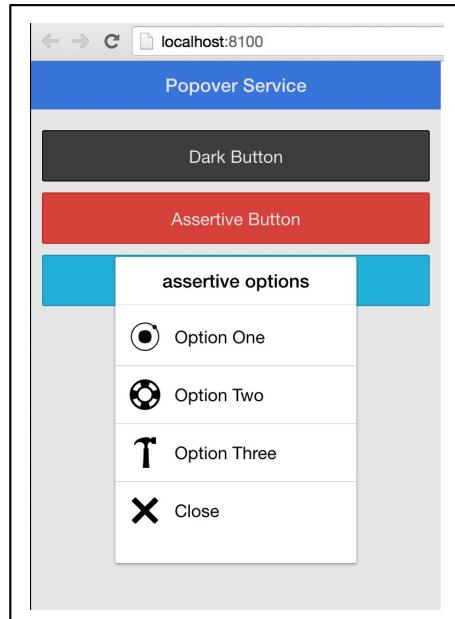
Ionic loading



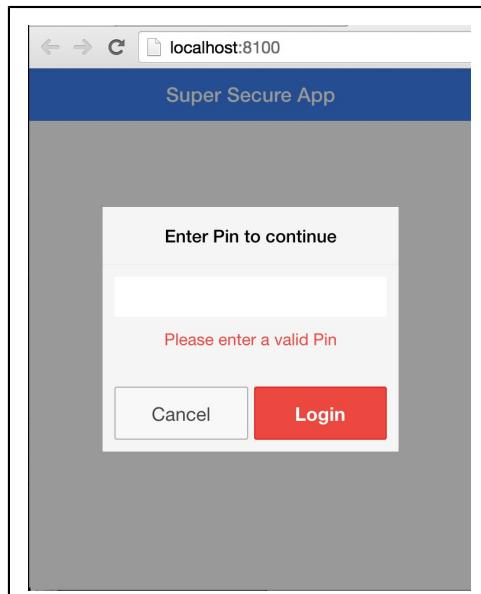
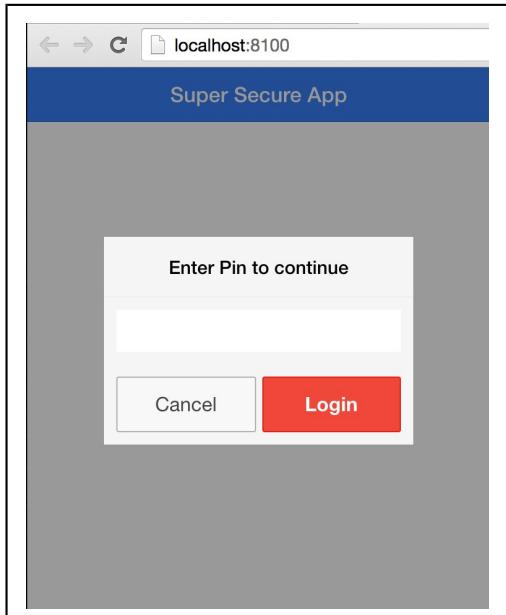
The Action Sheet service

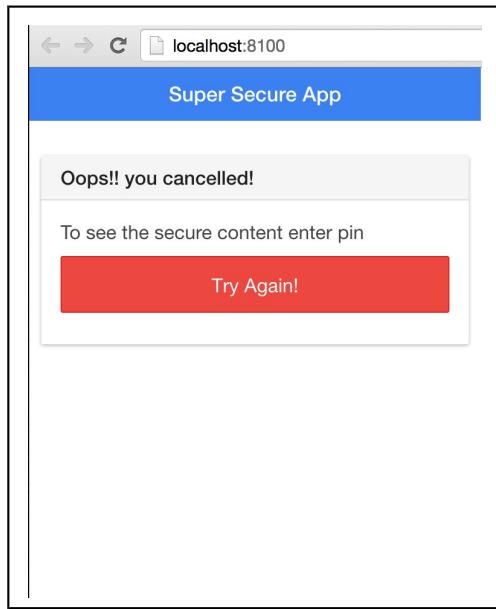
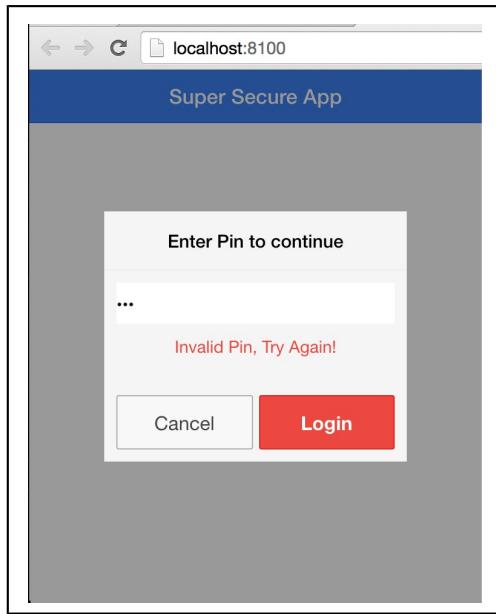


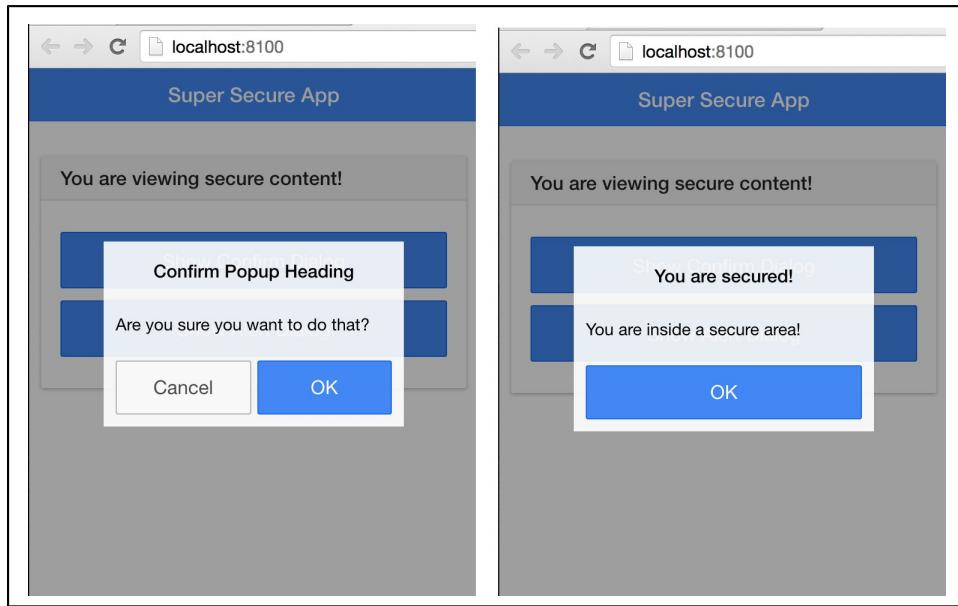
Popover and Popup services



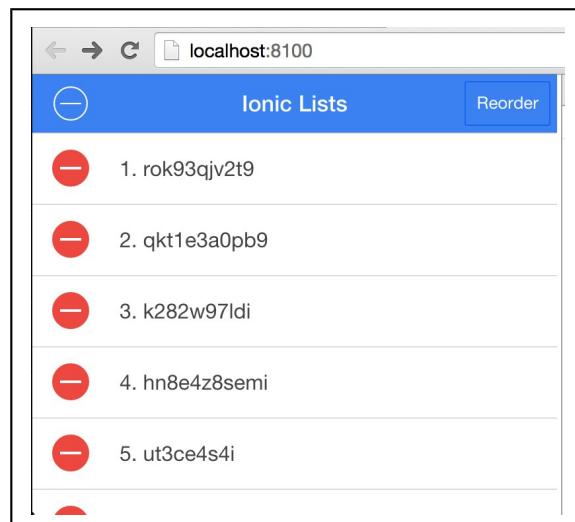
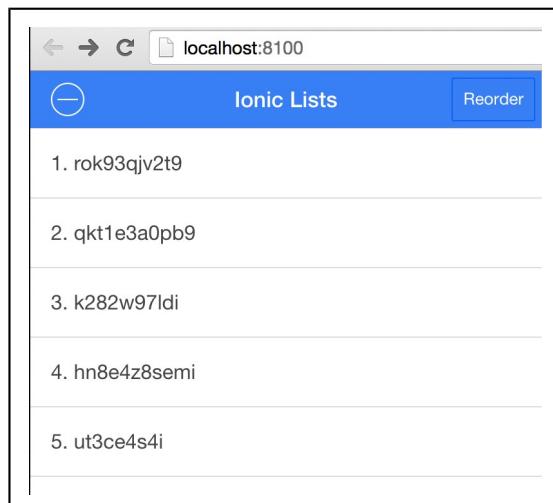
\$ionicPopup

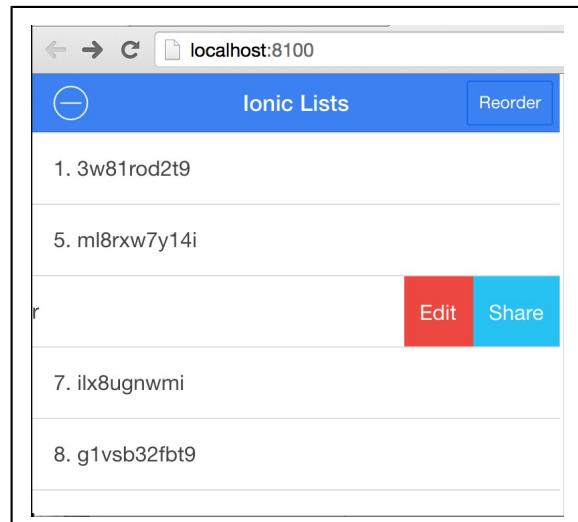
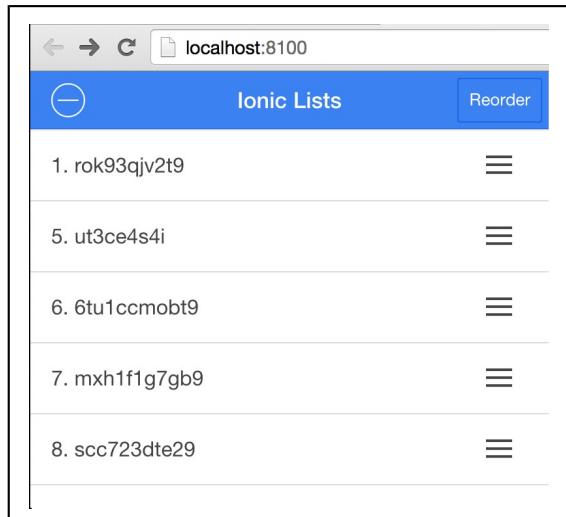




