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

Project Plan
Dealership Consultant Mobile App

The Capstone Experience

Team Urban Science

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From Students…
  …to Professionals

Project Overview

- Allows consultants to search for and find dealers based on name or location.

- Displays Key Performance Indicators (KPI) for selected dealer.

- Provides recommendations based on KPIs.

- Allows consultants to record meeting information in an "Action Plan".

Functional Specifications

- Platform – iPad

- Login Page – authentication required

- Map Page– must differentiate between states and counties with color.

- Search – pull relevant information from database, and display in both map and list format.

- Find Me – utilizes GPS to display user's current location.

- Dealer KPI Page – lists all dealer KPIs retrieved from database.

Functional Specifications cont.

- Action Plan Page –

  - displays current dealer KPI value and a recommended value. Contains text fields which allows user to enter a goal value and a date by which the dealer agrees to meet the goal. Contains a text field which record other comments.

  - Can be submitted upon completion, resulting in a new action plan database entry, which can be retrieved at a later time.
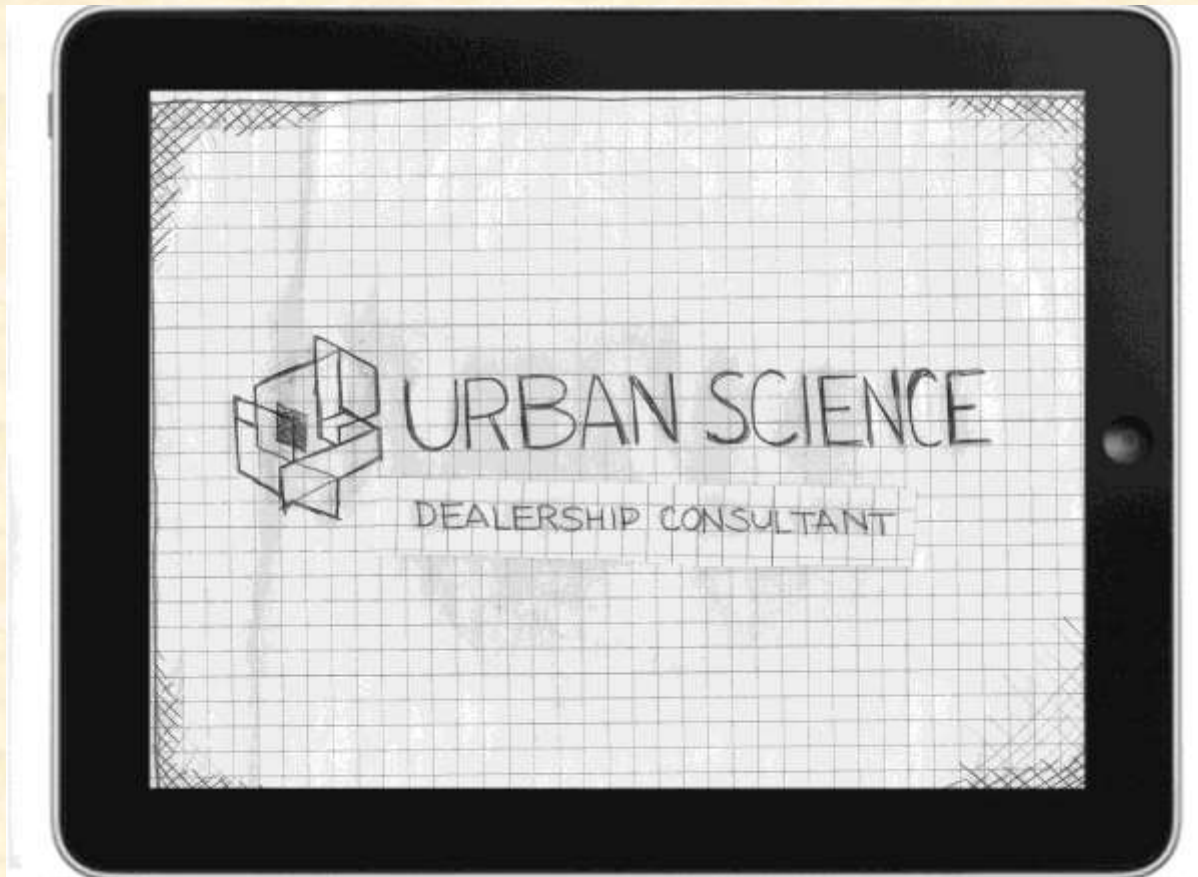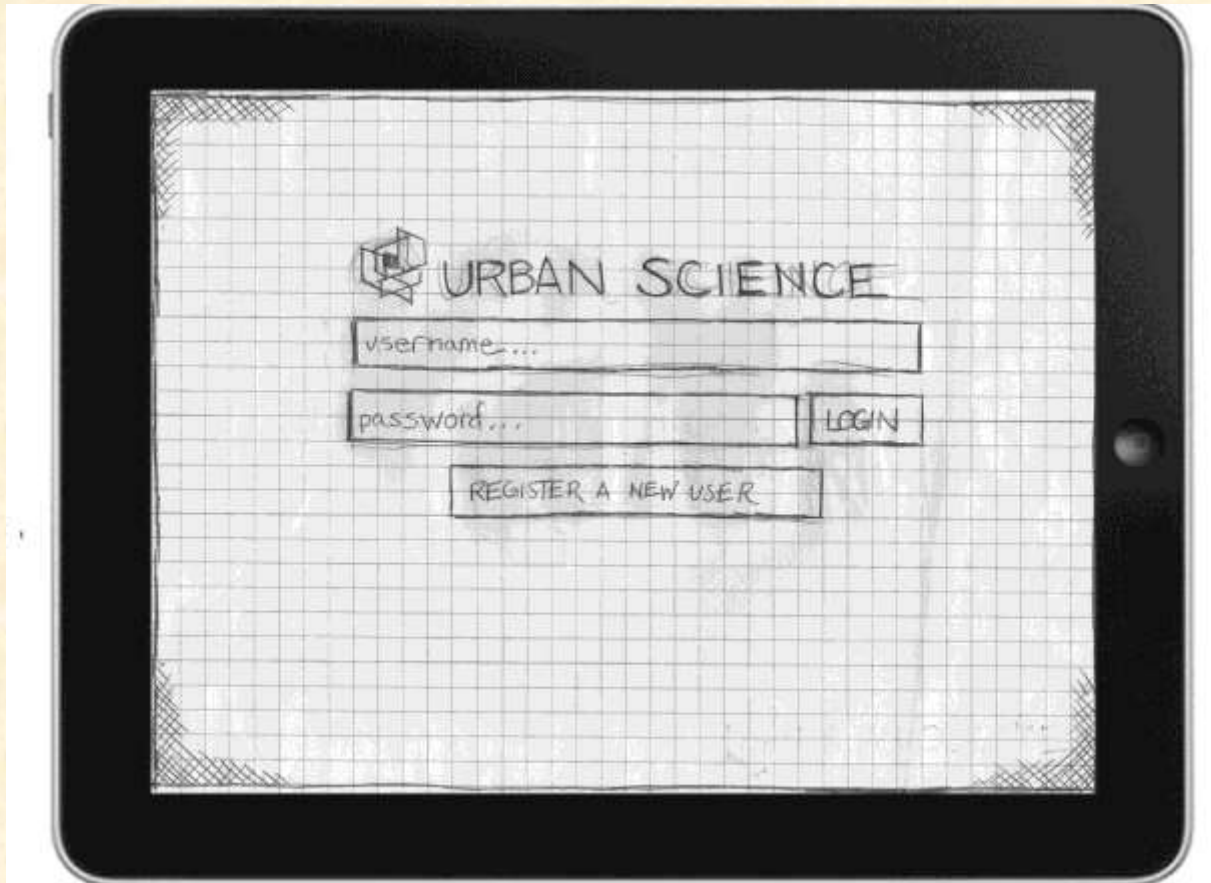
Design Specifications

