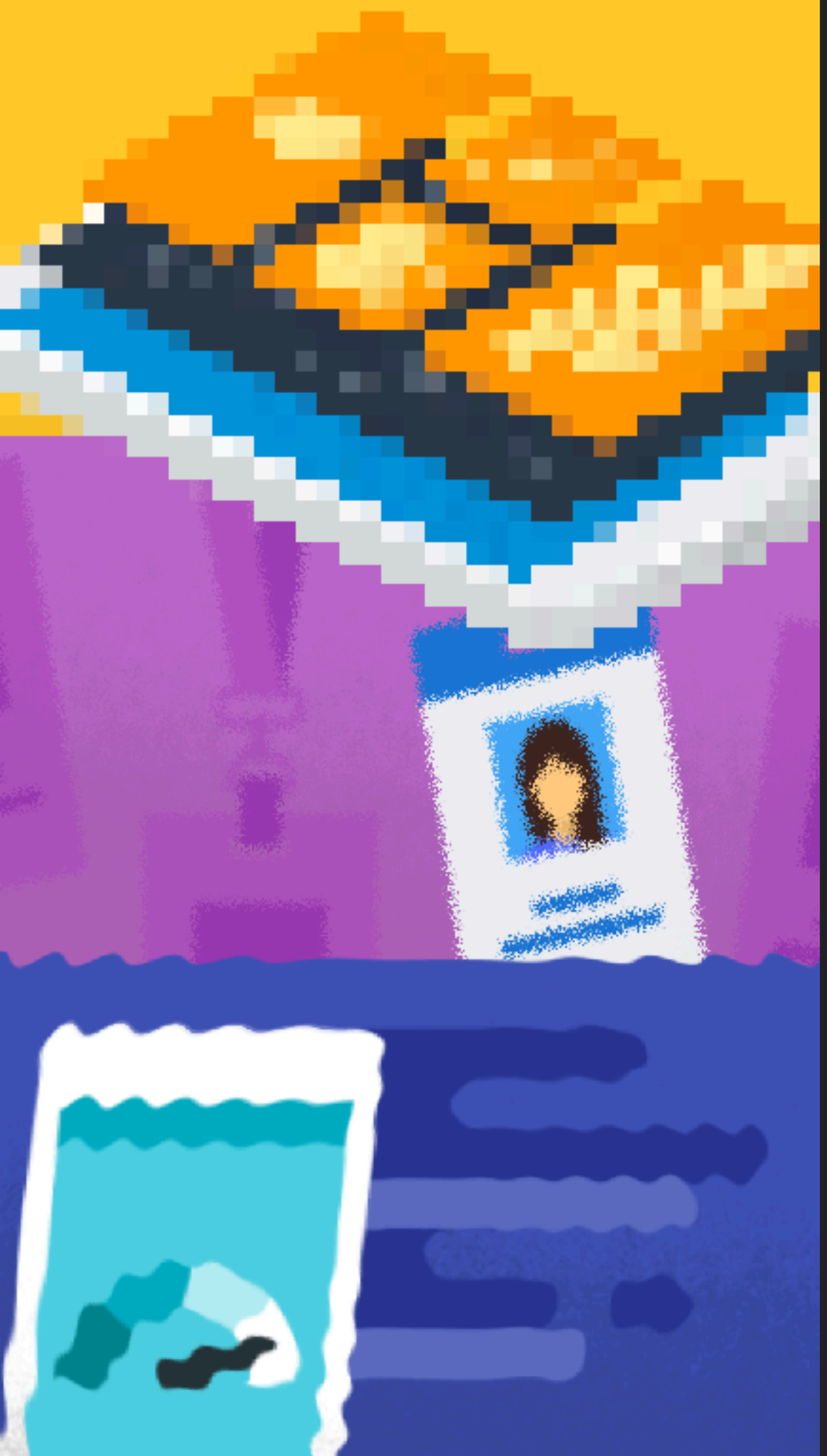


BUILD A MOBILE APP...

IN ONE HOUR!!

David Geller

BUILD A PROFESSIONAL LOOKING MOBILE APP IN AN HOUR

- Multiple ways to build and deploy mobile apps today:
  - **Native iOS** and **Android** applications
  - **Hybrid**, cross-platform applications
  - Progressive Web Apps (**PWAs**)
- Tools, documentation & learning guides are always improving
- Always important to find a balance between project requirements, expectations and development effort (including cost)

NATIVE, HYBRID OR PWA?