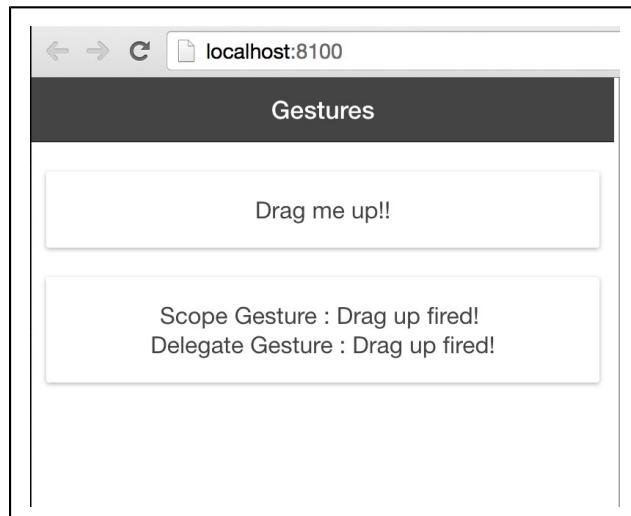


The ion-list and ion-item directives



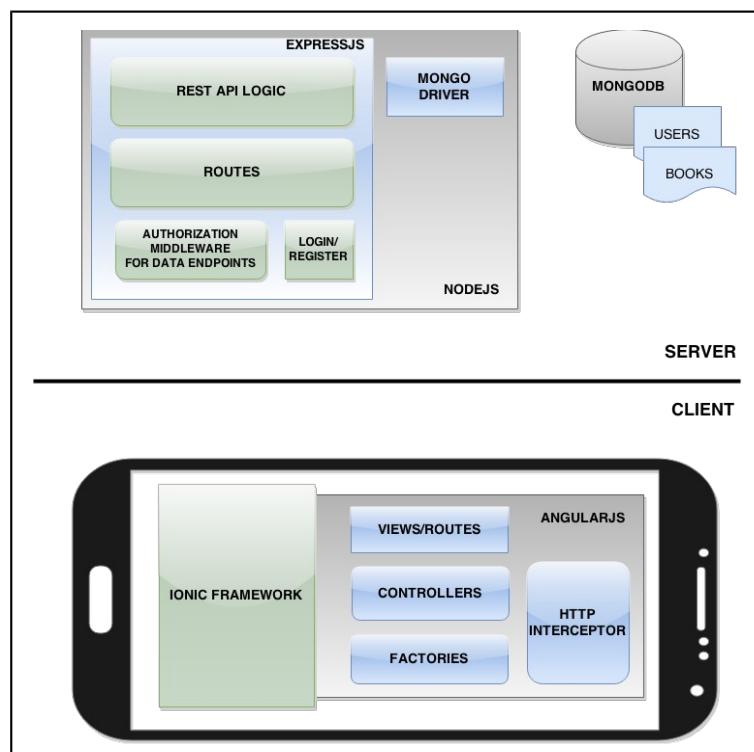


Gesture directives and services



Chapter 6: Building a Bookstore App

Bookstore architecture



The server-side API documentation

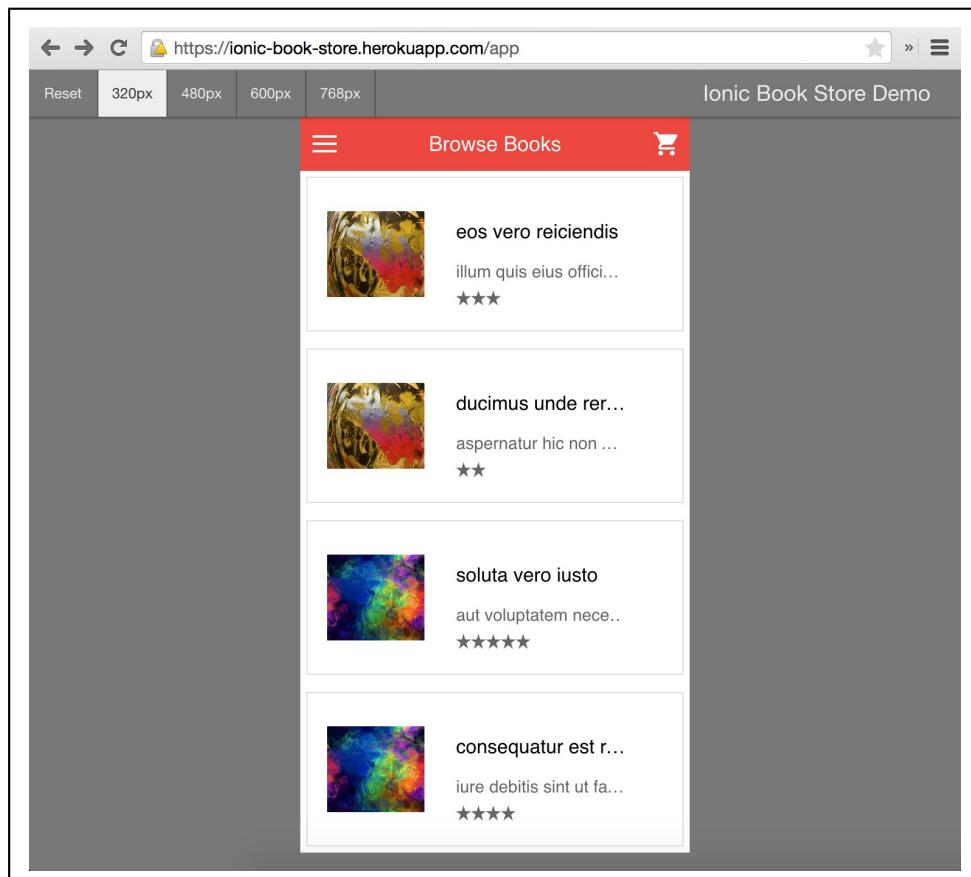
The screenshot shows a browser window displaying the API documentation for a book store application. The URL is <https://ionic-book-store.herokuapp.com/#api-Books-GetAllBooks>. The page is titled "Books - Gets Books". On the left, there is a sidebar with categories: "API FOR BOOK STORE", "USER" (with "User Login" and "User Registration"), "BOOKS" (with "Gets Books" highlighted), "CART" (with "View Cart" and "Add to cart"), and "PURCHASES" (with "View Purchases" and "Checkout Cart"). The main content area has the following details:

- Description:** This end point returns all the books in the store based on the given parameters.
- Method:** GET
- Endpoint:** /api/v1/books/:page/:perPage
- Permissions:** none
- Example usage:** curl https://ionic-book-store.herokuapp.com/api/v1/books/1/10
- Parameters:**

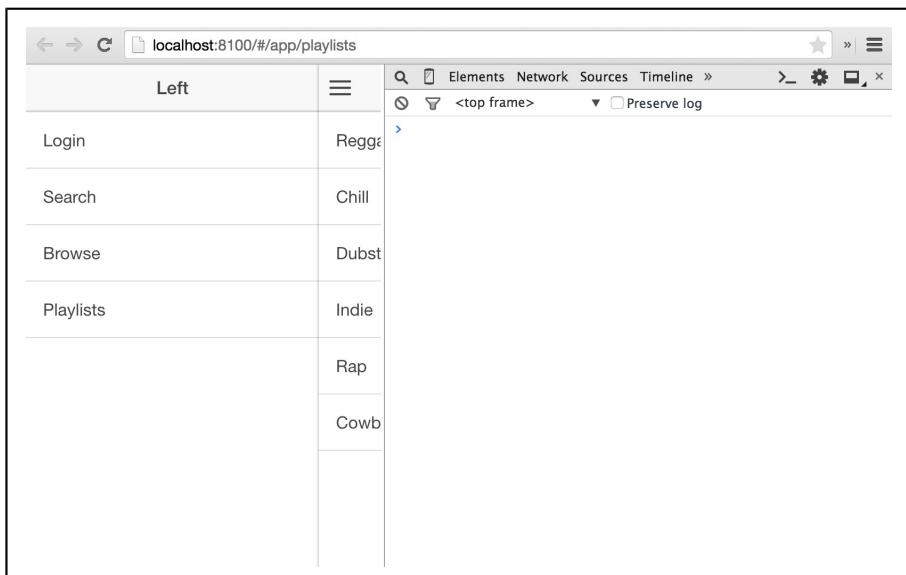
| Field | Type | Description |
|---------|--------|--------------------------|
| page | Number | The page number |
| perPage | Number | Number of items per page |
- Success 200:**

| Field | Type | Description |
|-------|----------|--------------------|
| error | Object | The error object |
| count | Number | Total record count |
| data | Object[] | The response data |

