MICHIGAN STATE
U N I V E R S I T Y

Project Plan
MyMeijer: Crowdsource Shopping

The Capstone Experience

Team Meijer

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From Students…
…to Professionals

Functional Specifications

- Allows customers to alert employees of issues throughout the store
  - Report out-of-stock items
  - Report spilled items in the store
- Allows employees to respond quickly to any issues a customer may need assistance with
- Allows corporate employees to review statistics of reports
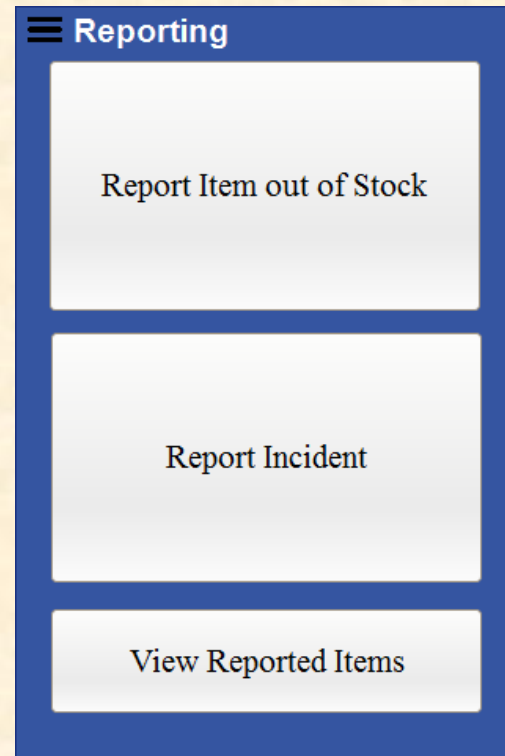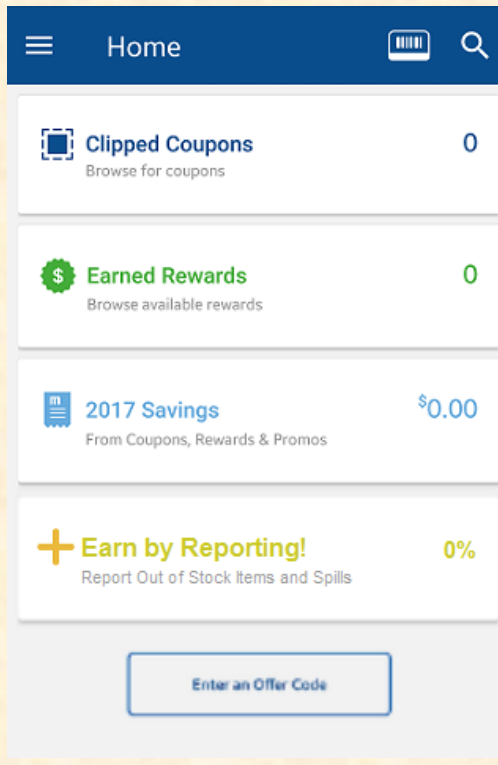
Design Specifications

