Final Report - CustomerFirst

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Introduction

The application "CustomerFirst" is to provide a portal for both electronic owners to keep to up to date with the latest information related to the electronics they own, and manufacturers to continuously maintain post sales services to current customers.

The key features are as follow:

- The application's home page that all participated manufacturers are listed.
- A product page that contains a list of products provided by a manufacturer.
- A product detail page with an "Add to MyProducts" button to include this product to the list of products owned by a user.
- An alert panel that provides messages about product issues/recalls announced by manufacturer.
- A "MyProducts" page that list all products owned by a user.
- A product review page with user feedbacks provided by users.
- A page where all electronics a user own are listed.

Design and Implementation

After the ideation, UI design, and prototyping phases, the code implementation started. The MEAN JavaScript stack was the obvious choice as it was what we learnt and used in the course, and web version was developed first, followed by the mobile version using Ionic framework.

Project Scaffolding and Proof of Concept

To quickly set up a project for web development, Yeoman Generator for AngularJS + Gulp called "gulp-angular" was used. After building the simple controller files (app.js, services.js, and controllers.js), a few static pages such as Contact Us and About Us were built first to get the site up.

Authentication and Authorization

The REST server needed to be installed and configured to provide a platform for document access to MongoDB, user authentication and authorization. This features of course required component developments such as app server using Express framework with Passport authentication middleware (app.js), authentication and authorization (verify.js and authenticate.js), models and routes for accessing document access.

Document Access

Once the static pages were up, the dynamic pages that query data were developed. The JSON server was initially used to serve data before MongoDB was in place. Once MongoDB and Mongoose were installed on REST server, the controller scripts (services.js and controllers.js) were revisited to replace document access code to JSON server with the code to MongoDB.

Server Hosting

Many efforts were put in to find a hosting service for this project due to the following reasons:

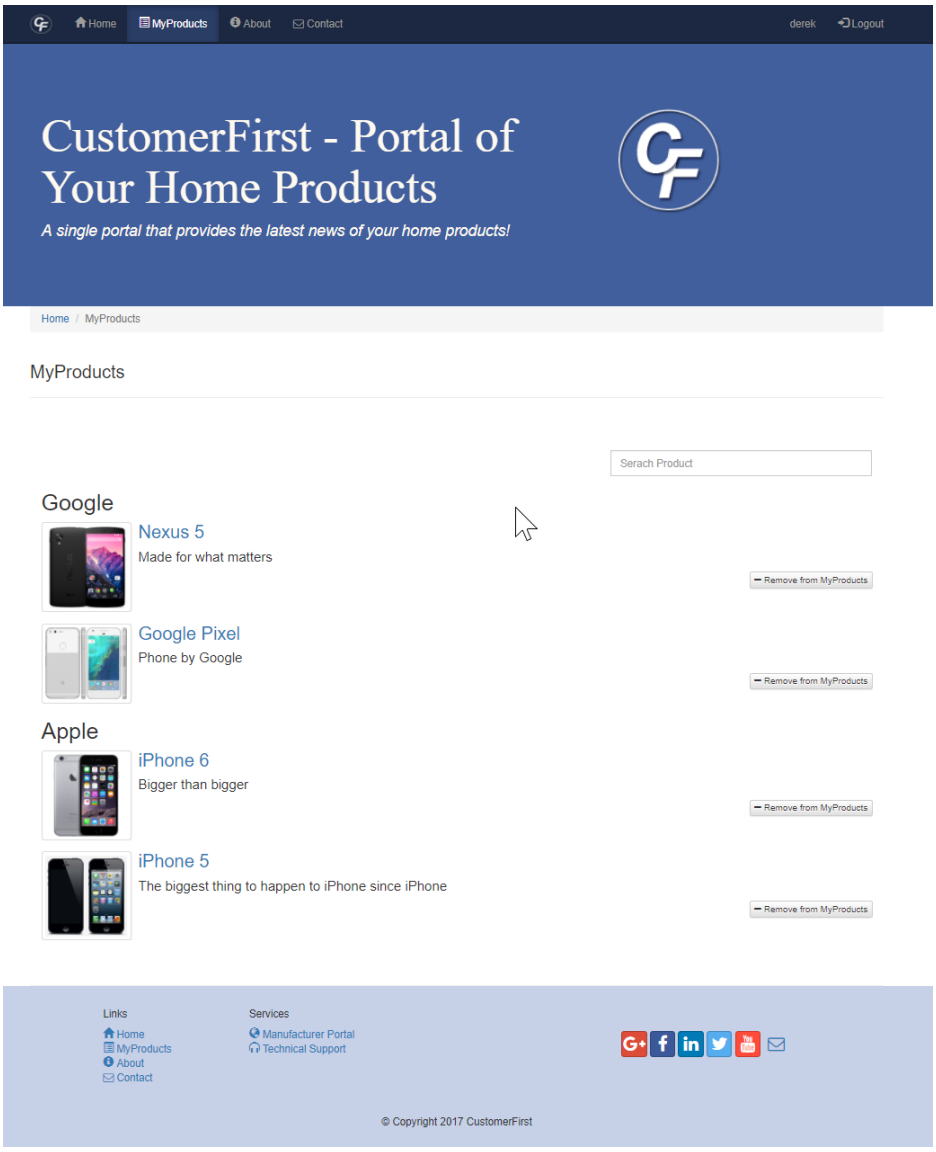
1. The initial plan was to use IBM Bluemix, per the course suggestion, to host the application. However, my first attempt on this Capstone project was 2 sessions ago (9 months ago). My promo code was expired in May. I contacted IBM support but have never received any respond.
2. Instead of waiting for help, I started looking for other options. Red Hat's OpenShift was my choice initially due to that fact that its basic infrastructure was totally free. But the waiting time for provisioning was unknown. I then had to look for other options.
3. After some researches, I was found that AWS could be the way to go, with some help from Bitnami, the scaffolding tool. The application was easily migrated from gulp-angular to Bitnami to complete the web development locally, before deployed to AWS.