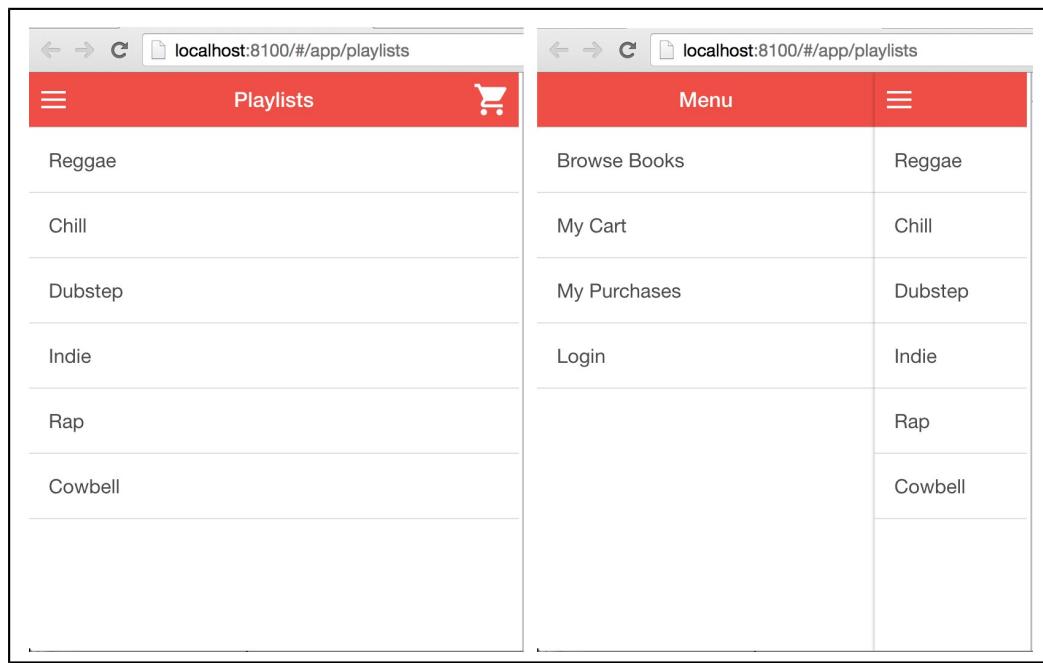
A Bookstore demo



Step 2 – Refactoring the template

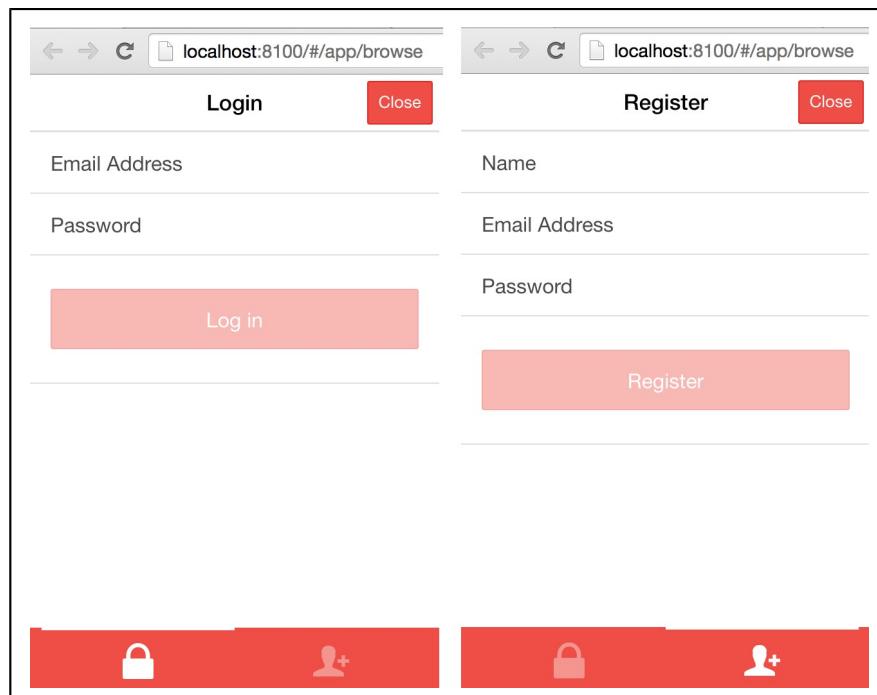


Refactoring the menu

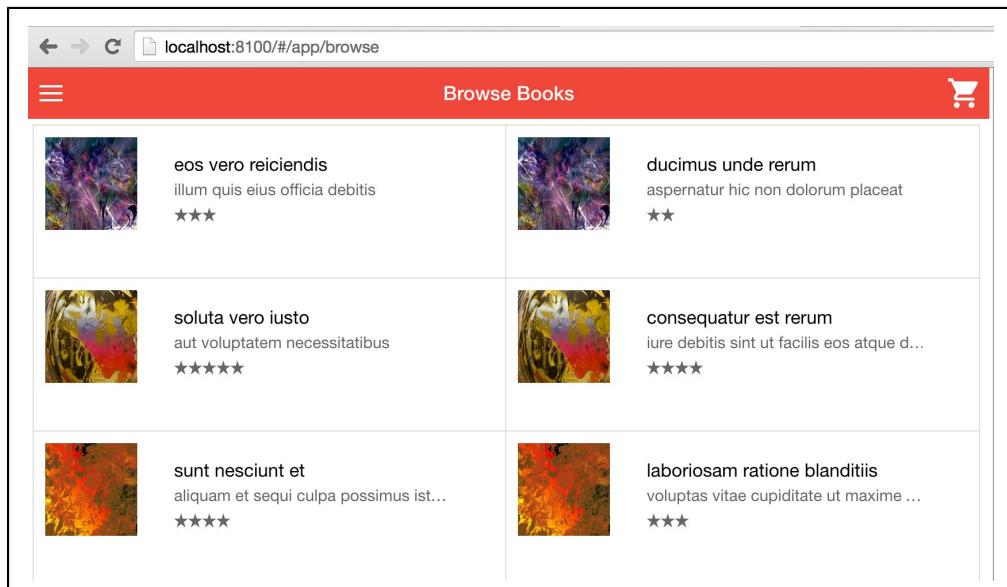
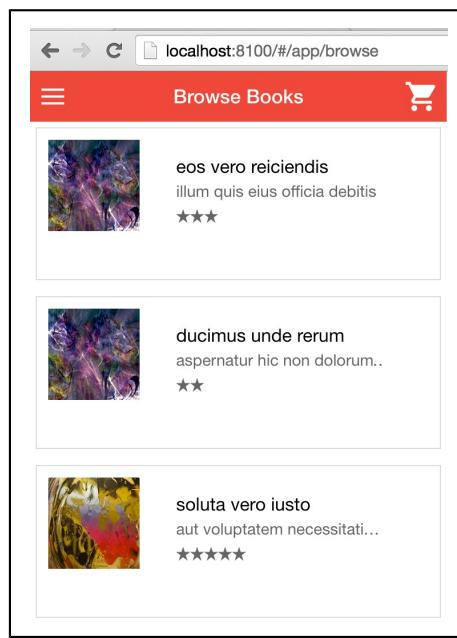