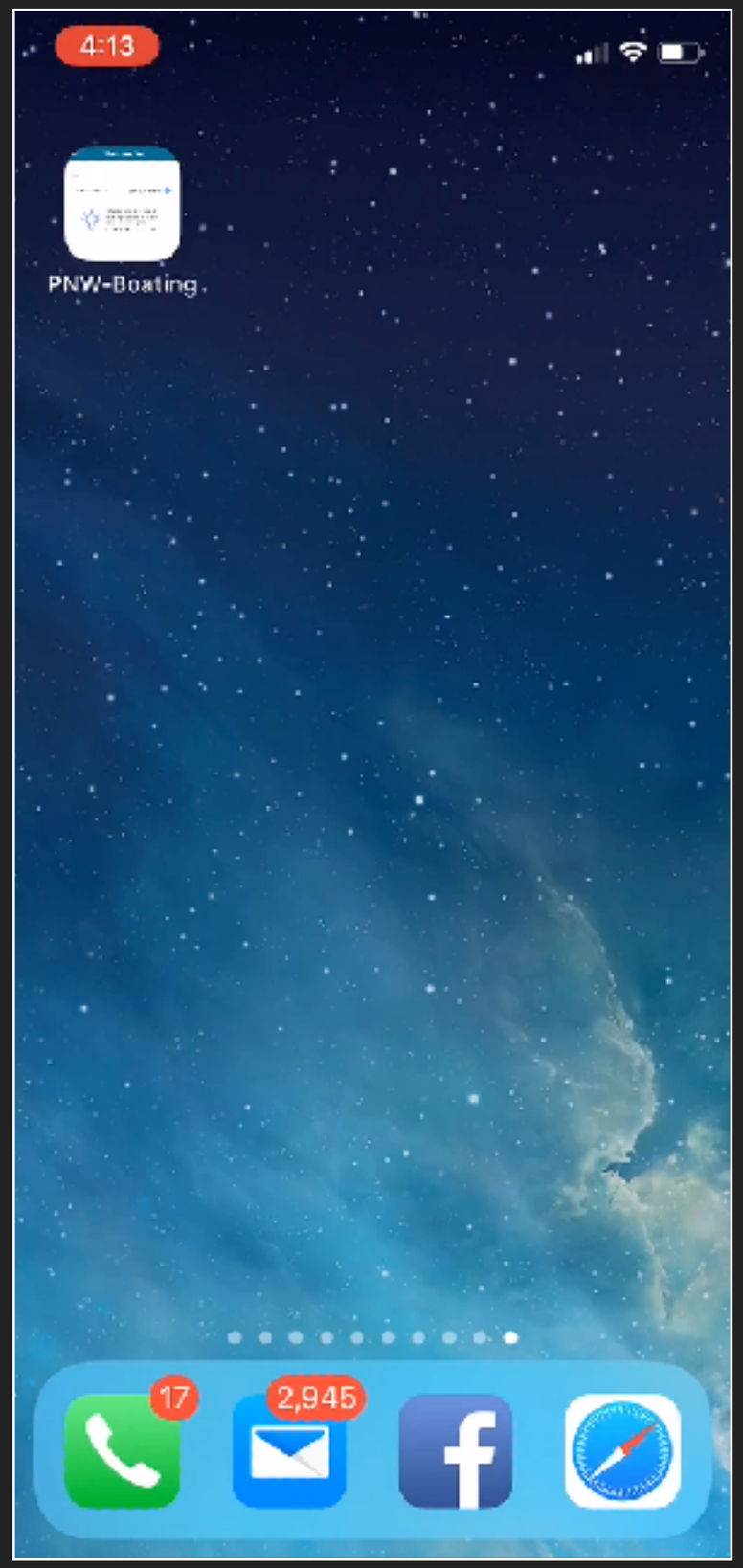
- Should you develop your mobile apps natively for iOS (Swift) and/or Android (Java)?
- What are your application's requirements?
- What hardware / sensor requirements do you have?
- What performance requirements do you have?
- Do you require a desktop companion application?
- What's your company's development culture?
- What are your requirements for store deployment?

HTML / CSS / JAVASCRIPT

- Progressive Web Apps (PWAs) run inside [mobile] web browsers
- They’re built using HTML, CSS and Javascript (Typescript)
- They’re, by design, cross-platform
- They’re easily deployed
- They’re rapidly developed
- They don’t require a store

PNWBOATING.APP

- Developed in **Typescript**
- Uses the **Ionic** Framework
- Harnesses Google's **Firebase** platform for authentication, database and image storage
- Utilizes the camera and GPS capabilities of the phone
- Behaves like an application



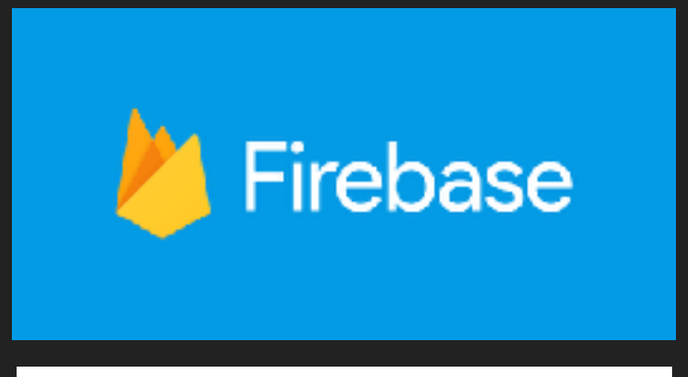
BUILT WITH IONIC 3

CREATE A MOBILE APP

- Simple mobile, browser-based app that will utilize Firebase for authentication
- Allow the user to select an existing image or capture a new one - demonstrating access to device hardware (camera)
- Save that image to Firebase
- This is a sample! It's designed to give you a "taste" of creating PWAs

DEPENDENCIES

- Ionic Framework v4 (beta.ionicframework.com/docs)
- node.js
- npm
- angular-cropperjs (for image cropping)
- Firebase (firebase.google.com)
- angular-firebase (to connect to Google's Firebase)



STEP 1: INSTALL YOUR TOOLS

- Install node.js and npm (nodejs.org/en)
- Install Visual Studio Code (code.visualstudio.com)
- Install Ionic Framework

```
[sudo] npm install -g ionic
```

- Create a new Ionic project

```
ionic start PhotoGrab blank --type=angular
```

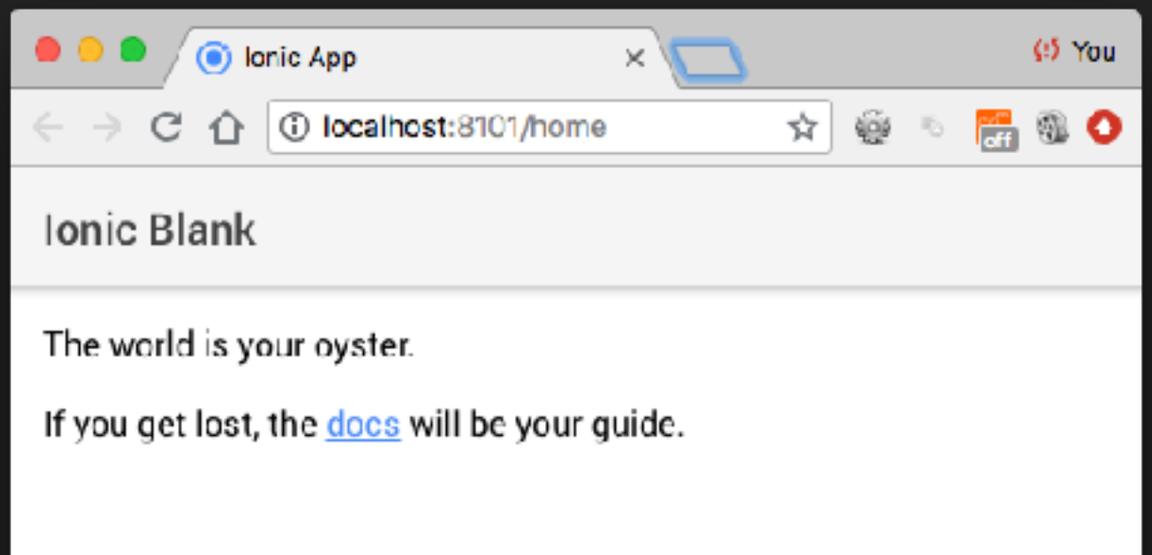
- Test our new app

```
cd PhotoGrab
ionic serve --browser "Google Chrome”
```