- Three major features
  - Customer mobile application
  - Employee Bluebird application
  - Corporate web portal
- The customer app is a similar layout to the pre-existing Meijer mPerks app
- The employee app includes a list of all reports and selectable actions for each
- The corporate app includes graphs and numbers for average resolution speed, number of reports, commonly out-of-stock items, and other statistics
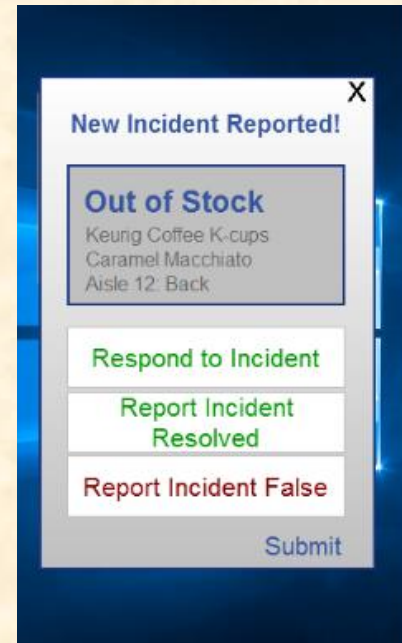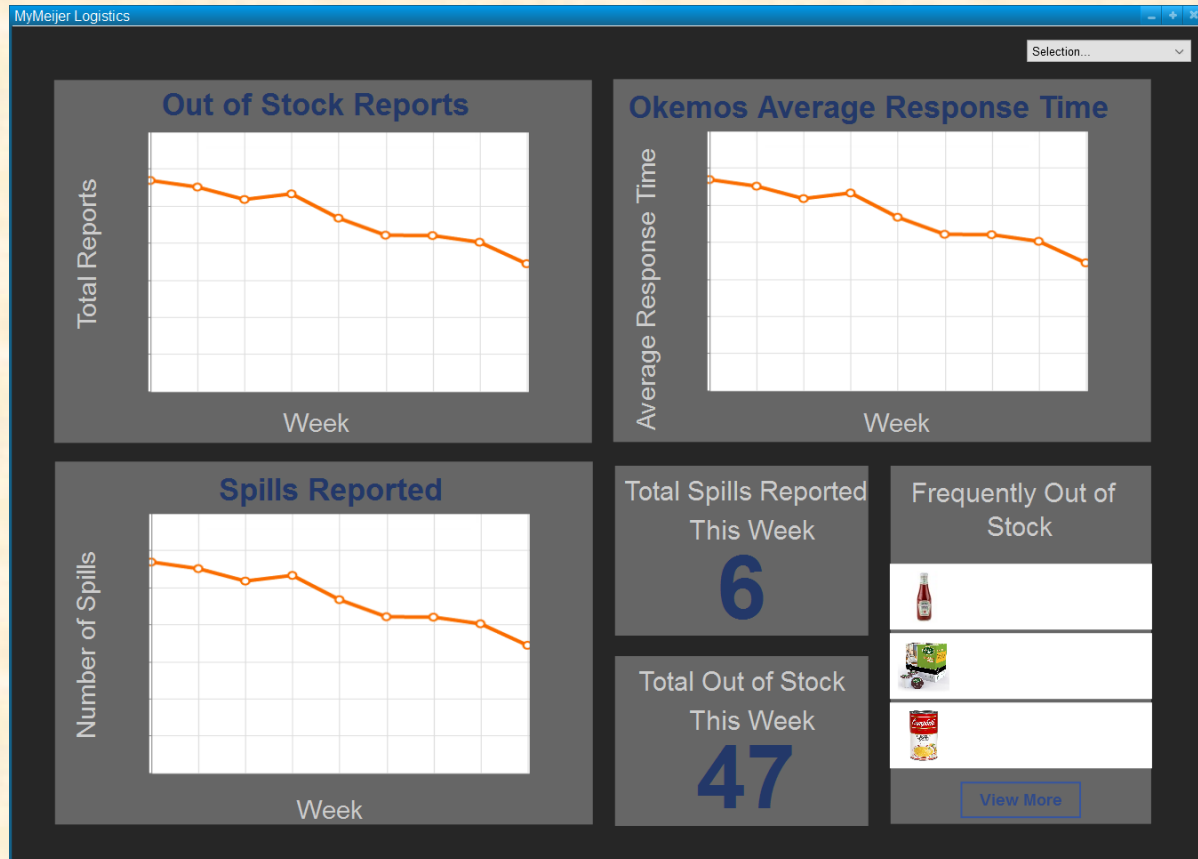
Screen Mockup: Customer App