Step 5 – Creating templates and integrating with the controller data

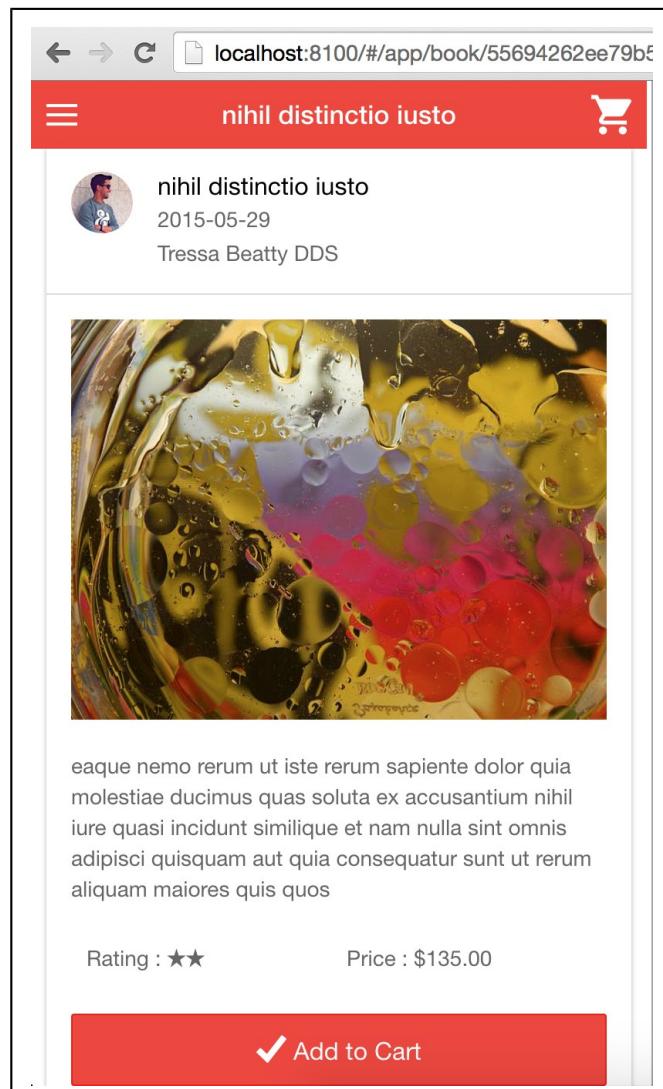
The Login template



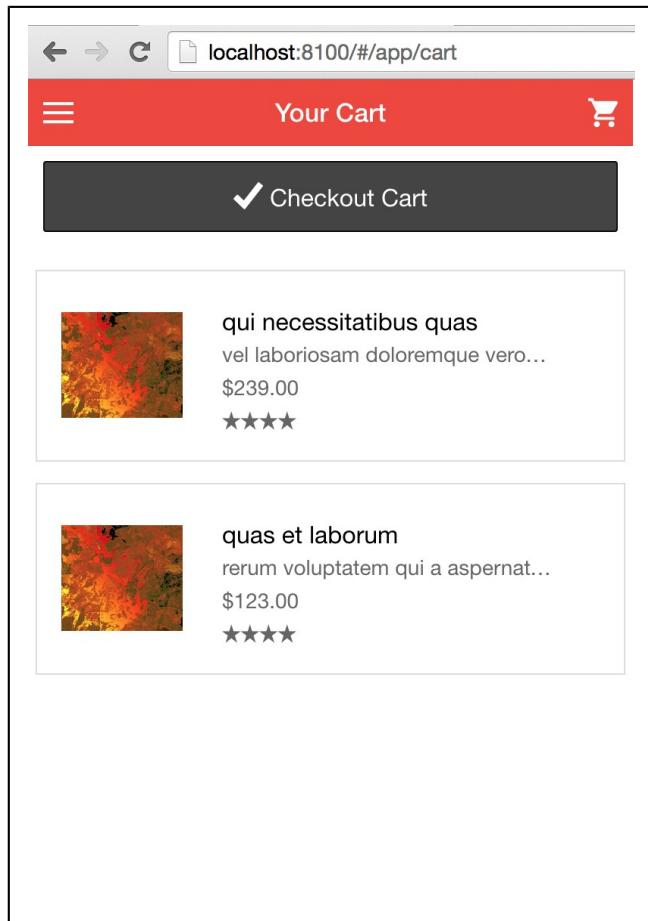
The Browse template



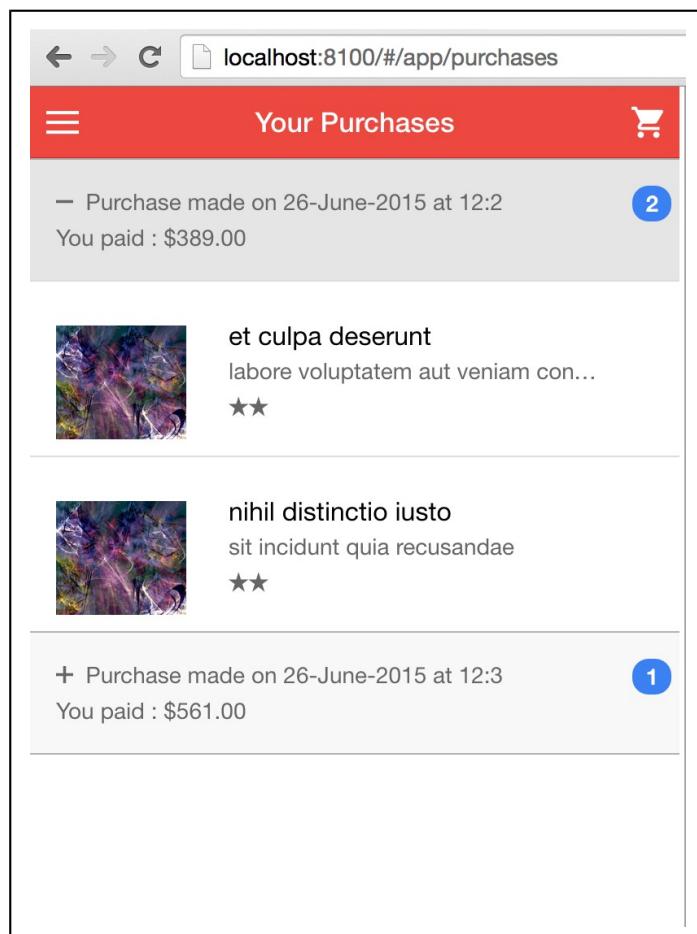
The Book template



The Cart template



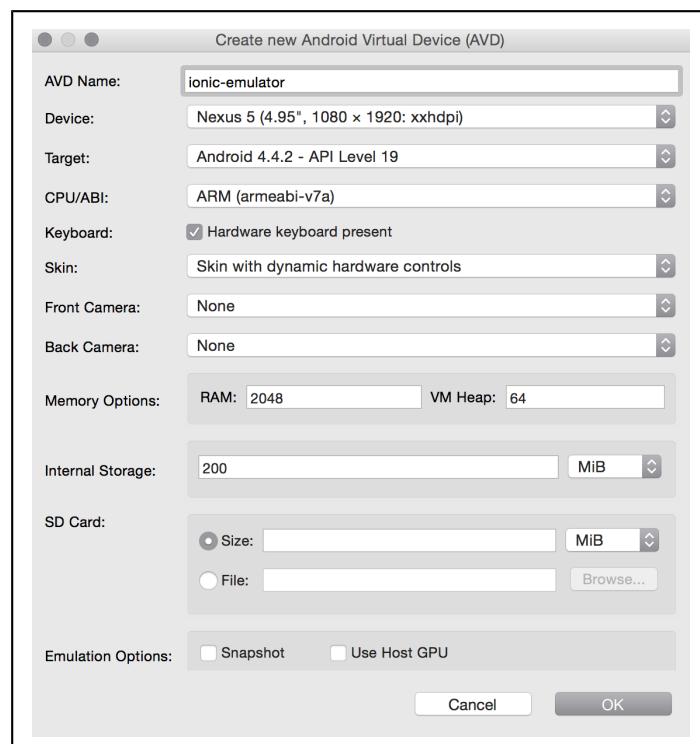
The Purchase template



Chapter 7: Cordova and ngCordova

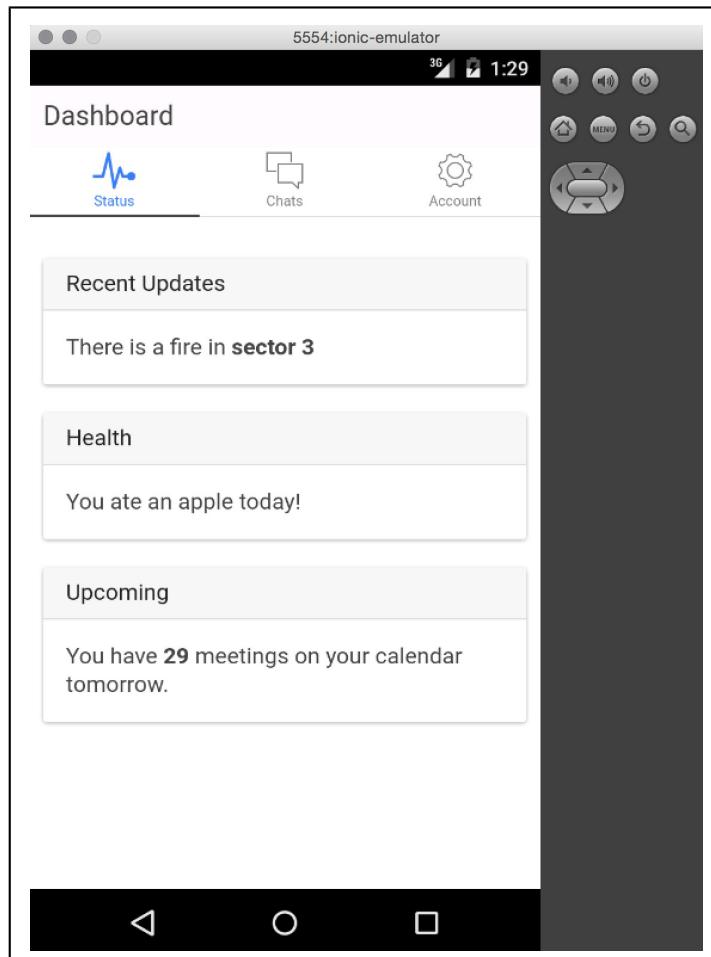
Setting up a platform-specific SDK

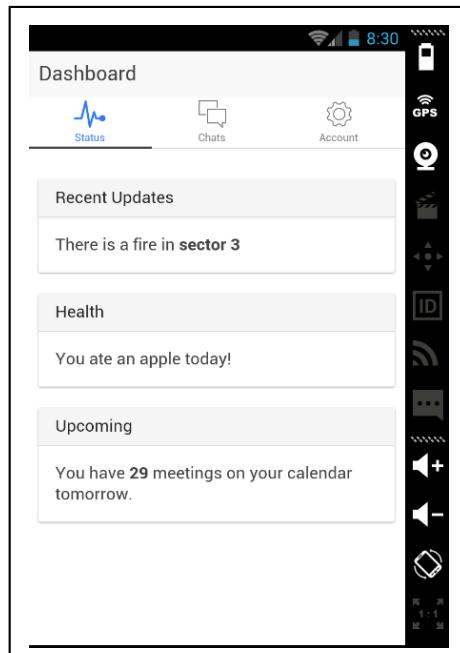
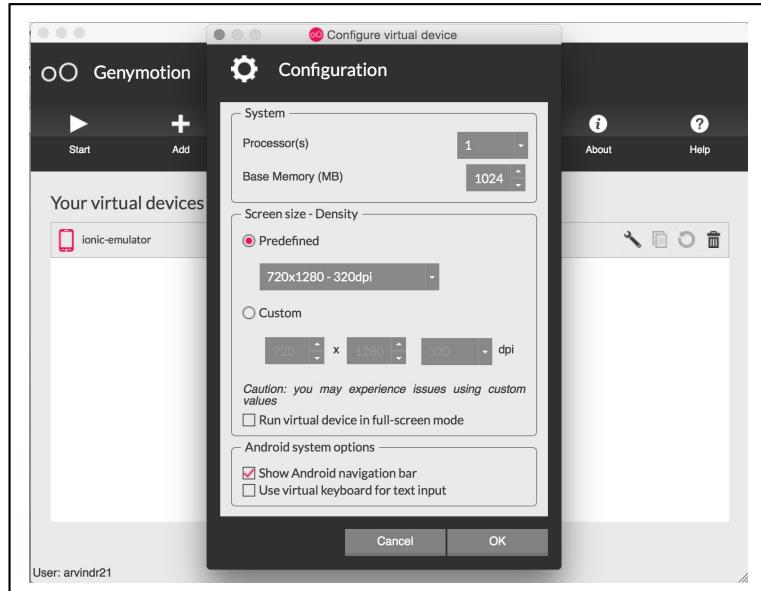
The Android setup