STEP 2: TEST OUR NEW APP

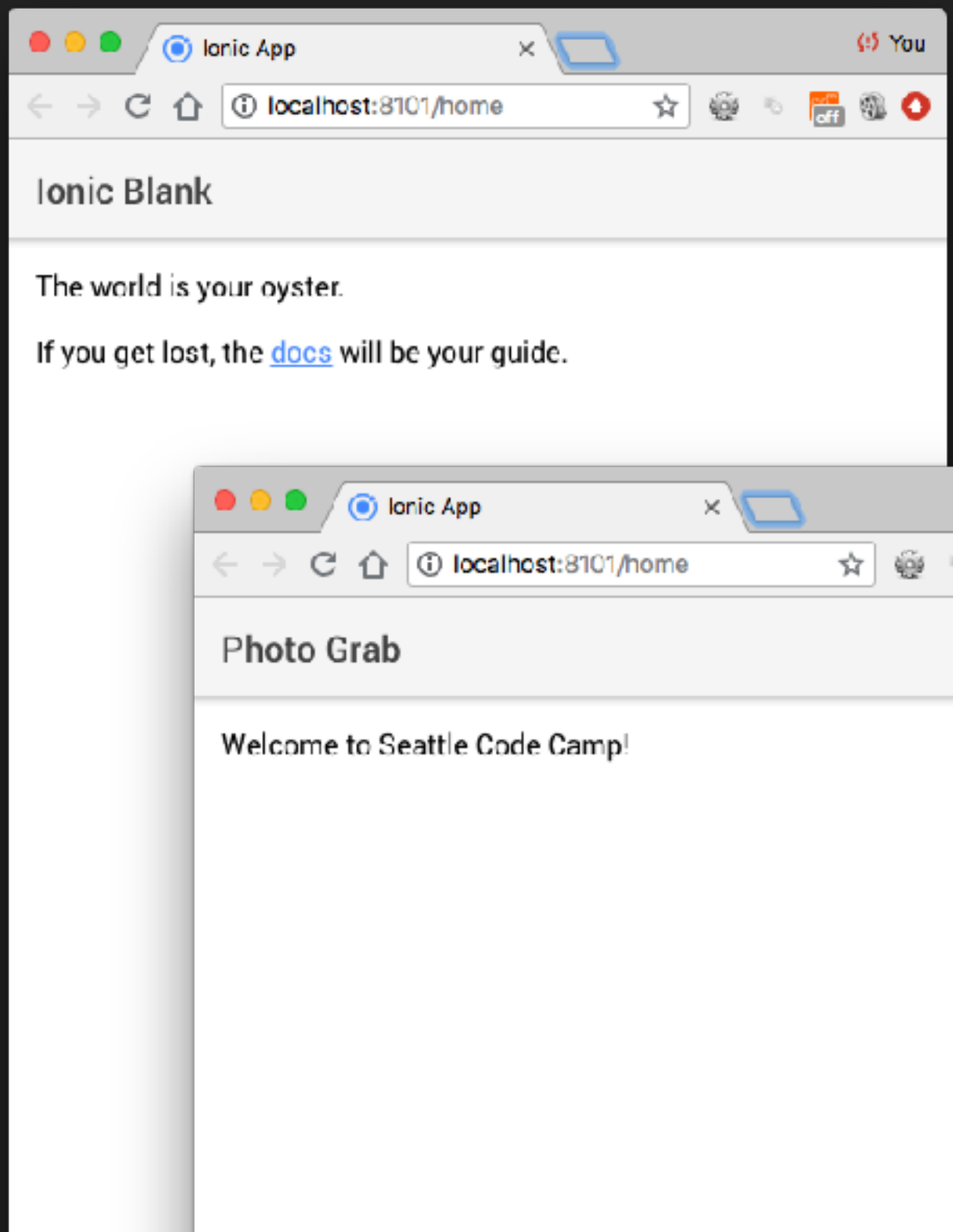
- Test our new app

```
ionic serve --browser
"Google Chrome”
```



STEP 3: MODIFY OUR APP

- Modify the file **home.page.html** to see how Ionic changes the application in “real-time”



STEP 4: ADD PAGES TO OUR APP

- Install Ionic Framework

```
ionic g page login
```

STEP 5: INSTALL FIREBASE AND ANGULAR FIRE

- Install libraries to work with Google Firebase

```
npm i firebase @angular/fire —-save
```

PACKAGE.JSON

```
"@angular/common": "~6.1.1",
"@angular/core": "~6.1.1",
"@angular/fire": "^5.0.0",
"@angular/forms": "~6.1.1",
"@angular/http": "~6.1.1",
"@angular/platform-browser": "~6.1.1",
"@angular/platform-browser-dynamic": "~6.1.1",
"@angular/router": "~6.1.1",
"@ionic-native/core": "5.0.0-beta.15",
"@ionic-native/splash-screen": "5.0.0-beta.15",
"@ionic-native/status-bar": "5.0.0-beta.15",
"@ionic/angular": "4.0.0-beta.7",
"angular-cropperjs": "^0.1.5",
"core-js": "^2.5.3",
"firebase": "^5.5.0",
"fix-orientation": "^1.0.0",
"rxjs": "6.2.2",
"zone.js": "^0.8.26"
```

STEP 6: CREATE A FIREBASE ACCOUNT / PROJECT

- Visit Firebase

  `firebase.google.com`

- Create a new project

- Click on the Authentication link then select “sign-in method” tab and enable “Email/Password”

- Create a new user for yourself
  (you can add registration features on your own)

STEP 7: ACTIVATE LOGIN PAGE

- Copy `app.module.ts` file
- Copy firebase configuration setting for an HTML project
- Copy `login.page.html` and `login.page.ts` files (copy all the login directory files)
- Copy `app-routing.module.ts` (talk about routes)
- Create assets/images directory and copy over `place_holder.png`
- **Test app**