Screen Mockup: Customer App

Screen Mockup: Bluebird App
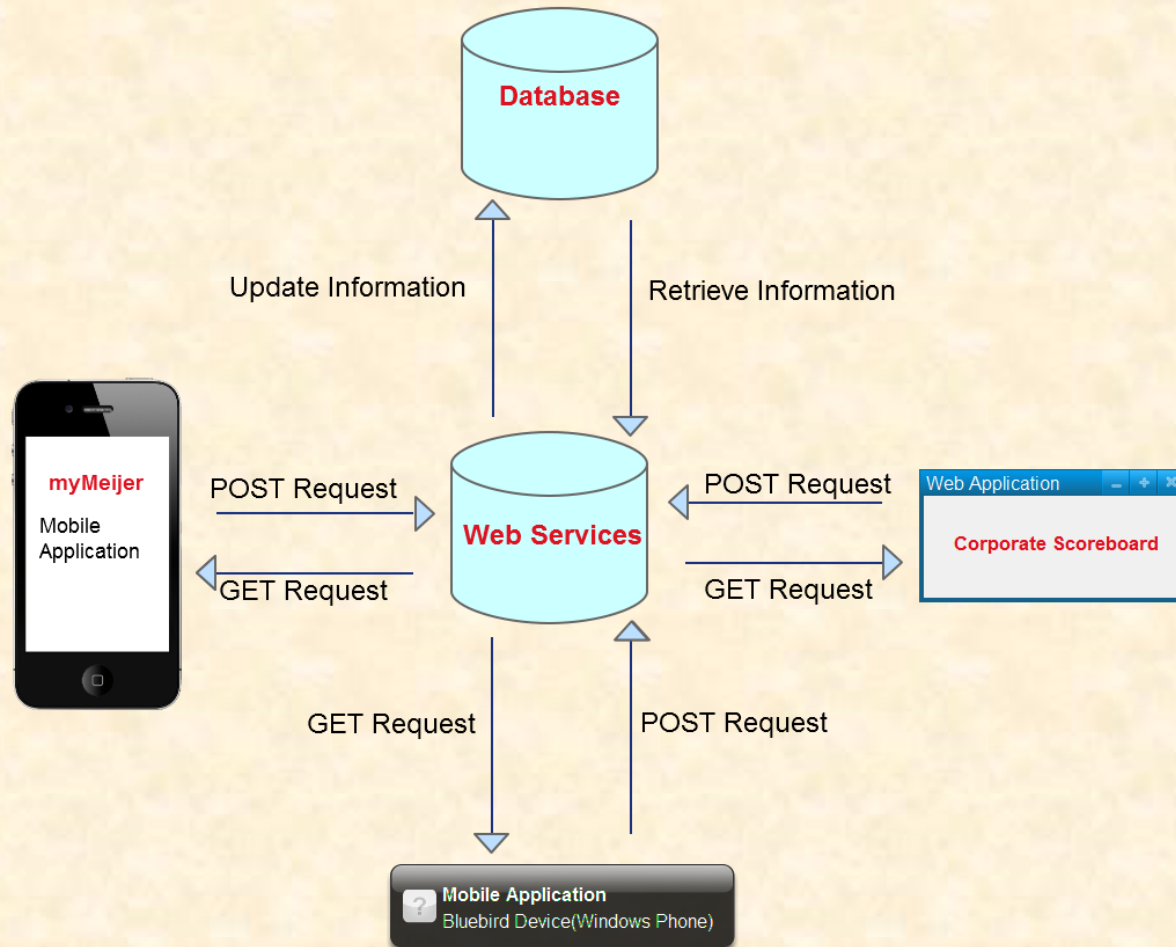
Screen Mockup: Corporate Web App

Technical Specifications

- Customer Application - Mobile Application
  - Supports Android 4.4+ / iOS 8.0+
  - Developed on Xamarin in C#
- Team Member – Mobile Application
  - Supports Windows (mobile)
  - Developed on Xamarin in C#
- Corporate Scoreboard - Web Application
  - Follows ASP.Net MVC framework
  - Developed using C#/.Net for backend
- MySQL Database hosted on Azure Cloud

System Architecture

System Components

- Hardware Platforms
  - Smartphone (Android 4.4 / iOS 8.0)
  - Bluebird Mobile Device(Windows)
  - Mac/PC to access the Web Application

- Software Platforms / Technologies
  - Microsoft .NET Framework, C#, ASP.NET, Azure Mobile Services
  - App Insights for Analytics for web and mobile
  - Microsoft Visual Studio Team Server – Source Control
  - Hockey App for deployment (both iOS and Windows)

Testing

- Using Fiddler to check communication between services and mobile/web applications

- Using Android/iOS device emulator on Xamarin to test functionality.

- Deploying customer mobile application to an Android/iOS device to test UI design and ease of use.

- Deploy team member application to bluebird device to check if it can receive notifications.

Risks

- Detecting Customer Location
  - Automatically detecting in-store location is a desired feature
  - Have backup plans if not feasible (manual reporting, etc)
- Scanning Barcodes with Mobile App
  - We need to be able to scan an item's barcode
  - Most likely use existing libraries – no need to reinvent the wheel
- Displaying Statistics in Web App
  - We need to be able to display statistics in with various filters and views in a web page
  - Begin prototyping early, go through numerous designs, research solutions for displaying graphs, etc
- Managing Push Notifications
  - Need to be able to send notifications to mobile devices
  - Test with dummy applications, begin testing and integrating early

Questions?

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