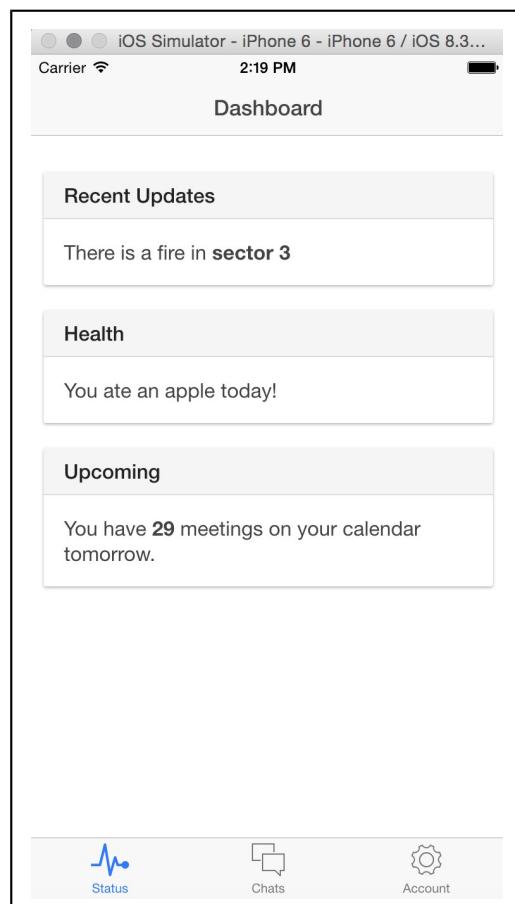
Testing the setup

Testing for Android





Testing for iOS



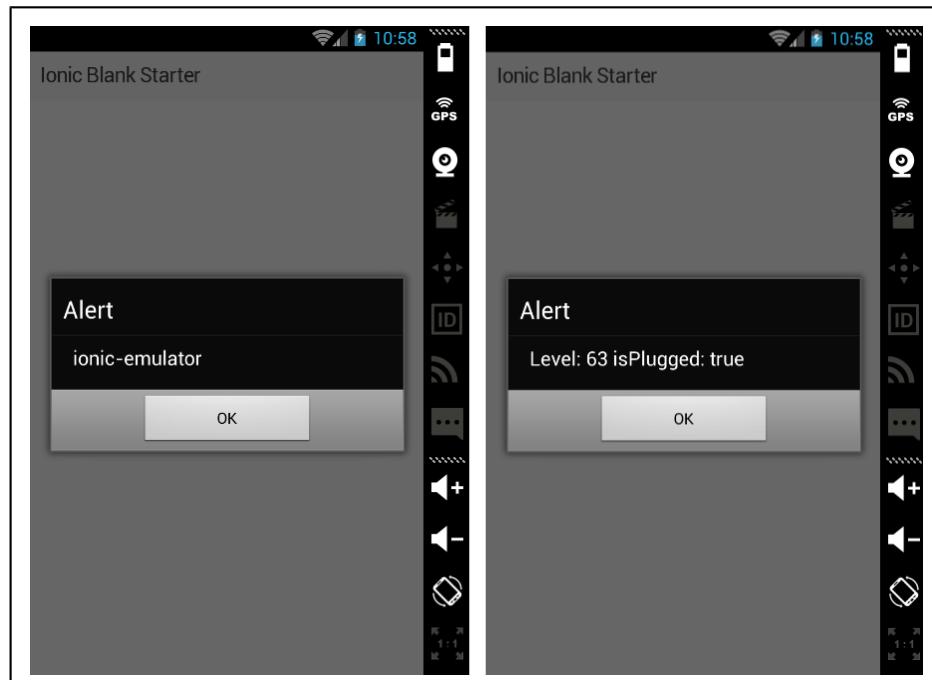
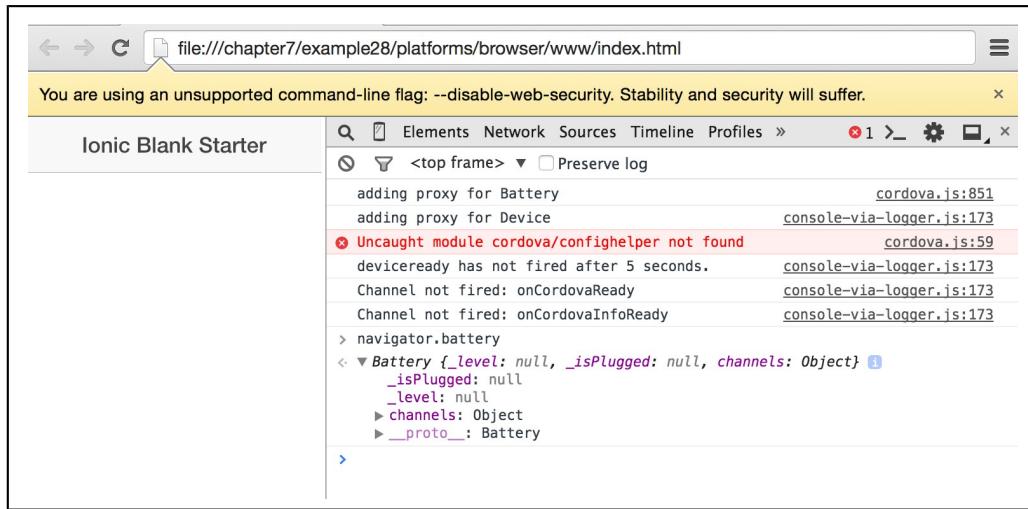
Ionic plugin API

Search plugins

```
→ example28 ionic plugin search battery status
Updated the hooks directory to have execute permissions
running cordova plugin search battery status
npm http GET http://registry.cordova.io/-/all/since?stale=update_after&
startkey=1433066172224
npm http 200 http://registry.cordova.io/-/all/since?stale=update_after&
startkey=1433066172224
com.blueshift.cordova.battery - Battery
org.apache.cordova.battery-status - Cordova Battery Plugin
→ example28
```

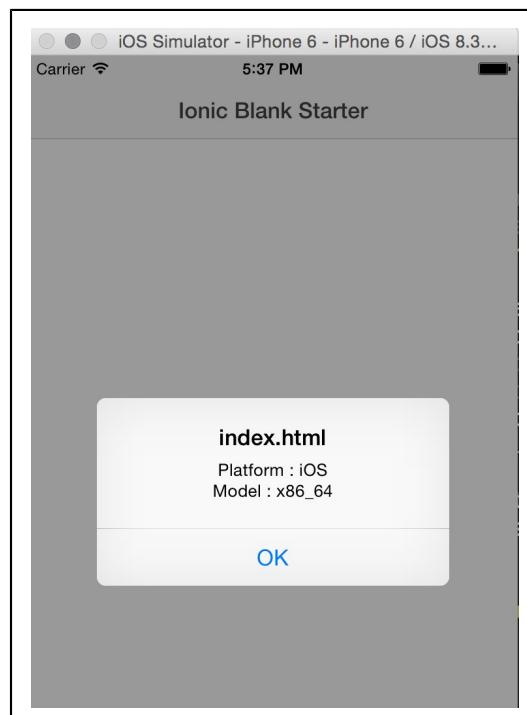
```
→ example28 ionic plugin add org.apache.cordova.battery-status
Updated the hooks directory to have execute permissions
running cordova plugin add org.apache.cordova.battery-status
WARNING: org.apache.cordova.battery-status has been renamed to cordova-plugin-battery-status. You
may not be getting the latest version! We suggest you `cordova plugin rm org.apache.cordova.batt
ery-status` and `cordova plugin add cordova-plugin-battery-status`.
Fetching plugin "org.apache.cordova.battery-status" via cordova plugins registry
npm http GET http://registry.cordova.io/org.apache.cordova.battery-status
npm http 200 http://registry.cordova.io/org.apache.cordova.battery-status
npm http GET http://cordova.iriscouch.com/registry/_design/app/_rewrite/org.apache.cordova.batter
y-status-/org.apache.cordova.battery-status-0.2.12.tgz
npm http 200 http://cordova.iriscouch.com/registry/_design/app/_rewrite/org.apache.cordova.batter
y-status-/org.apache.cordova.battery-status-0.2.12.tgz
Saving plugin to package.json file
Adding since there was no existingPlugin
→ example28
```

```
→ example28 ionic plugin ls
Updated the hooks directory to have execute permissions
com.ionic.keyboard 1.0.4 "Keyboard"
cordova-plugin-battery-status 1.1.0 "Battery"
cordova-plugin-console 1.0.1 "Console"
cordova-plugin-device 1.0.1 "Device"
cordova-plugin-splashscreen 2.1.0 "Splashscreen"
cordova-plugin-whitelist 1.0.0 "Whitelist"
```