GETTING YOUR FIREBASE CONFIG DATA

Integrations Service accounts Data privacy Users and permissions

Database
Storage
Hosting
Functions
ML Kit

Quality

Crashlytics
Performance
Test Lab

Analytics
Dashboard, Events, Convers

Grow
Predictions, A/B Testing, Cl

Your project

Add Firebase to your web app

Copy and paste the snippet below at the bottom of your HTML, before other `script` tags.

```
<script src="https://www.gstatic.com/firebasejs/5.5.0/firebase.js"></script>
<script>
  // Initialize Firebase
  var config = {
    apiKey: "AIzaSyBbx0k_-UQ2fbTgIYNx0ww9bJjPwTUCTXo",
    authDomain: "photograb-14821.firebaseapp.com",
    databaseURL: "https://photograb-14821.firebaseio.com",
    projectId: "photograb-14821",
    storageBucket: "photograb-14821.appspot.com",
    messagingSenderId: "277595523941"
  };
  firebase.initializeApp(config);
</script>
```

Copy

Check these resources to learn more about Firebase for web apps:

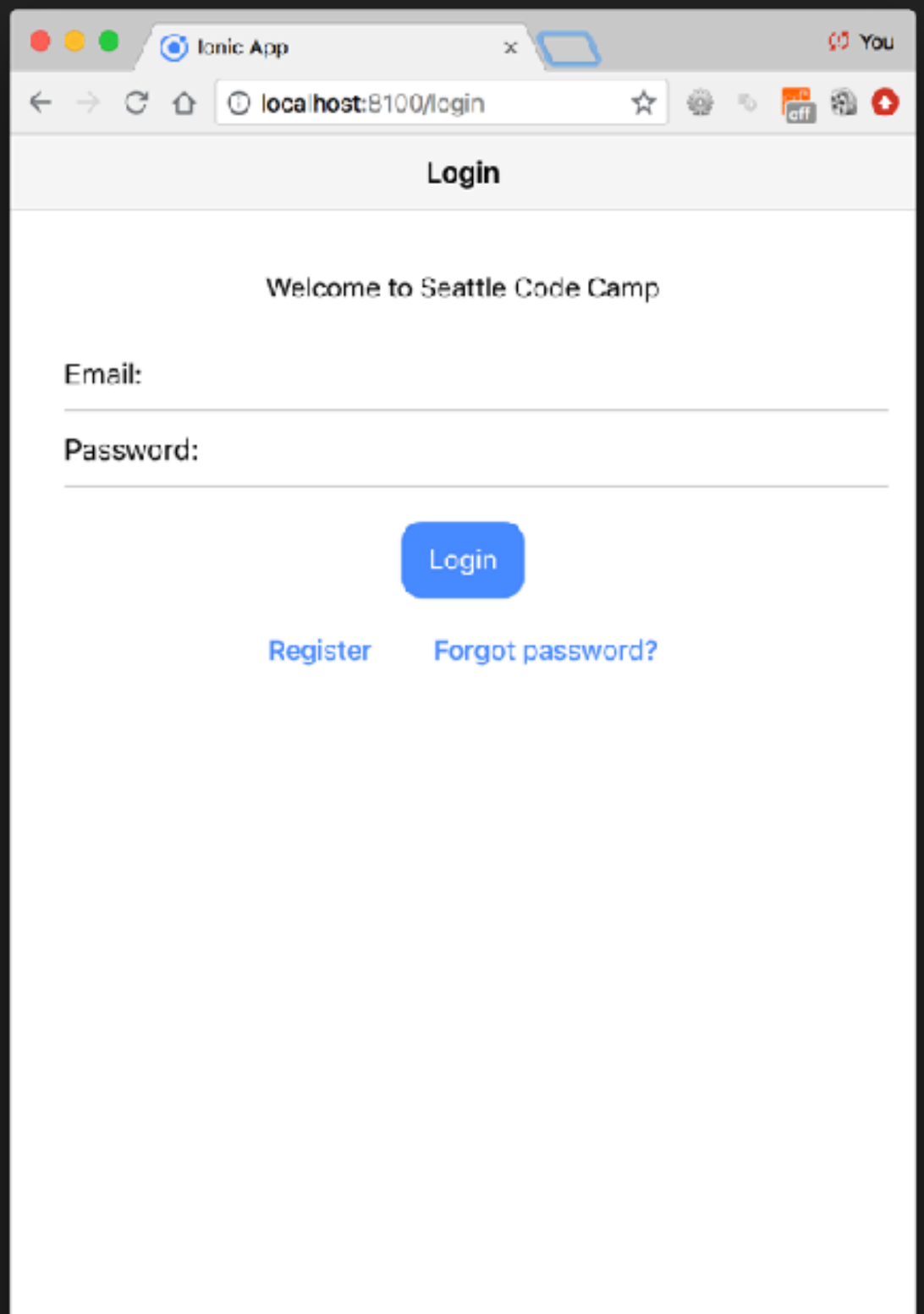
Get Started with Firebase for Web Apps
Firebase Web SDK API Reference
Firebase Web Samples

