

MICHIGAN STATE

UNIVERSITY

Project Plan
Dealership Consultant Mobile App
The Capstone Experience

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Spring 2013



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.

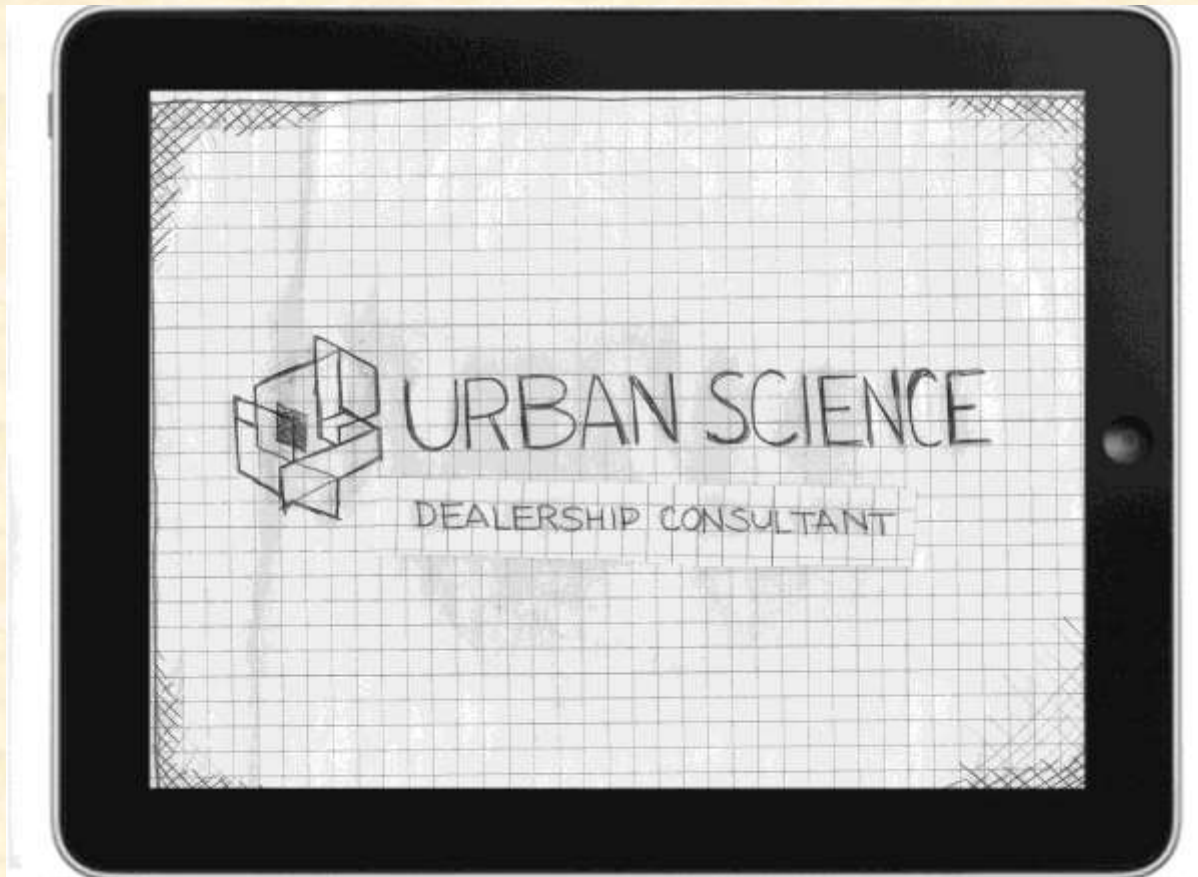


Design Specifications

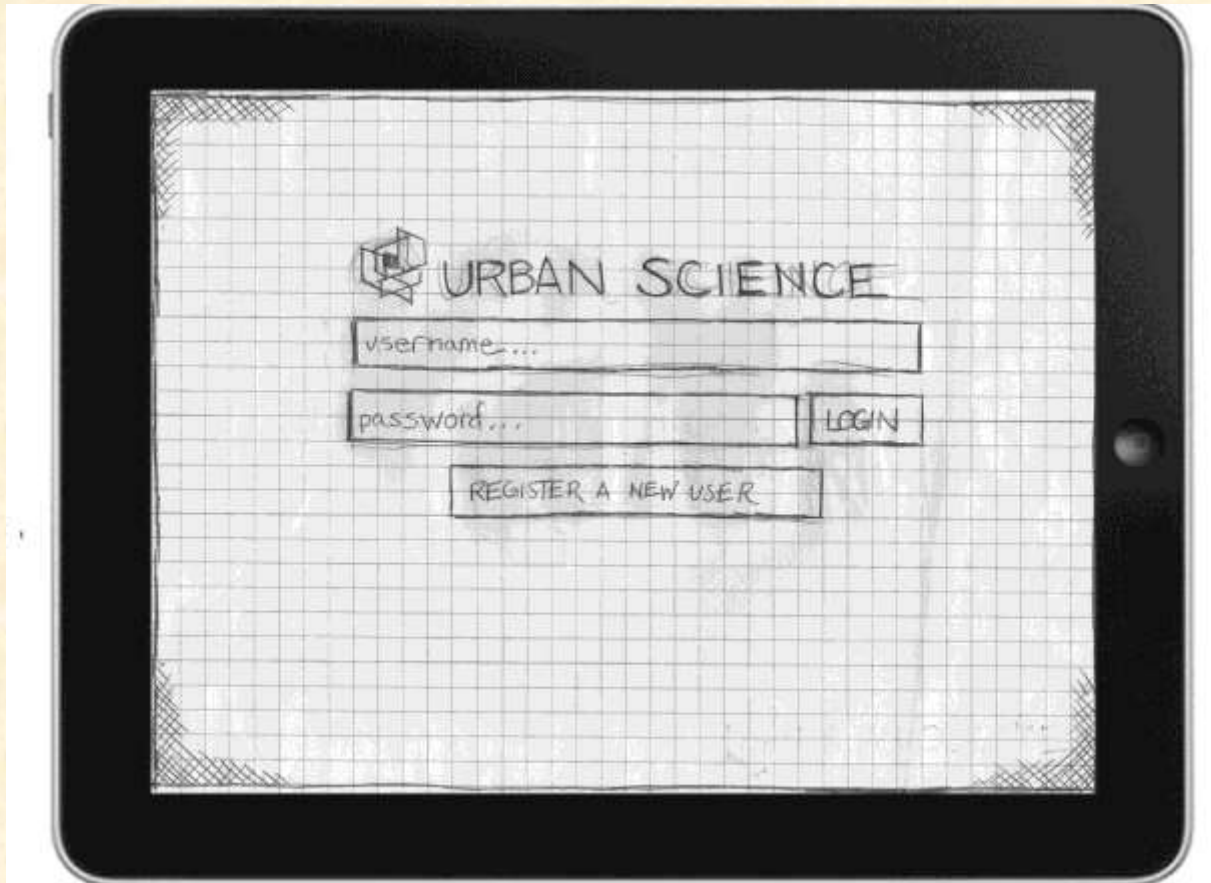
- Supports horizontal and vertical orientation.
- Application requires user authentication.
- Application utilizes five main pages:
 - Map
 - List Search
 - Dealer KPI
 - Contact Report
 - Action Plan
- Each page uses the menu for navigation.
- Menu can be hidden/displayed with a “slide” gesture.