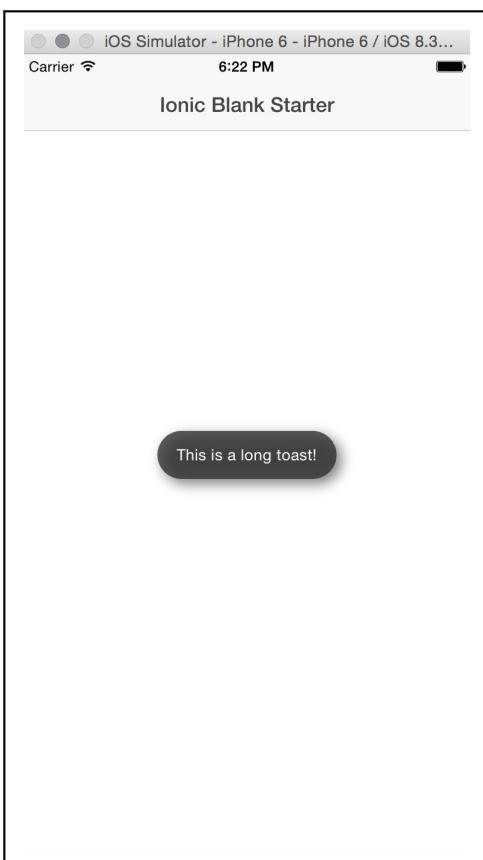


ngCordova

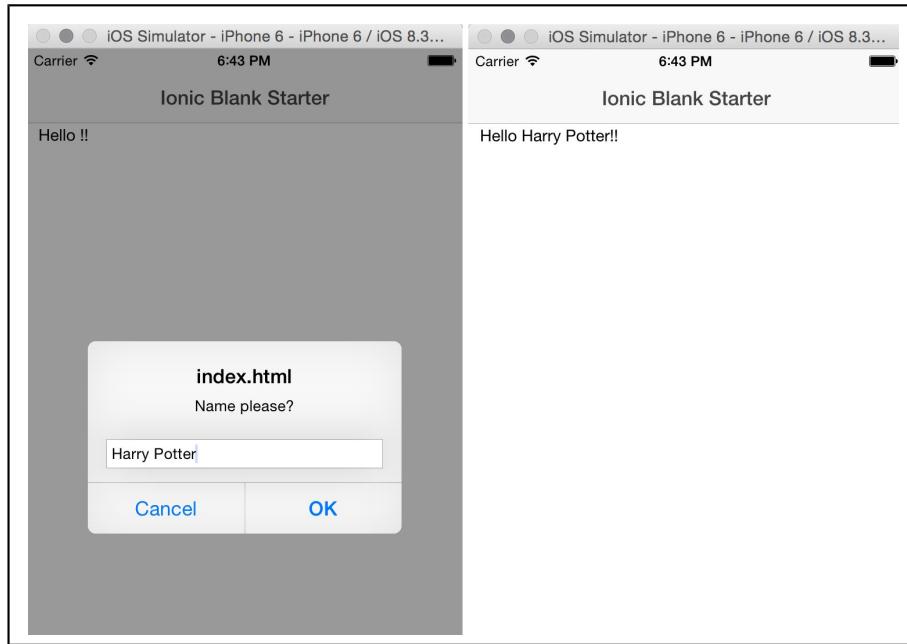
Legend



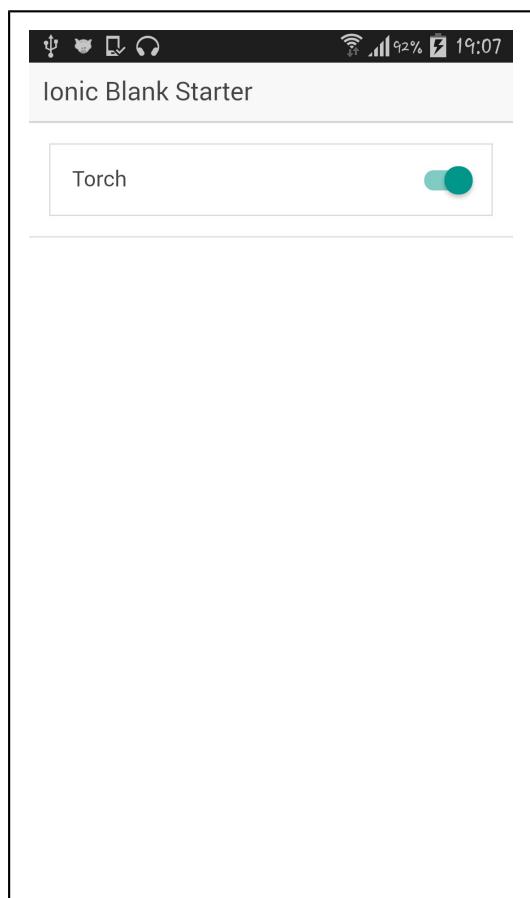
\$cordovaToast



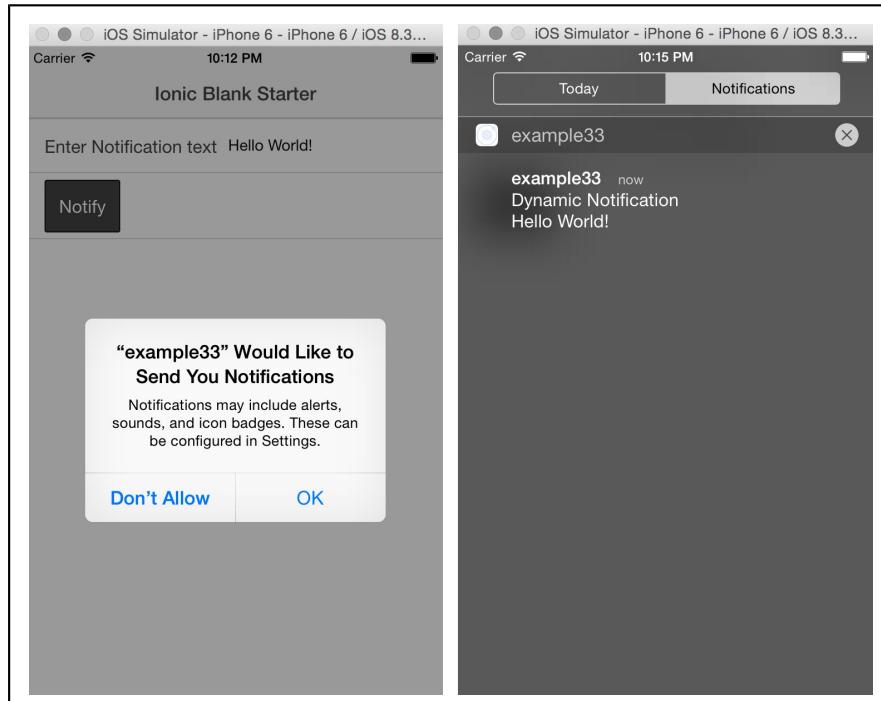
\$cordovaDialogs



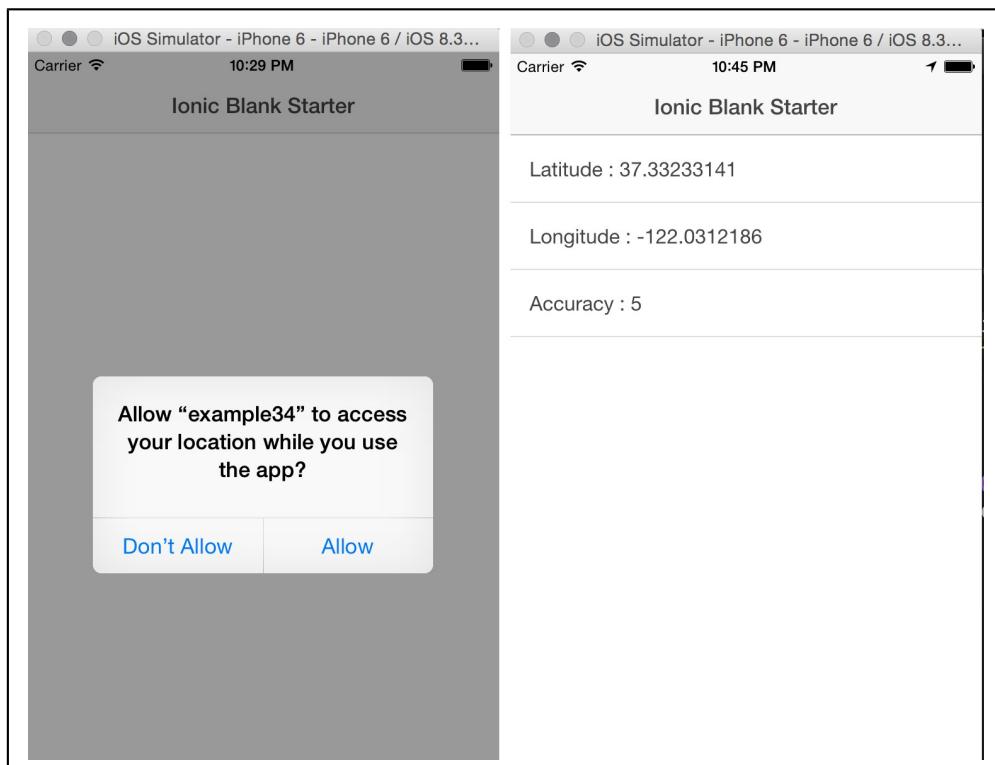
\$cordovaFlashlight



\$cordovaLocalNotification



\$cordovaGeolocation

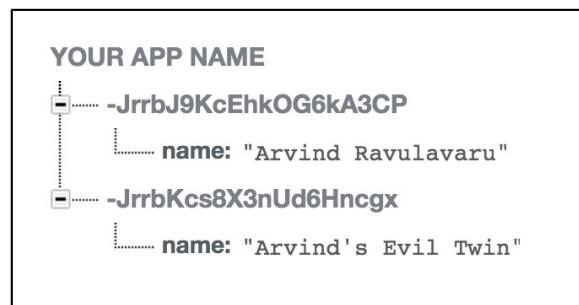


Chapter 8: Building a Messaging App

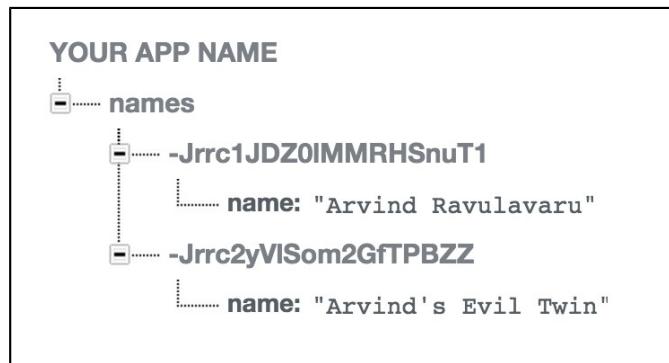
The Ionic Chat app

Firebase

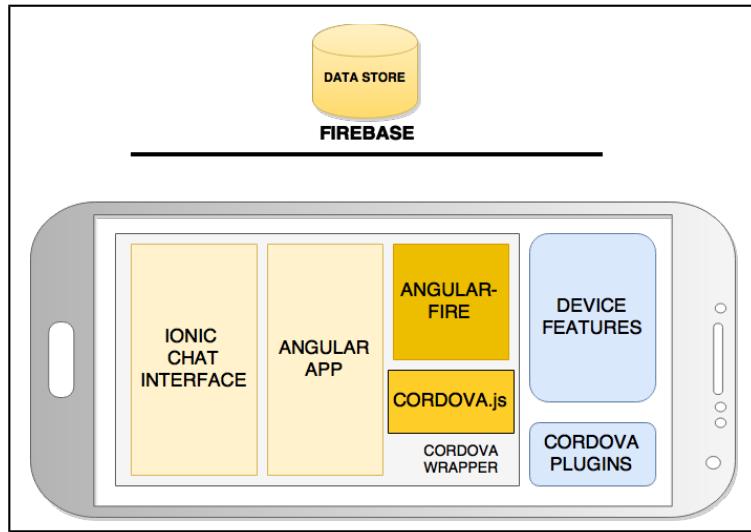
Setting up a Firebase account



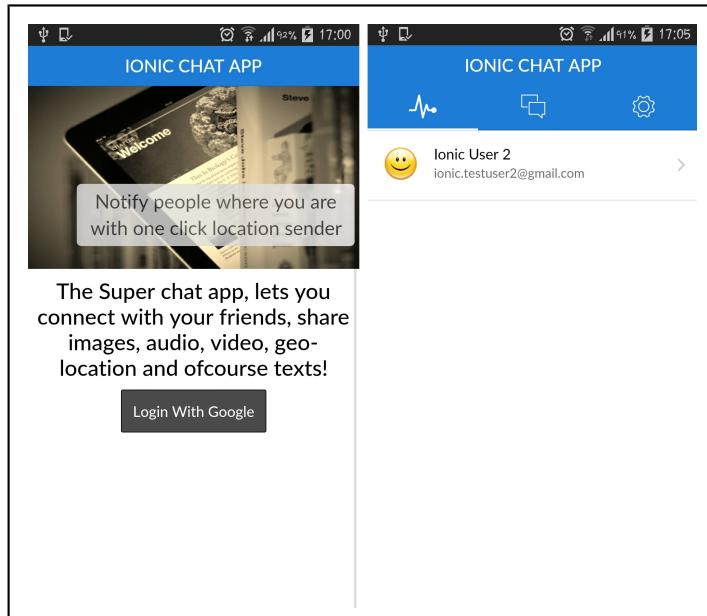
AngularFire

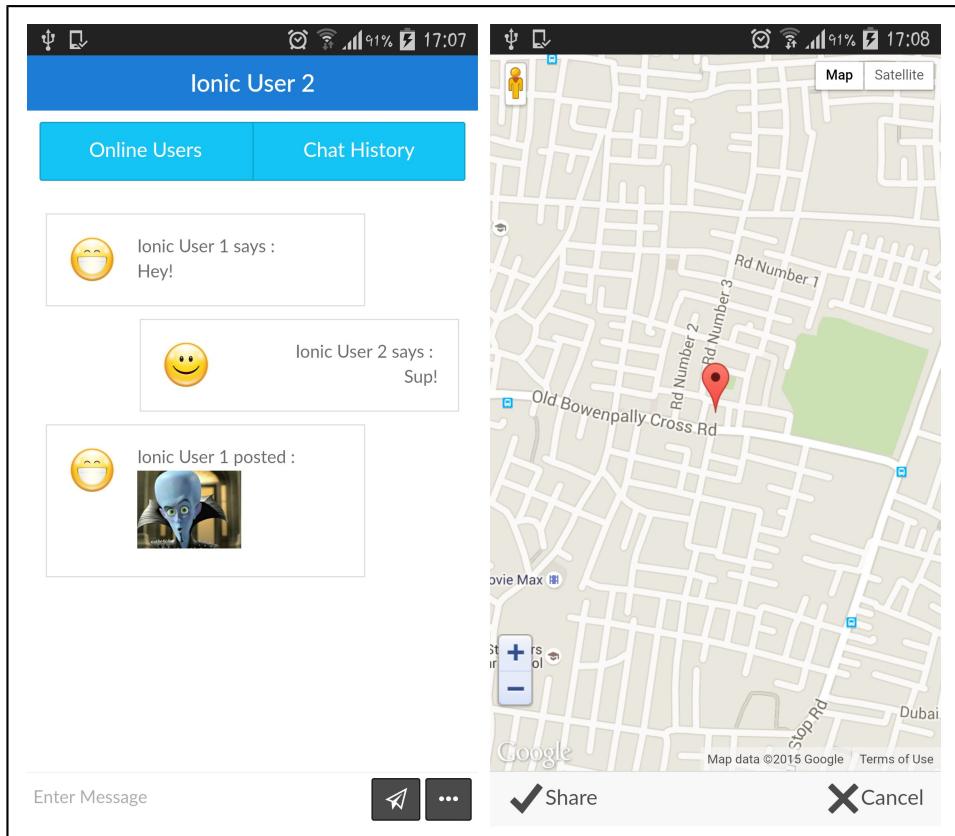


The application architecture

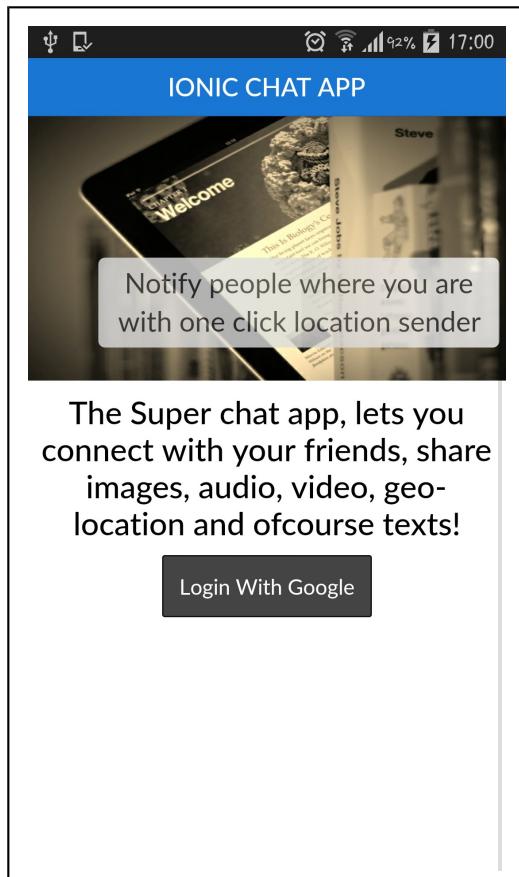


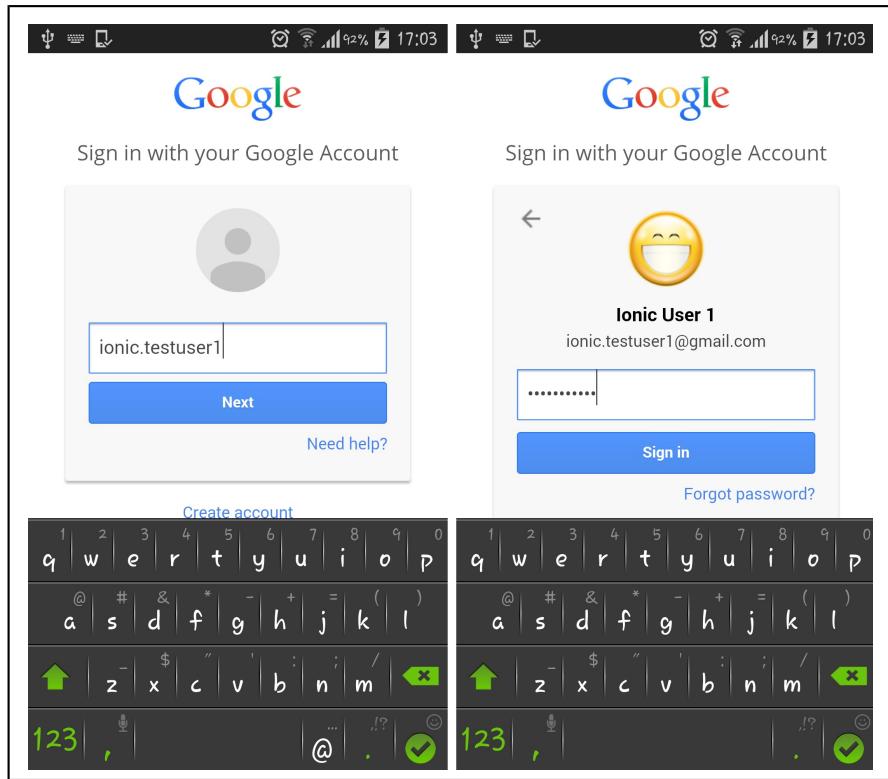
Previewing the app

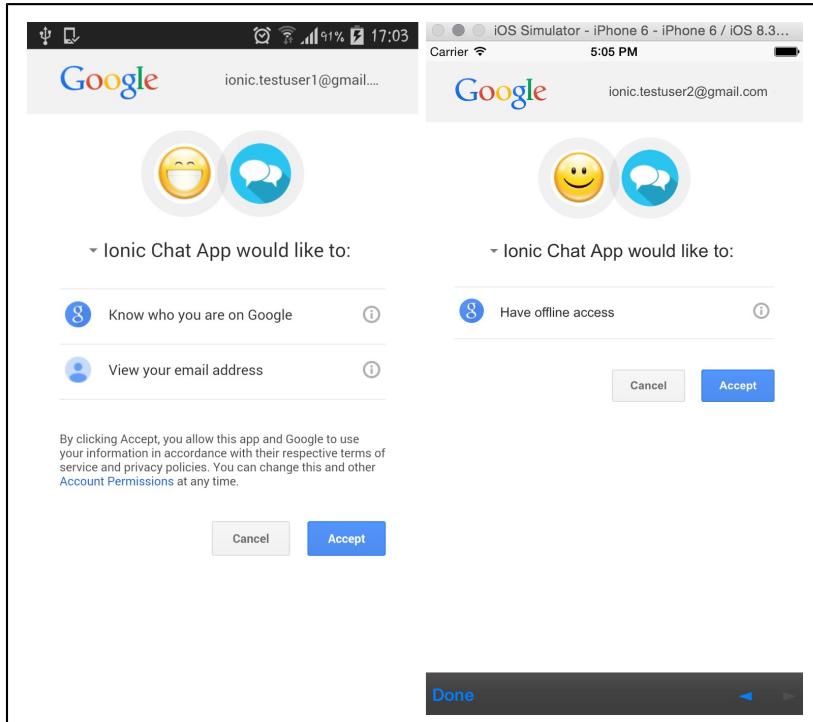


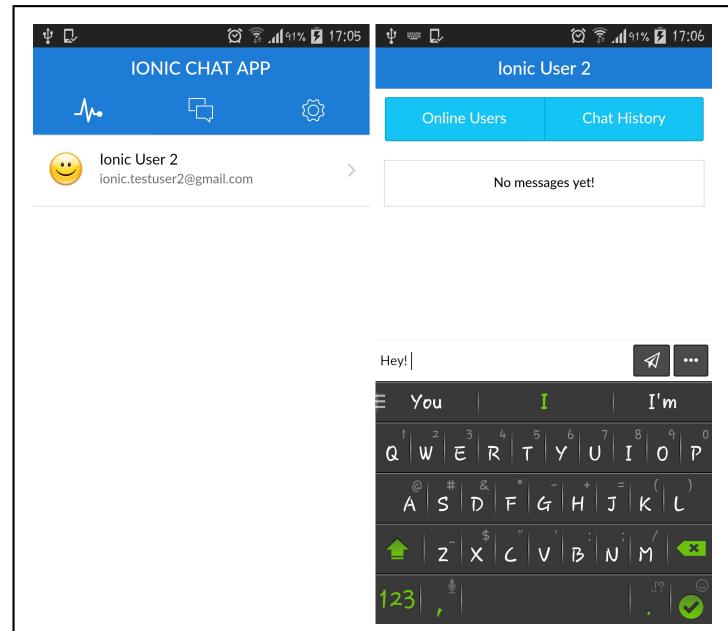


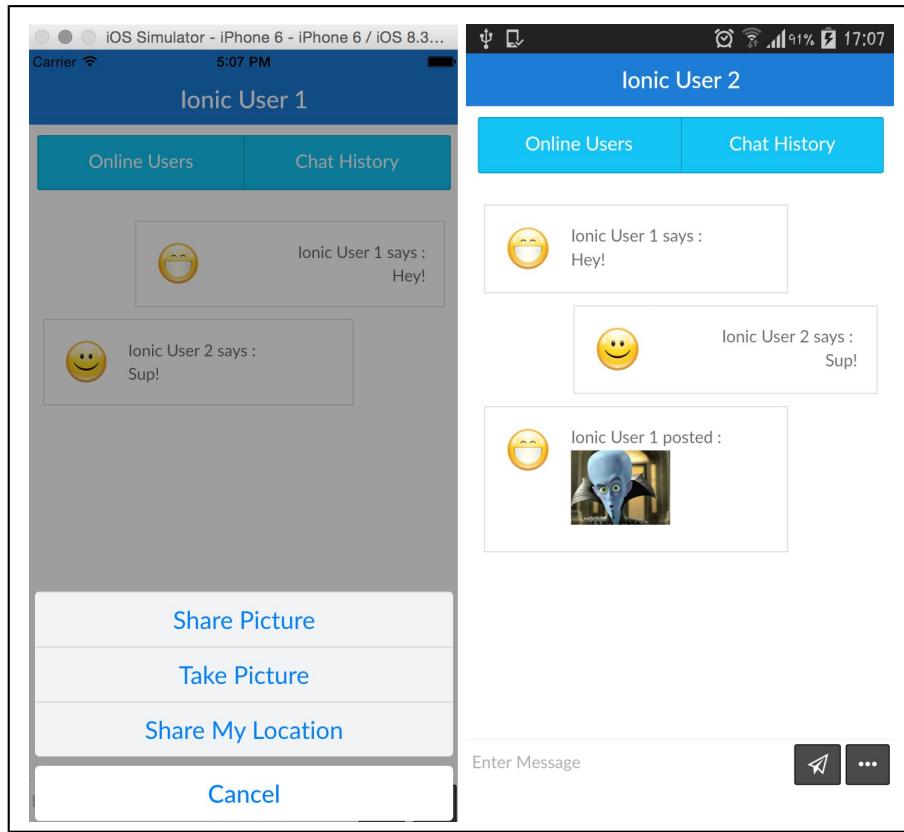
Testing the application

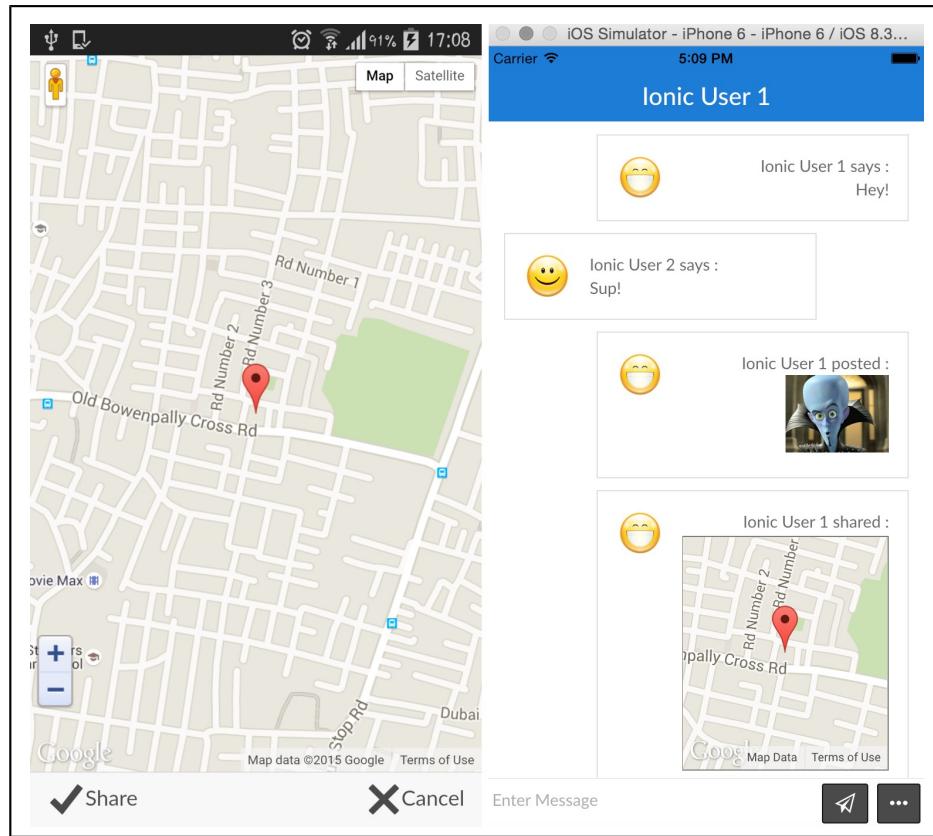














Chapter 9: Releasing the Ionic App

Generating installers using Cordova CLI

Android installer

```
→ deploy-keys keytool -genkey -v -keystore app-name-release-key.keystore -alias my-ionic-app -keyalg RSA -|  
keysize 2048 -validity 10000  
Enter keystore password:  
Re-enter new password:  
What is your first and last name?  
[Unknown]: Arvind Ravulavaru  
What is the name of your organizational unit?  
[Unknown]: Stack Engineering  
What is the name of your organization?  
[Unknown]: JackalStack Technologies Pvt. Ltd.  
What is the name of your City or Locality?  
[Unknown]: Hyderabad, India  
What is the name of your State or Province?  
[Unknown]: Andhra Pradesh  
What is the two-letter country code for this unit?  
[Unknown]: IN  