iOS

LOGGING INTO PLATFORM

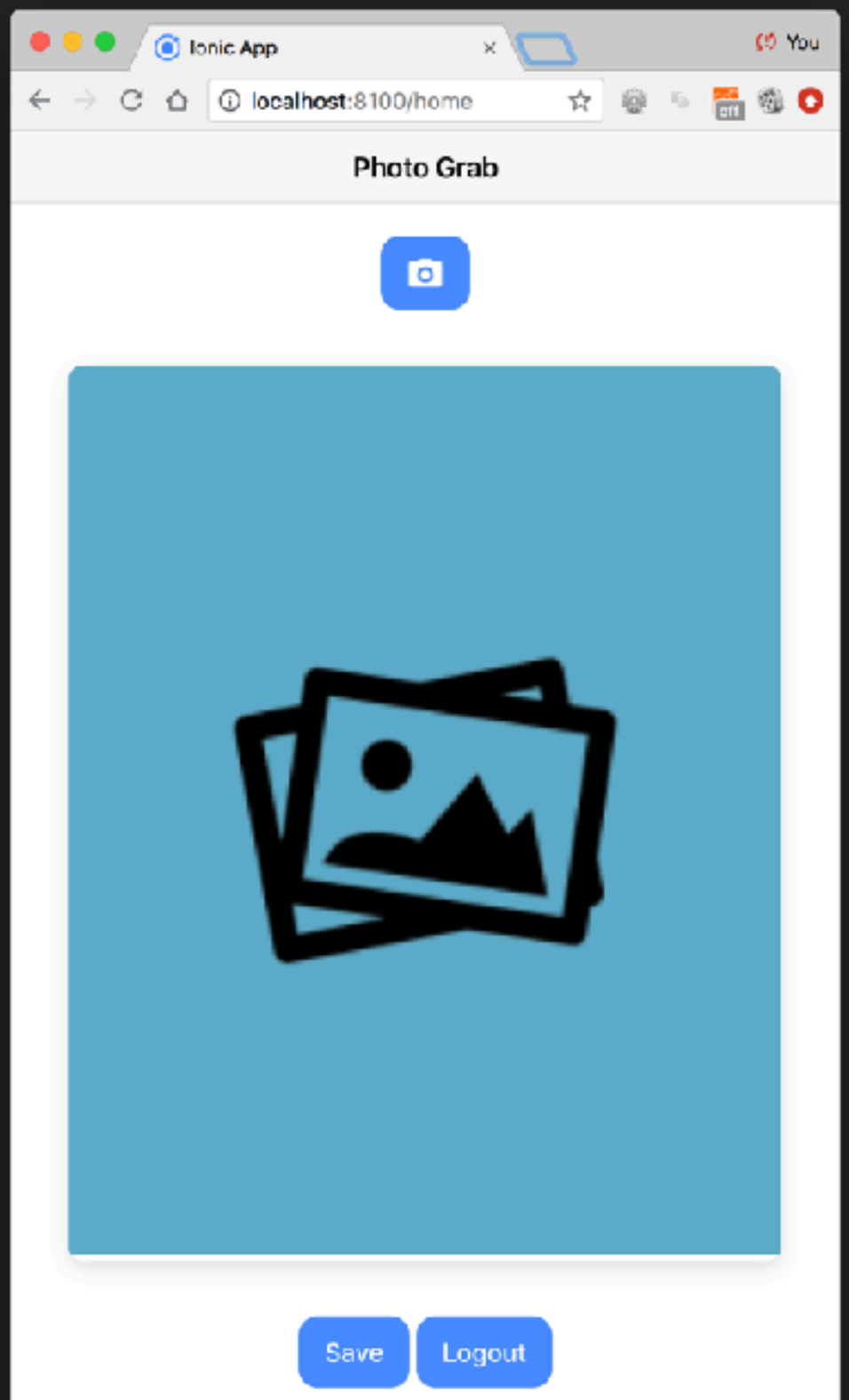
- Running the app should display out login page
- Make sure our Javascript console is open:

  `Opt-Cmd-J`
- Attempt to login
- If successful we'll land on our home page.



AFTER WE'RE LOGGED IN

- Our app is now running and ready to capture photos
- Place holder image is also a button

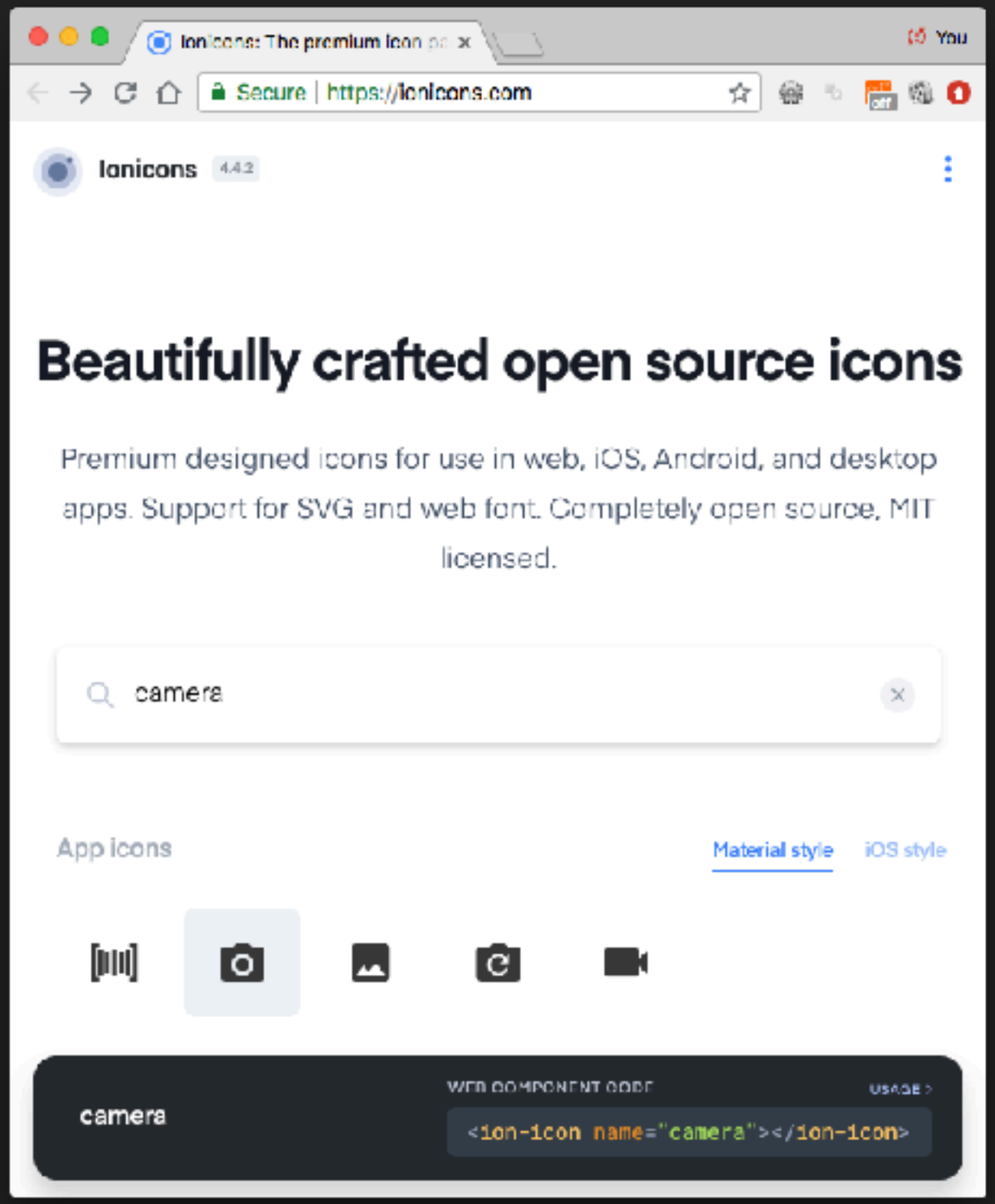


ADDING IN BUTTON ICONS

FUNCTION TO CALL ON CLICK

```
<div align="center">
  <ion-button round (click)="capture()">
    <ion-icon name="md-camera"></ion-icon>
  </ion-button>
</div>
```