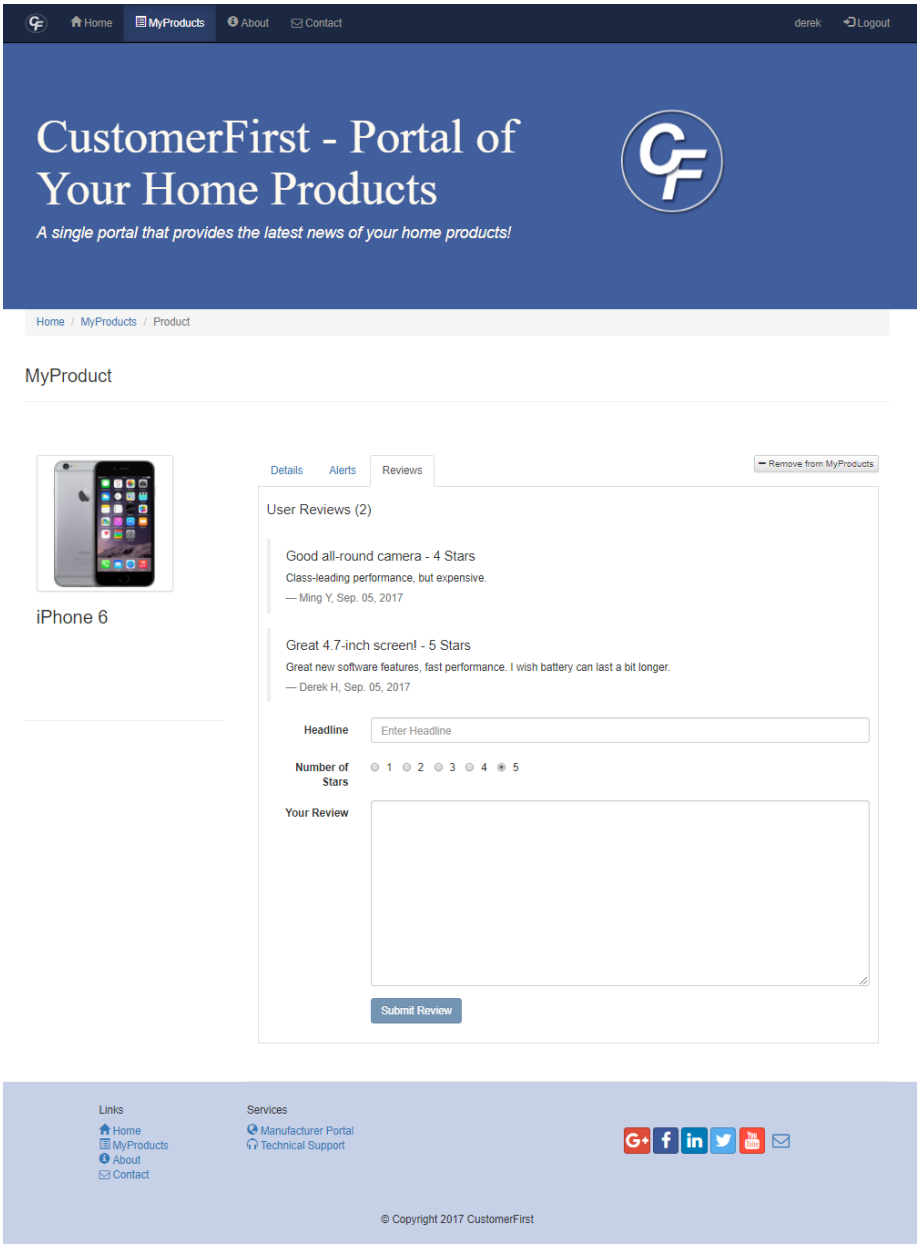
Mobile App Development

Ionic framework was used to develop the mobile version of this application. Many features provided in the web version were also available in mobile version, but some Cordova specific features such as camera, notification, and toast were not developed due to its difficulty of testing (not available for testing on browser).