Is CN=Arvind Ravulavaru, OU=Stack Engineering, O=JackalStack Technologies Pvt. Ltd., L="Hyderabad, India", S  
T=Andhra Pradesh, C=IN correct?  
[no]: YES  
  
Generating 2,048 bit RSA key pair and self-signed certificate (SHA256withRSA) with a validity of 10,000 days  
for: CN=Arvind Ravulavaru, OU=Stack Engineering, O=JackalStack Technologies Pvt. Ltd., L="Hyderabad,  
India", ST=Andhra Pradesh, C=IN  
Enter key password for <my-ionic-app>  
      (RETURN if same as keystore password):  
[Storing app-name-release-key.keystore]
```

Ionic package

Generating the required keys

```
package [options] <MODE> <PLATFORM> ..... Package an app using the Ionic Build service (beta)
<MODE> "debug" or "release"
<PLATFORM> "ios" or "android"
[--android-keystore-file|-k] ..... Android keystore file
[--android-keystore-alias|-a] ..... Android keystore alias
[--android-keystore-password|-w] .. Android keystore password
[--android-key-password|-r] ..... Android key password
[--ios-certificate-file|-c] ..... iOS certificate file
[--ios-certificate-password|-d] ... iOS certificate password
[--ios-profile-file|-f] ..... iOS profile file
[--output|-o] ..... Path to save the packaged app
[--no-email|-n] ..... Do not send a build package email
[--clear-signing|-l] ..... Clear out all signing data from Ionic server
[--email|-e] ..... Ionic account email
[--password|-p] ..... Ionic account password
```

Appendix: Additional Topics and Tips

Ionic CLI

Ionic server, emulate, and run

```
serve [options] ..... Start a local development server for app dev/testing
  [--consolelogs|-c] ..... Print app console logs to Ionic CLI
  [--serverlogs|-s] ..... Print dev server logs to Ionic CLI
  [--port|-p] ..... Dev server HTTP port (8100 default)
  [--livereload-port|-r] ..... Live Reload port (35729 default)