ICON



STEP 8: ADD PHOTO CAPTURE PAGE

- Create page

```
ionic g page PhotoCapture
```

- Copy the files from the photo-capture directory

- HTML5 takes care of connecting us to the camera (or to our photo library):

```
<div class="hidden_input">
  <input #inputcamera type="file" accept="image/*" />
</div>
```

STEP 9: ADD ANGULAR CROPPERJS

- Install Angular CropperJS

```
npm i angular-cropperjs@v0.1.5 --save
```

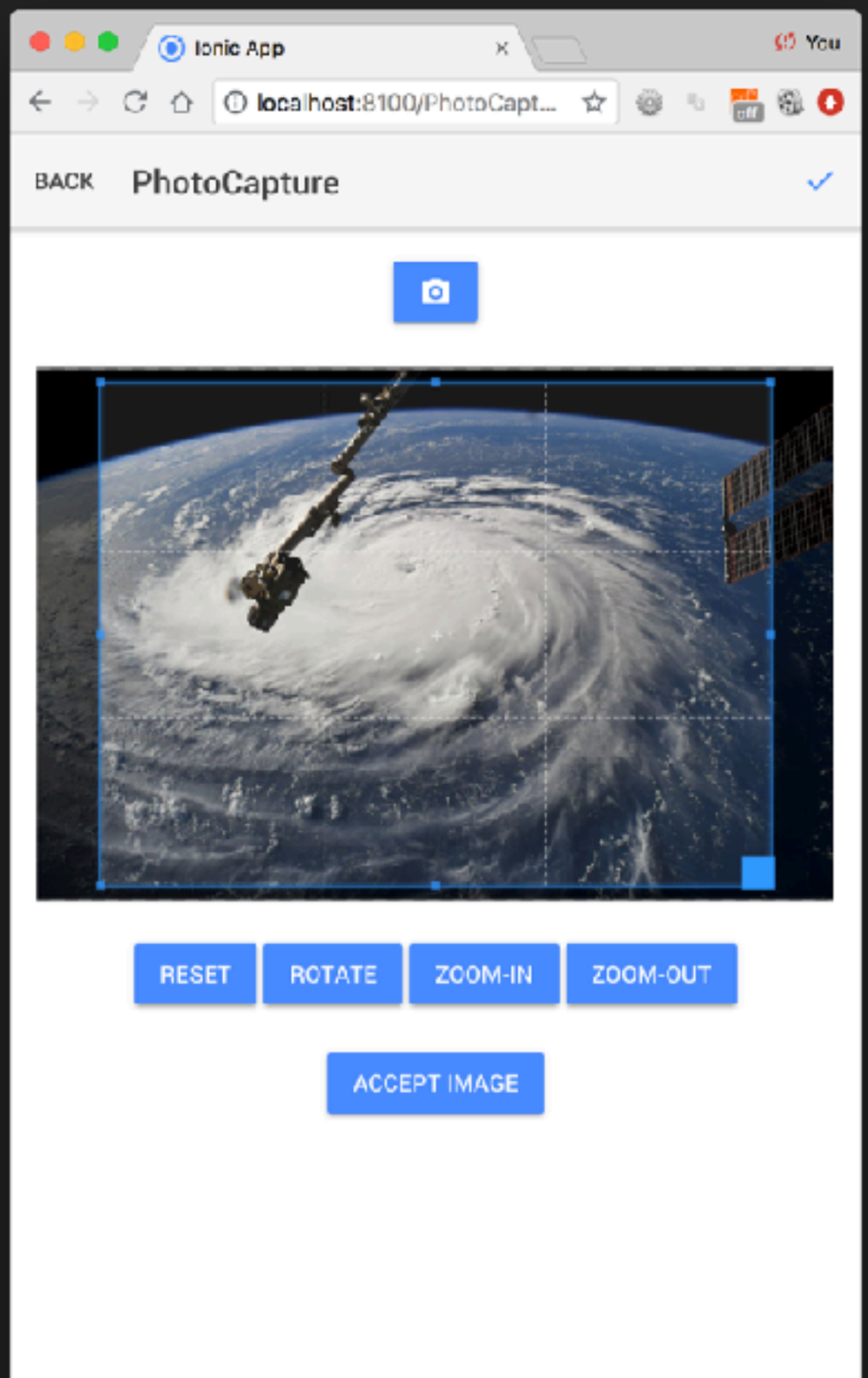
- Update `photo-capture.module.ts`
- Uncomment the following line in app.moduls.ts

```
import { AngularCropperjsModule } from
'angular-cropperjs';
```