Application Screenshots

Web Version




Home
MyProducts
About
Contact
derek
Logout
CustomerFirst - Portal of Your Home Products
A single portal that provides the latest news of your home products!
Home / MyProducts / Product
MyProduct
iPhone 6
Details
Alerts
Reviews
Remove from MyProducts
User Reviews (2)
Good all-round camera - 4 Stars
Class-leading performance, but expensive.
— Ming Y, Sep. 05, 2017
Great 4.7-inch screen! - 5 Stars
Great new software features, fast performance. I wish battery can last a bit longer.
— Derek H, Sep. 05, 2017
Headline
Enter Headline
Number of Stars
1 2 3 4 5
Your Review
Submit Review
Links
Home
MyProducts
About
Contact
Services
Manufacturer Portal
Technical Support
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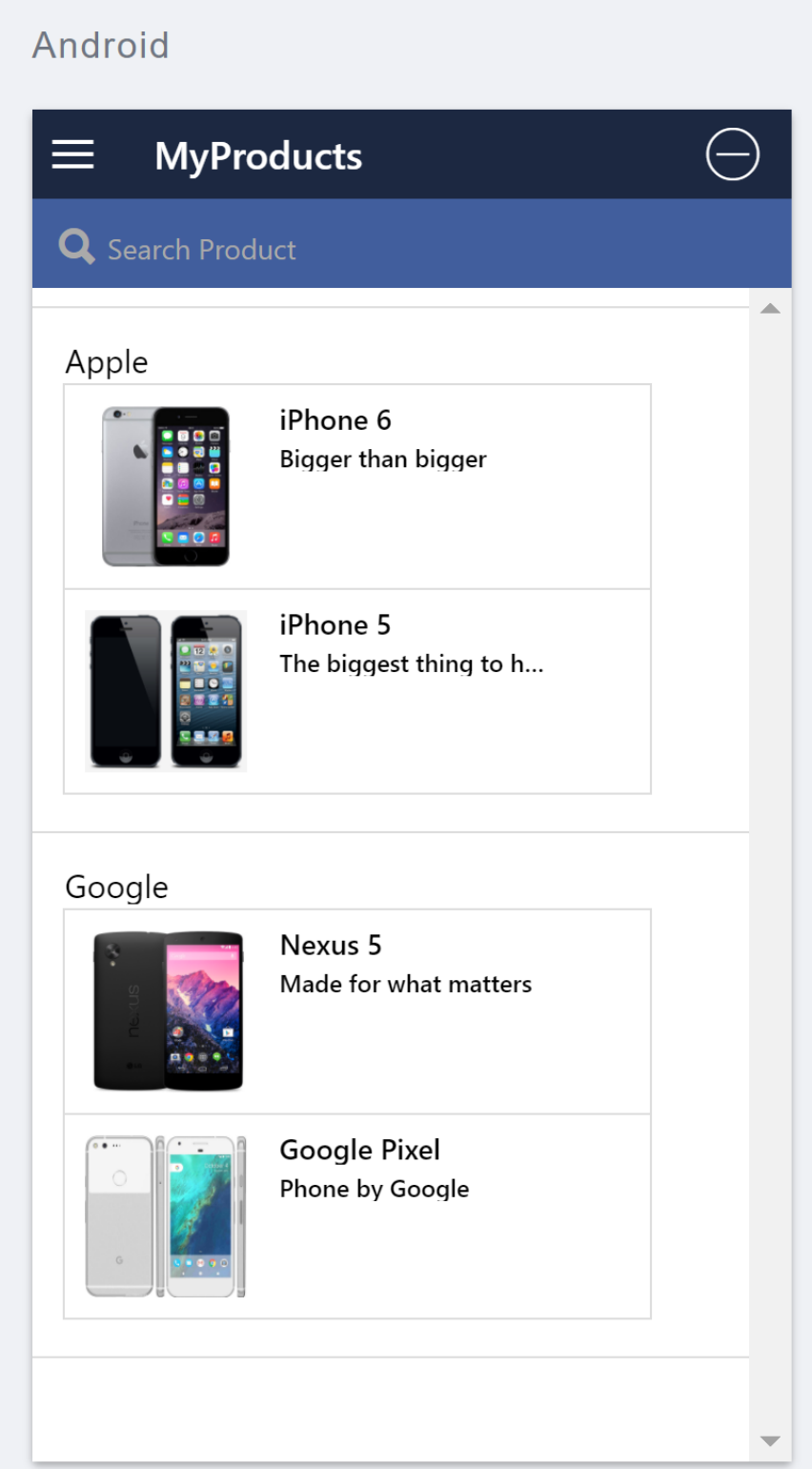
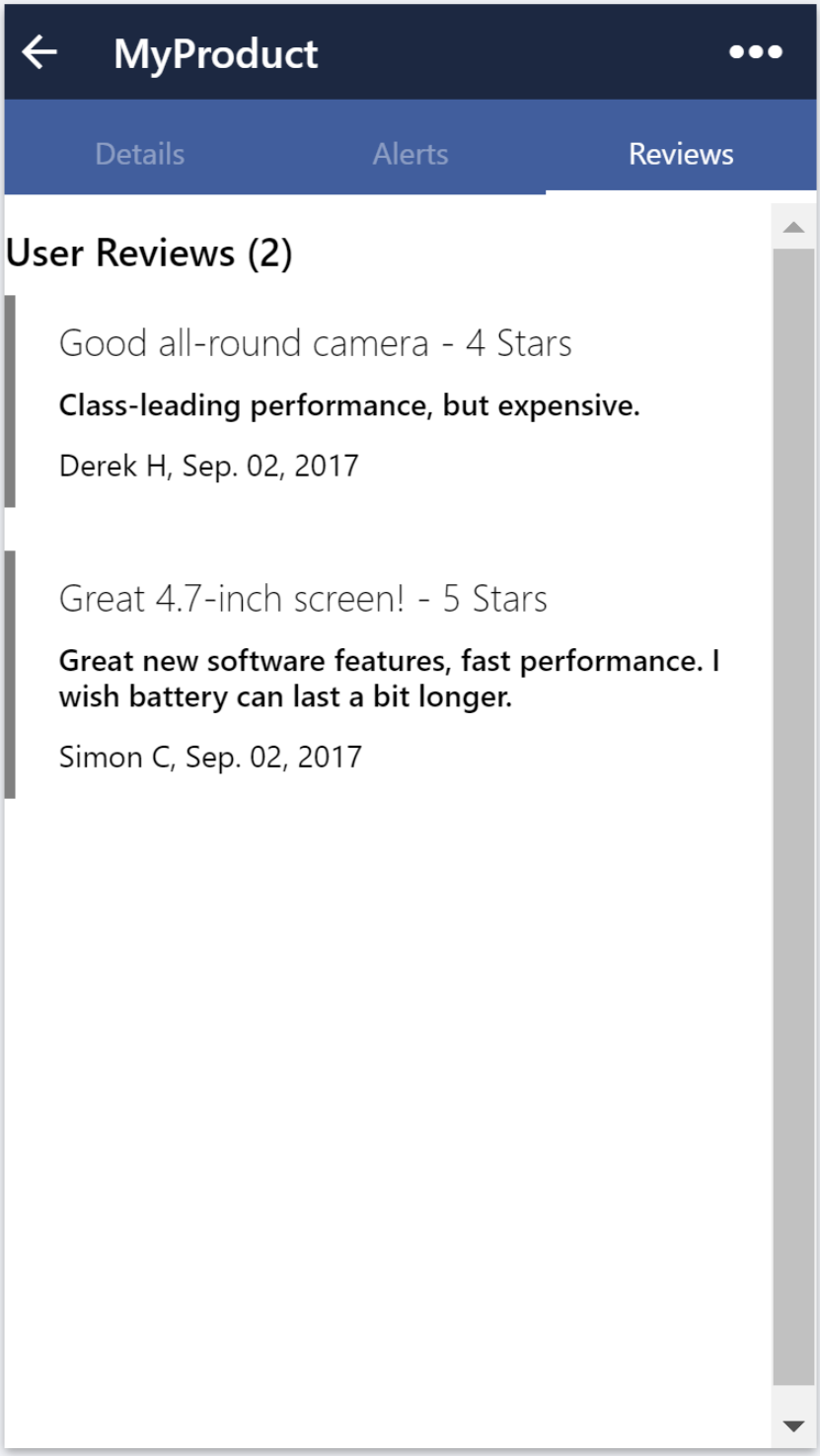
Mobile Version