- Supports horizontal and vertical orientation.
- Application requires user authentication.
- Application utilizes five main pages:
  - Map
  - List Search
  - Dealer KPI
  - Contact Report
  - Action Plan
- Each page uses the menu for navigation.
- Menu can be hidden/displayed with a "slide" gesture.
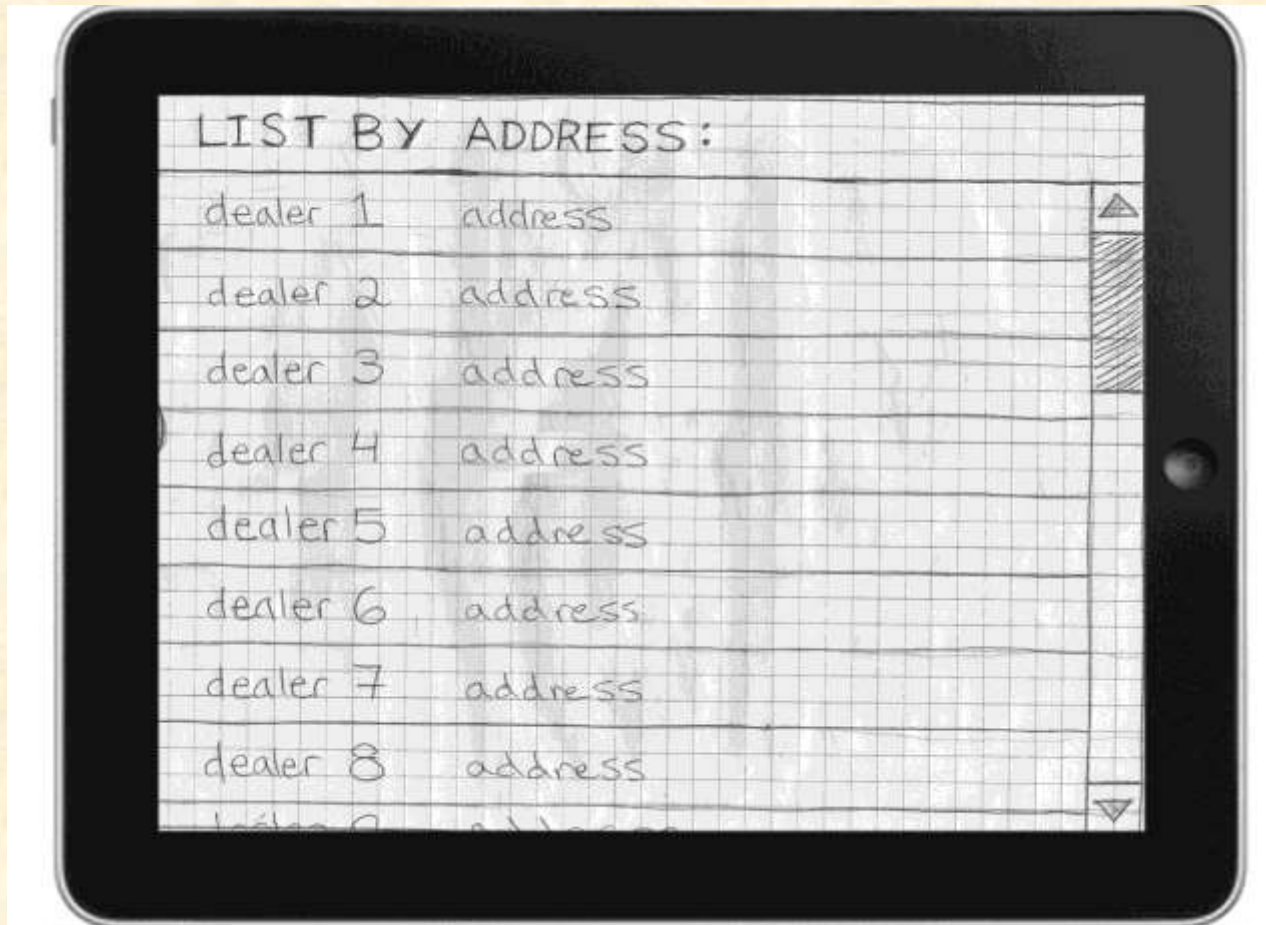
Welcome Page