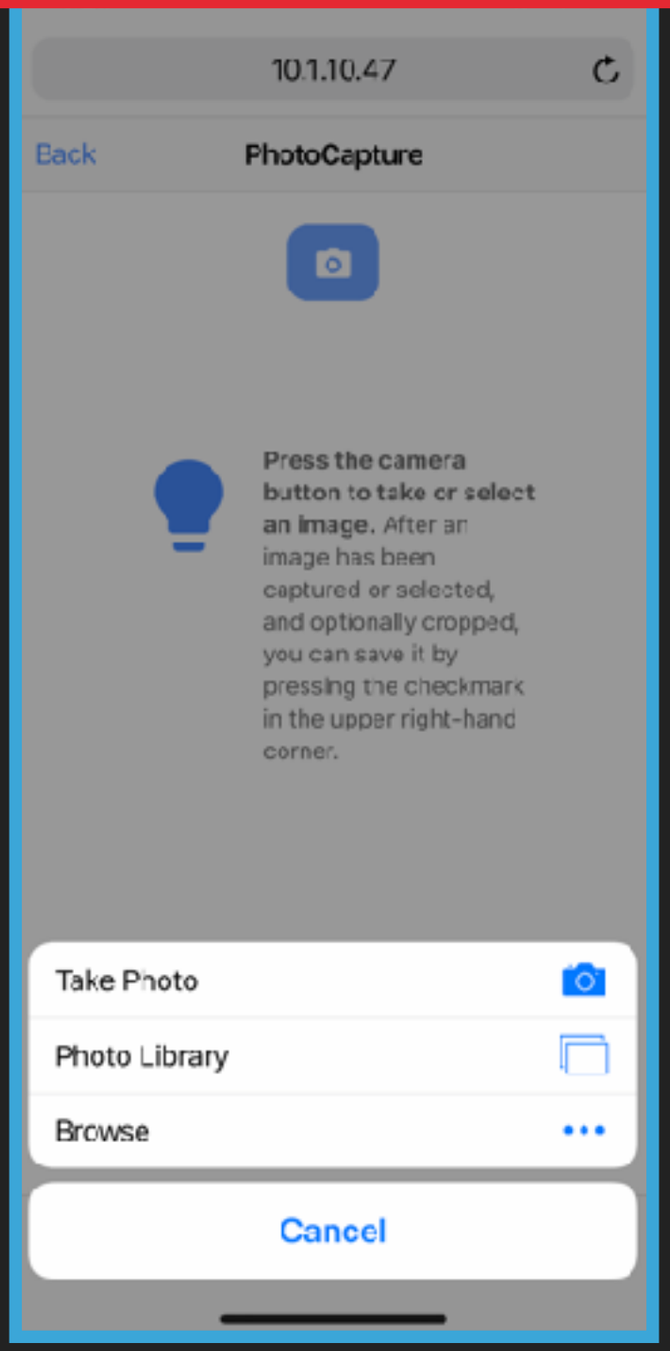
- Test app

LOADING AN IMAGE

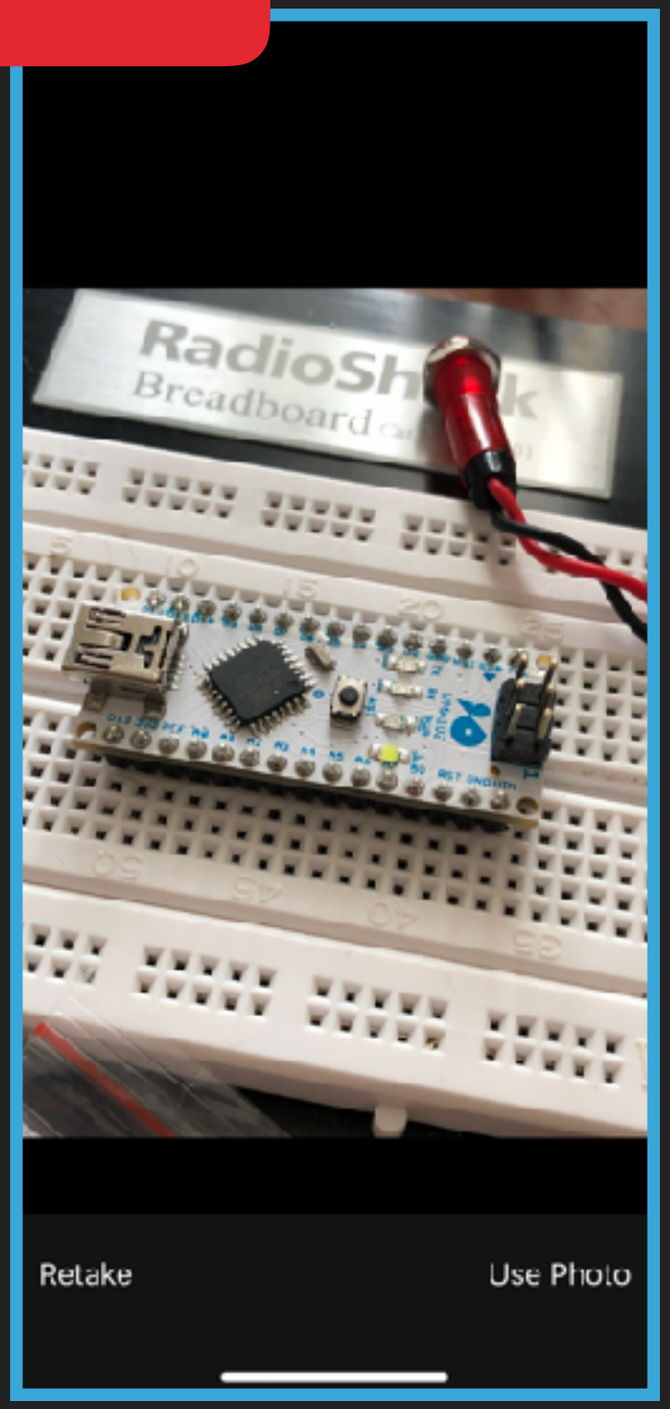
- Image is displayed with cropping control
- Press “Accept Image”