Android


MyProduct
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Reviews
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Derek H, Sep. 02, 2017
Great 4.7-inch screen! - 5 Stars
Great new software features, fast performance. I wish battery can last a bit longer.
Simon C, Sep. 02, 2017

Source Code

Web Version

https://github.com/HonHo/FullStackWebDevCourse/tree/master/CapstoneProject/WebApp

Mobile Version

https://github.com/HonHo/FullStackWebDevCourse/tree/master/CapstoneProject/MobileApp

Server URL

https://13.58.158.235:3443/#/ or
https://ec2-13-58-158-235.us-east-2.compute.amazonaws.com:3443/#/

Conclusions

- Briefly state what results you obtained from your project.
- Discuss any features and shortcomings of the project.
- Discuss any choices that you might have made differently, in hindsight after completing the project.

Conclusions

The Capstone project not only helped me reinforced the knowledge that I have gained on MEAN stack technologies during the courses, but also booted my confidence on full stack web development using Node.js.

Below are the list of future enhancement and new features that should improve user experience:

Web Version

1. Enhance behavior of login timeout.
2. Add Manufacturer Portal to update or alert on products.
3. Add notification banner of new alert on MyProduct.
4. Add feedback/contact us form.

Mobile Version

1. Add logo and splash page.
2. Enhance behavior of login timeout.
3. Add mobile version specific features such as alert notification.
4. Add feedback/contact us form.

Besides the AWS I am using for hosting this application, I am also interested in exploring the option of using Red Hat OpenShift.

References

Generators

http://fountainjs.io/gulp-angular/
https://github.com/Swiip/generator-gulp-angular/tree/master/docs

Bitnami Scaffolding Tool

https://docs.bitnami.com/aws/infrastructure/mean/

Bitnami MEAN stack application on AWS – Youtube

https://www.youtube.com/watch?v=j1--f1yMSB0
https://www.youtube.com/watch?v=-J_mpTYwrEs