Login Page

Map Page

Map Page with Menu

Map Page with Menu and Search Options

Map Page with Search Results

List Search Results Page

Dealer KPI Page

Contact Report Page

KPI Action Plan Page

Technical Specifications

- Server with database for data storage and retrieval.

- iPad with user interface

- RESTful web service for iPad and server communication

System Architecture

- ## iPad
  - User interface and meeting point of external components.

- ## Bing Maps
  - Provides map interface and displays dealer location based on supplied latitude and longitude.

- ## User Authentication Datastore
  - Table containing user ID and user password. A Valid pair must be entered by user to launch application.

- ## Dealer Datastore
  - Contains dealer location and KPI information. Accessed for location display by Bing Map and for KPI list display. Immutable by user.

- ## Action Plan Datastore
  - Contains action plans submitted by user. Identified by Dealer Number and KPI Name. Application goal is to create these.

System Architecture
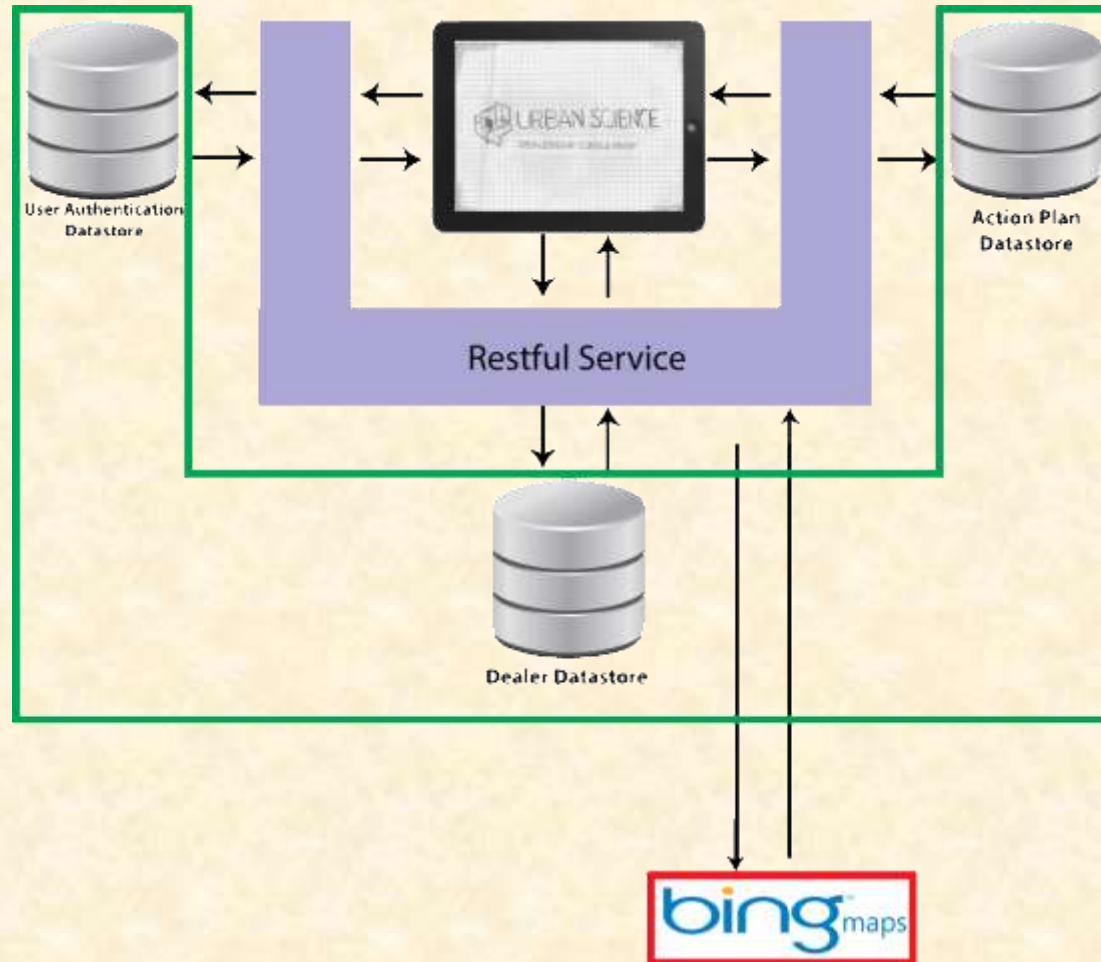
System Components

- Hardware Platforms
  - iPad
  - Dell PowerEdge Server

System Components

- Software Platforms / Technologies
  - Xcode
  - Languages
    - Objective C
    - PHP
    - HTML5
    - jQuery & jQuery Mobile
    - JavaScript
  - Phonegap
  - MSSQL Server 2012

Testing

- ## Page Navigation
  - Navigation between pages results in side effects which need to be rigorously investigated to protect against unforeseen situations. Example: Pressing the "KPI Action" button before a "Contact Report" is created.

- ## Online vs. Offline
  - This is an online-only Application. Logging in will be disallowed if the user does not have an internet connection. However, it is possible for the user to lose their connection while using the application. Loss of connection could lead to unforeseen situations, which will need to be thoroughly investigated. However, many of these situations should be avoidable with a "defensive" design.

- ## Multiple Access Protection
  - It is possible for two users to access the same database at the same time. This will need to defend against and thoroughly tested.

Risks

- ## SQL Database
  - No prior experience
  - Researching and creating queries

- ## iPad Application Development
  - No prior experience
  - "Hello World" application created. Actual project "stubs" created , application is running. Continuing research.

- ## Bing Maps API
  - No prior experience with Bing Maps
  - Researching.

- ## Objective C, PHP, and HTML5
  - No prior experience
  - Research and basic coding underway.