  [--nobrowser|-b] ..... Disable launching a browser
  [--nolivereload|-d] ..... Do not start live reload
  [--noproxy|-x] ..... Do not add proxies
  [--address] ..... Use specific address or return with failure
  [--all|-a] ..... Have the server listen on all addresses (0.0.0.0)
  [--browser|-w] ..... Specifies the browser to use (safari, firefox, chrome)
  [--browseroption|-o] ..... Specifies a path to open to (#/tab/dash)
  [--lab|-l] ..... Test your apps on multiple screen sizes and platform types
  [--nogulp] ..... Disable running gulp during serve
  [--platform|-t] ..... Start serve with a specific platform (ios/android)
```

```
run [options] <PLATFORM> ..... Run an Ionic project on a connected device
  [--livereload|-l] ..... Live reload app dev files from the device (beta)
  [--port|-p] ..... Dev server HTTP port (8100 default, livereload req.)
  [--livereload-port|-r] ..... Live Reload port (35729 default, livereload req.)
  [--consolelogs|-c] ..... Print app console logs to Ionic CLI (livereload req.)
  [--serverlogs|-s] ..... Print dev server logs to Ionic CLI (livereload req.)
  [--debug|--release]
  [--device|--emulator|--target=FOO]

emulate [options] <PLATFORM> ..... Emulate an Ionic project on a simulator or emulator
  [--livereload|-l] ..... Live reload app dev files from the device (beta)
  [--port|-p] ..... Dev server HTTP port (8100 default, livereload req.)
  [--livereload-port|-r] ..... Live Reload port (35729 default, livereload req.)
  [--consolelogs|-c] ..... Print app console logs to Ionic CLI (livereload req.)
  [--serverlogs|-s] ..... Print dev server logs to Ionic CLI (livereload req.)
  [--nohooks|-n] ..... Do not add default Ionic hooks for Cordova
  [--debug|--release]
  [--device|--emulator|--target=FOO]
```

Ionic Creator

