

MICHIGAN STATE

U N I V E R S I T Y

Project Plan

Visualizing Brand Loyalty

The Capstone Experience

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*From Students...
...to Professionals*

Functional Specifications

- Cross platform application for both iOS and Android tablets
- Allow OEM loyalty managers to see brand, segment, and model loyalty data in specific markets
- Display loyalty/conquest/defector data in a meaningful way
- Display useful KPIs
- Visualize market trends
- Provides intelligent alerts on market trends

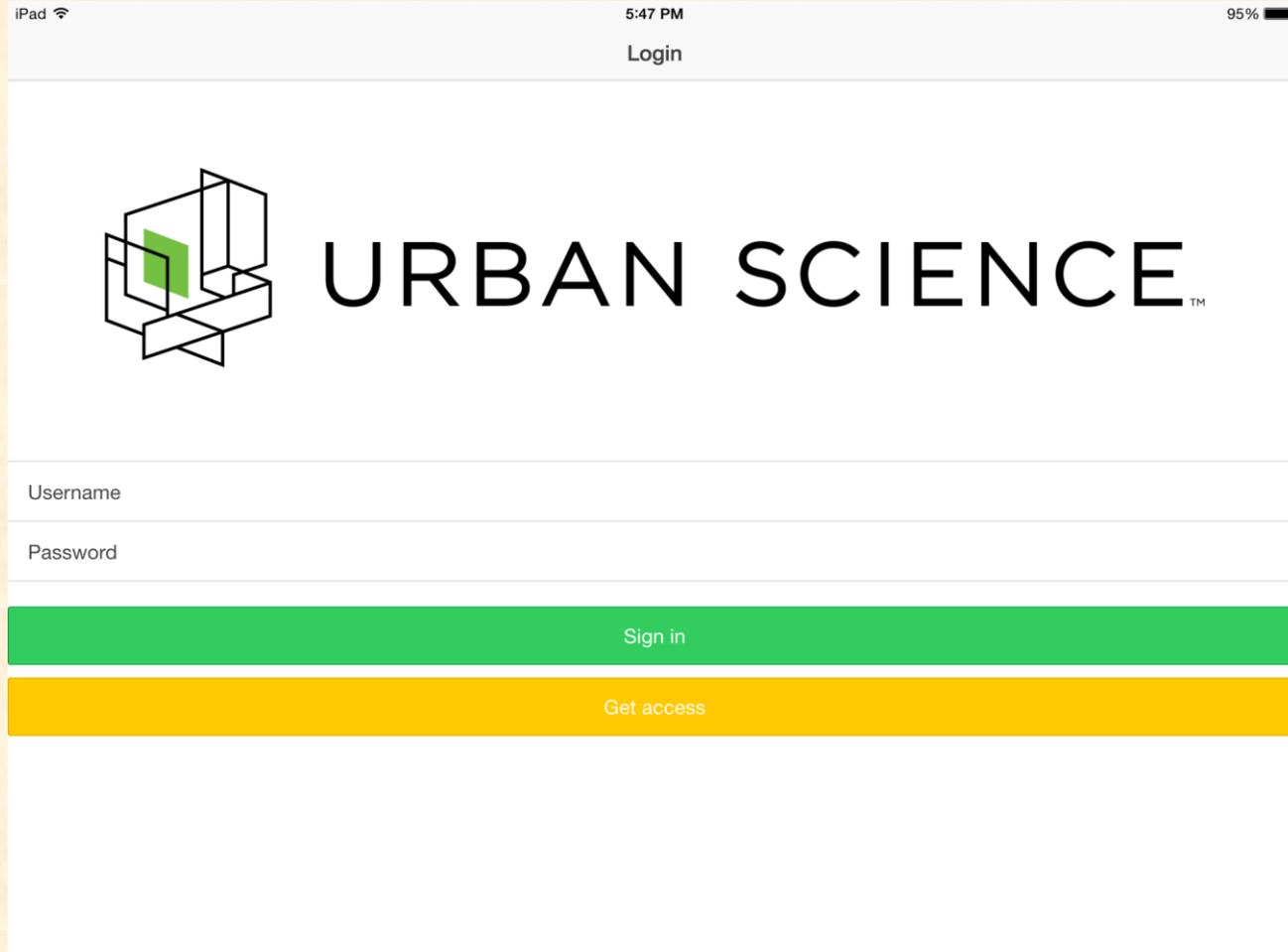


Design Specifications

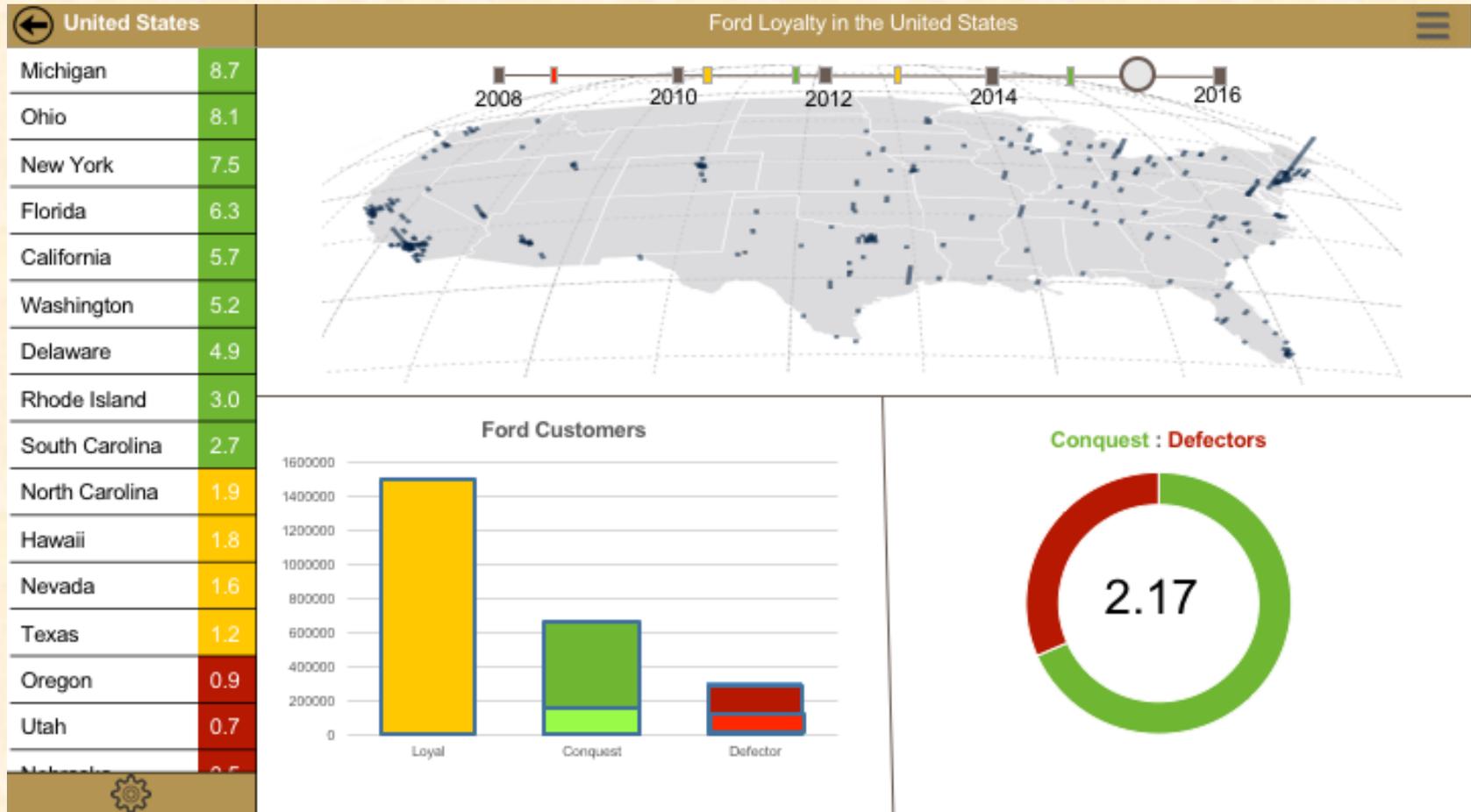
- User authentication
- Display KPIs for different markets
- Chart loyalty/conquest/defector data in a meaningful way
- Allow users to change criteria (brands, models, regions, etc.)
- Send intelligent alerts