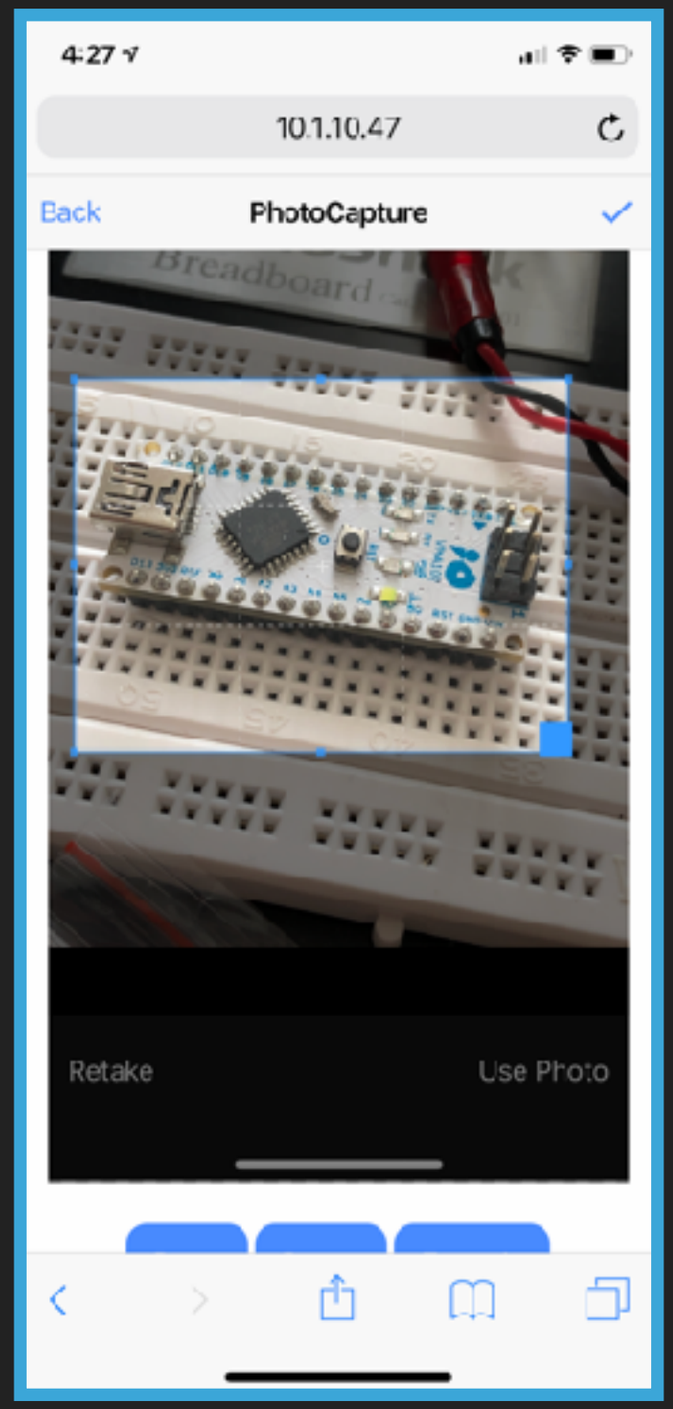
CAPTURING AN IMAGE ON AN IPHONE



1



2



3

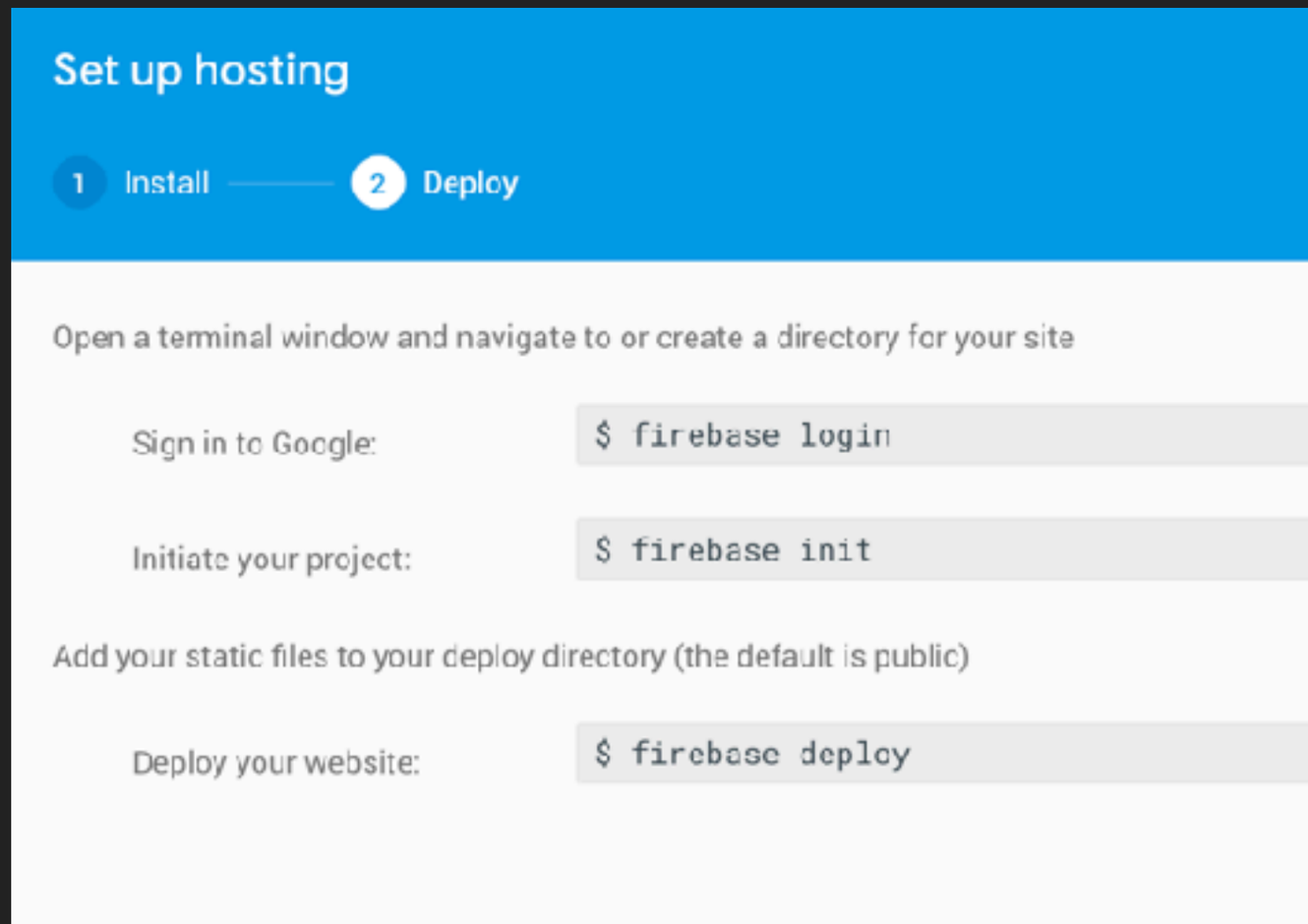
STEP 10: INSTALL FIREBASE CLI

- Install the Firebase tools:

```
npm install -g firebase-tools
```

- Setup your project for hosting

```
firebase login
firebase init
```



STEP 11: DEPLOY APP AND TEST

- Build your app
  `npm run build`
- Deploy to Firebase
  `firebase deploy`
- Test the app in your web browser
  https://photograb-14821.firebaseapp.com

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github.com/davidgeller/seattlecodecamp