Welcome Page



Login Page



Map Page



Map Page with Menu



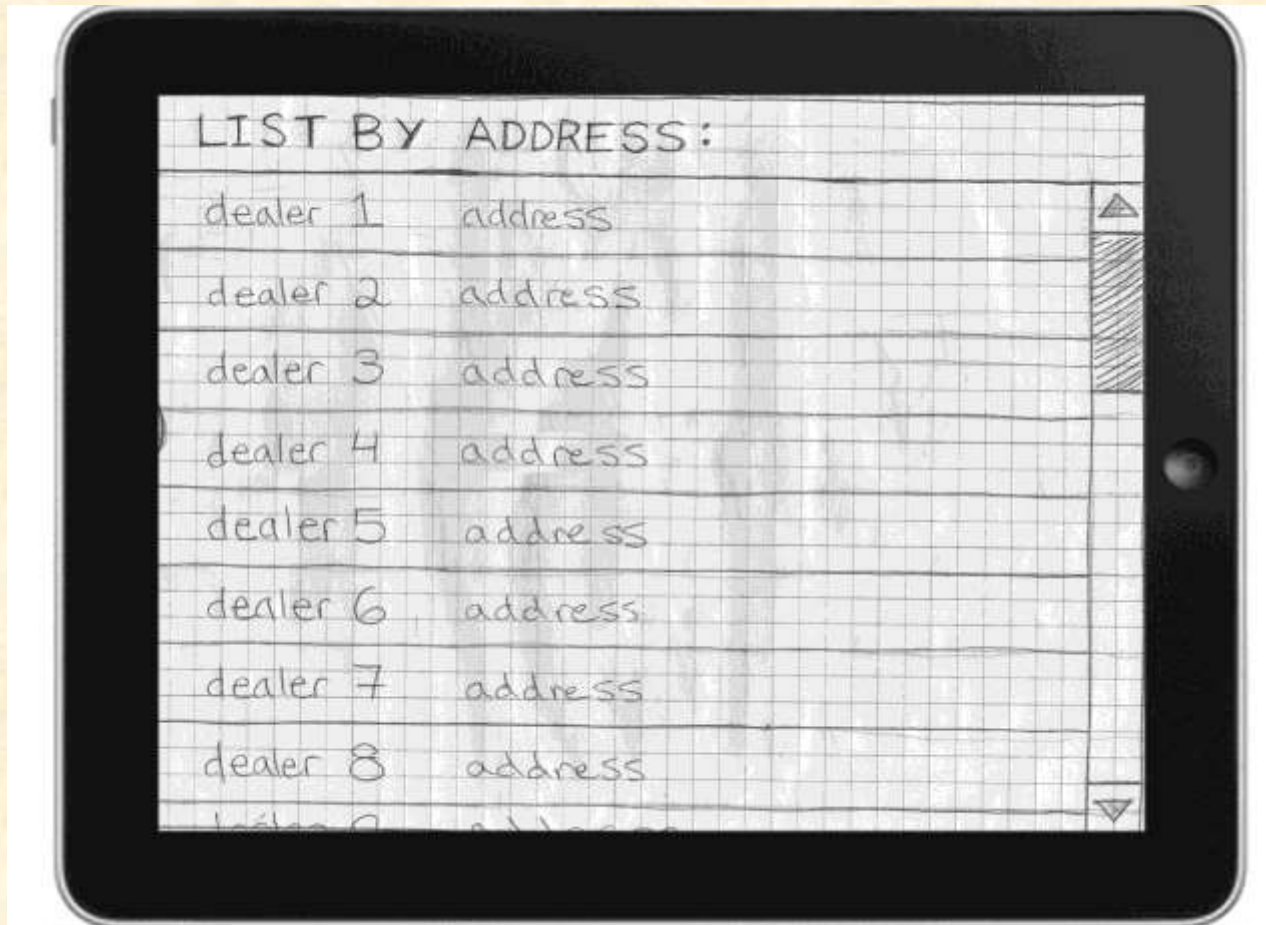
Map Page with Menu and Search Options



Map Page with Search Results



List Search Results Page



Dealer KPI Page

A hand-drawn table on a tablet screen. The table is titled "DEALERSHIP NAME" with a subtitle "address, phone number". It has three columns: "ADD TO CONTACT REPORT", "KPI DESCRIPTOR", and "VALUE". The table contains six rows of data. The first four rows have a red background for the "VALUE" column, and the last two rows have a yellow background. There are also small triangles in the right margin of the first and last rows.

ADD TO CONTACT REPORT	KPI DESCRIPTOR	VALUE
<input type="checkbox"/>	KPI 1	.27
<input type="checkbox"/>	KPI 2	.68
<input type="checkbox"/>	KPI 3	.42
<input type="checkbox"/>	KPI 4	.50
<input type="checkbox"/>	KPI 5	.94
<input type="checkbox"/>	KPI 6	.04



Contact Report Page

A hand-drawn contact report on a tablet screen. The report is titled "CONTACT REPORT" and includes a header for "dealership name, address, phone #". It features two buttons: "SUBMIT" and "EDIT ALL". The report is organized into columns for "COMPLETED:", "SCORE:", and "RANK:". There are four rows of data, each representing a KPI. Each row has a checkbox, a KPI name, a score in a colored circle, and a rank. The rows are color-coded: KPI 1 (red), KPI 2 (yellow), KPI 3 (green), and KPI 4 (green).