Screen Mockup: Login Page

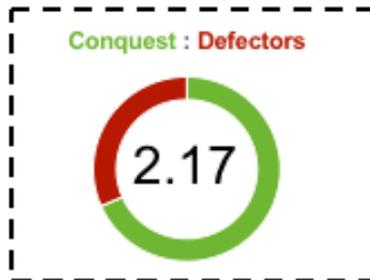


Screen Mockup: Dashboard



Screen Mockup: Chart Views

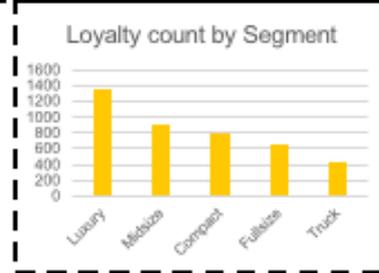
Ratio View



Trend View



Competitor View



Internal View

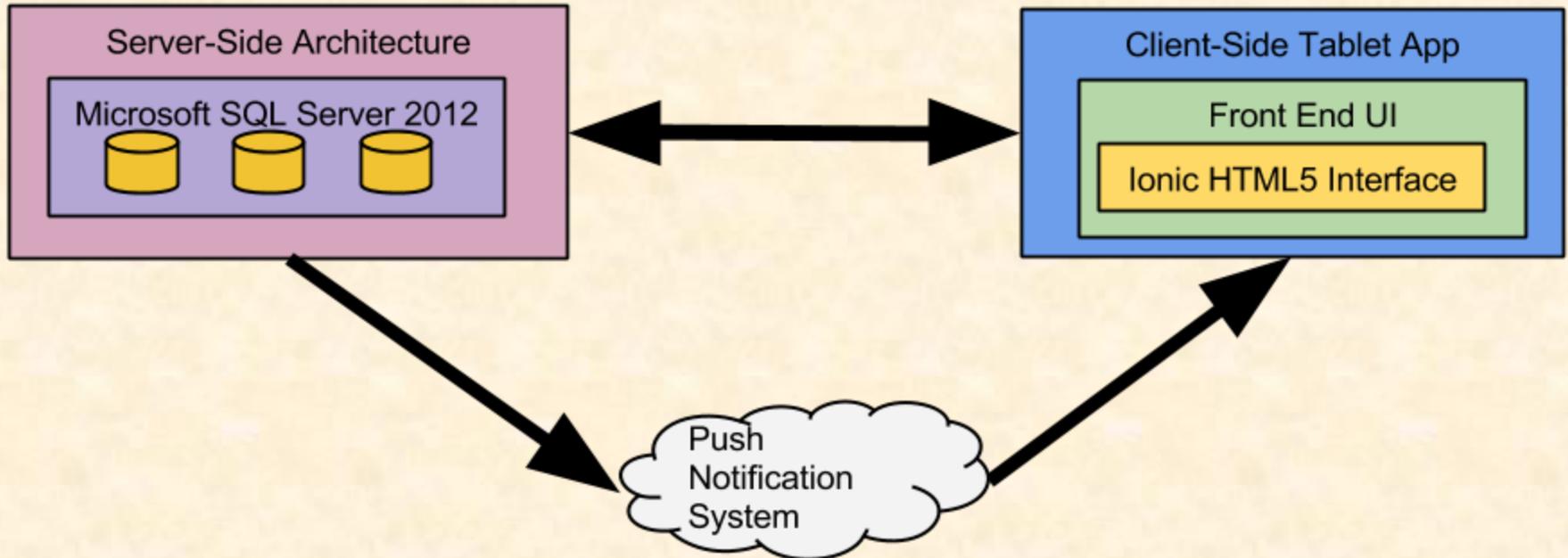


Technical Specifications

- Cross-platform application based on the Ionic/Cordova framework
- PHP backend that communicates with Microsoft SQL Server 2012
- D3 library for maps and charts
- Ionic push notification services



System Architecture



System Components

- Hardware Platforms
 - iPad tablets running iOS 6+
 - Android tablets running Android 4.0+
 - Microsoft Server 2008
- Software Platforms / Technologies
 - Ionic/Cordova framework
 - D3 library
 - PhpStorm
 - SQL Server 2012



Testing

- Front End
 - Testing on iPad and Android tablets
 - Browser development tools
 - Karma and Jasmine unit testing for AngularJS

- Back End
 - PHP unit testing



Risks

- Accessing Server Data
 - Need to be able to quickly communicate with the server and process the data
 - Pre-calculated values for frequently accessed data
- Cross-Platform Development
 - Performance of each cross-platform framework
 - Research, rapid prototype, and consult with Urban Science
- Visualizing Data
 - Misrepresenting data to the user or failing to display it at all
 - Check-ins with Urban Science to confirm the data is not being misrepresented to end users
- Map Integration
 - Time consuming to make 3D maps and map performance
 - Use 2D maps as a backup