COMPLETED:		SCORE:	RANK:
<input type="checkbox"/>	KPI 1	.27	124th
<input type="checkbox"/>	KPI 2	.84	79th
<input type="checkbox"/>	KPI 3	.36	18th
<input type="checkbox"/>	KPI 4	.98	2nd



KPI Action Plan Page

A handwritten form on a tablet screen titled "ACTION PLAN KPI DESCRIPTOR". The form includes a section for a short description, two input fields for dealer values (current and recommended), an action plan section with checkboxes for "AGREE TO" and "DISAGREE", a comments section, and a "SUBMIT" button.

ACTION PLAN
KPI DESCRIPTOR

Short description here. Statistics, generic discussion points

DEALERS CURRENT VALUE	.27	DEALERS RECOMMENDED VALUE	.58
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ACTION PLAN:

AGREE TO BY

DISAGREE

comments:



Technical Specifications

- Server with database for data storage and retrieval.
- iPad with user interface
- RESTful web service for iPad and server communication



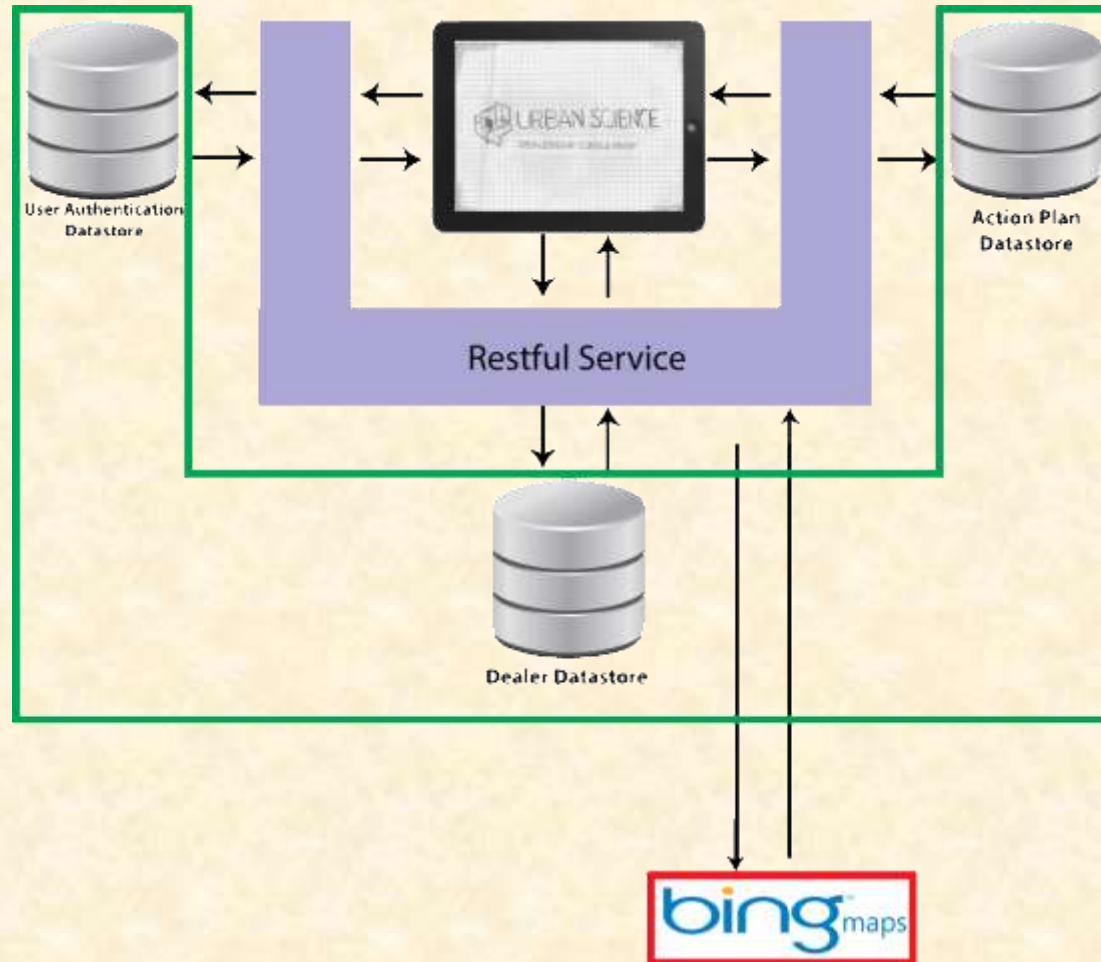
System Architecture

- 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

Example System Architecture
Delete this slide.



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.

