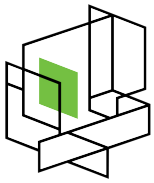

URBAN SCIENCE™

Infographic Generator

Project Plan

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1 Executive Summary

Over three decades ago, a professor at Wayne State University took on a challenge because Cadillac called it unsolvable. That professor was Jim Anderson. His computer-generated dot maps gave Cadillac's marketing department a competitive advantage by allowing them to easily visualize dealership locations across the nation. Jim began using the power of computers to analyze these networks of dealerships and started a company that specialized in the planning and management of these networks. Thus, Urban Science was born.

Urban Science is now an international company, headquartered in Detroit, Michigan. They assist nearly every original equipment manufacturer (OEM) in over 60 countries. Our job is to design a web application to show OEMs monthly performance data on vehicle sales, lead management, and service for their primary market area. OEMs use this performance data to adjust spending to maximize their market potential. The appeal of our web application is its ease of use, and visual appeal.

In today's world, the display of information is an evolving art. Yesterday's solution was clipart and spreadsheets, but that is no longer enough. We require a more impactful approach to delivering a point. The modern solution is an information graphic or infographic. An infographic is a graphical display that quickly conveys data that would otherwise require a lengthy explanation. Modern infographics use clever design schemes and cartoon charecters to keep the viewer interested while showing relationships in the data.

Our web application uses a brand new flavor of infographic that is designed to update dynamically. It uses information directly from Urban Science to generate graphics that reflect the most up-to-date monthly data. The web application also provides the ability to view previous months to allow OEMs to refrence historical data.

2 Functional Specifications

2.1 Web Application

- uses local storage

2.1.1 Main Menu

- has lazy suzan style interface -

2.1.2 Infographic Display Page

- has navigation buttons - has infographic

2.2 Web Backend

- has database - outputs json

features: - infographics - months - menu - dynamicness

The web application is focus of project is to create a new and creative experience for the KPI data. The user interface will be very simple, allowing for on the fly use by those giving presentations or demonstrating the product to clients. When a client sees this unique display of information they will assuredly choose Urban Science to help them with their strategy.

3 Design Specifications

3.1 Overview

The general interface is based on a Lazy Susan like menu. A user can swipe the screen to rotate the icons, and just touch on anyone of them to select a category. The program will trigger the infographic generator depending on the category that was selected. The infographic generator will then grab the preloaded data from the xml file and display with a default graph. Then user can select different style of infographic to display the information as they need.

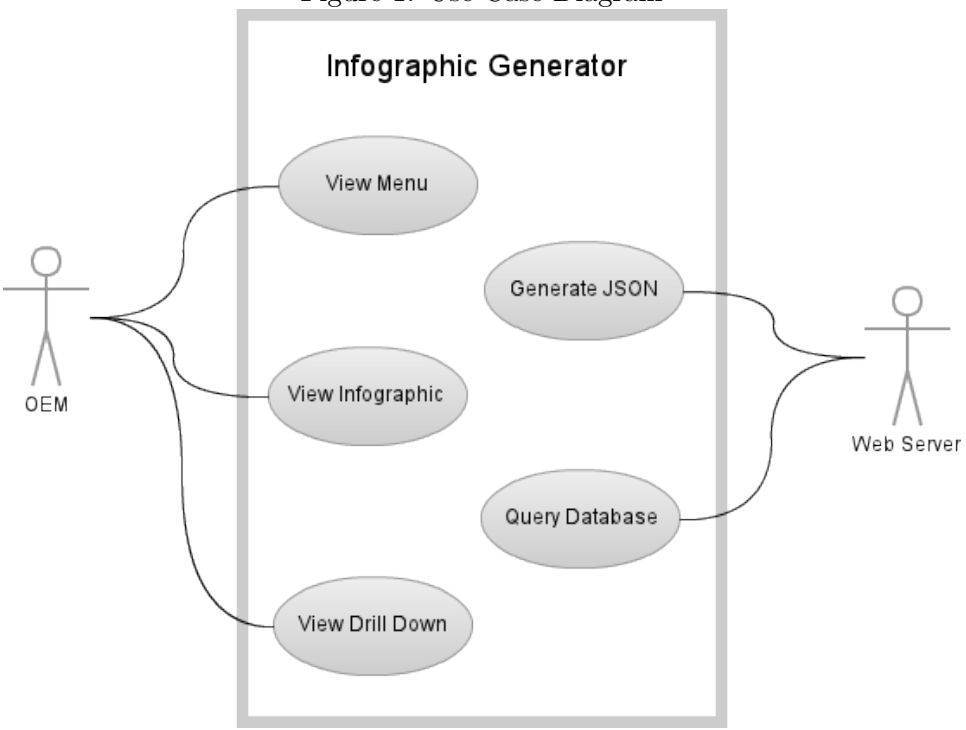
3.2 System Architecture

The infographic application is comprised of two major components: a web application/user interface and a backend database. Users are assumed to use safari browser on iPad. The web host then displays the menu screen. Data will be pulled until specific category is selected. When a category is selected, the program will pull up all the required data from the server. Depending on the style of infographic, data will be displayed in different form.

3.3 User Interface

shows the screen mockup for our prototype. The main page will be displayed in lazy Suzan style that allows the user to scroll through the icons to the right or left. The infographic for the current category will be shown when the icon is clicked on.

Figure 1: Use Case Diagram



show a sample infographic depiction. If you want to view data for another month, you can just swipe left and right to change the time frame. If you want to go back to the main menu page, just click on the top right corners menu button.


AT&T
12:43 PM
76%
Jan 2012
Vehicle sales
Retail Sales
153
Cost per Sale
189$
Dealer Retention
29.9%
Customers
Active
Inactive
Single visit
Recent Sales


AT&T
12:43 PM
76%
Jan 2012
Vehicle sales
Used Vehicle Sales
64
Lost Sales
449
Retail Sales
153
Customers
Cost per Sale
189$

4 Technical Specifications

The infographic generator will produce infographics suitable for display in a browser with support for HTML5 and JavaScript.

Each infographic will be based off of KPI data returned from a Microsoft SQL database. The server will use an asp.net script to query the database and return the information to the client device. The client device will integrate this data with predefined infographic scripts written in a combination of HTML5 and JavaScript to generate the infographic.

An infographic framework consisting of the server side database query script and a client side JavaScript library will be used to assist in the creation of infographics. The JavaScript library will contain functions to create reusable animations and artwork based off values obtained from the database query script.

The interface for viewing infographics will be written in HTML5 and JavaScript. It will use jQuery to support swipe events on the iPad for scrolling left and right in the menus. The menus will be populated with

items read from an XML file. Only the front most item (the item with the greatest cascading style sheet z-index) in the menu will be selectable. The front most item will change to the item on its immediate left if swiped right and vice-versa if swiped left.

The main menu will be used to select a category. Once the category has been selected, the contents screen will change to show the infographic for the selected category. The user will have the ability to return to the main menu while viewing an infographic. This functionality will be provided by a button located on each infographic display page but not as part of the main menu.

Figure 2: Sequence Diagram

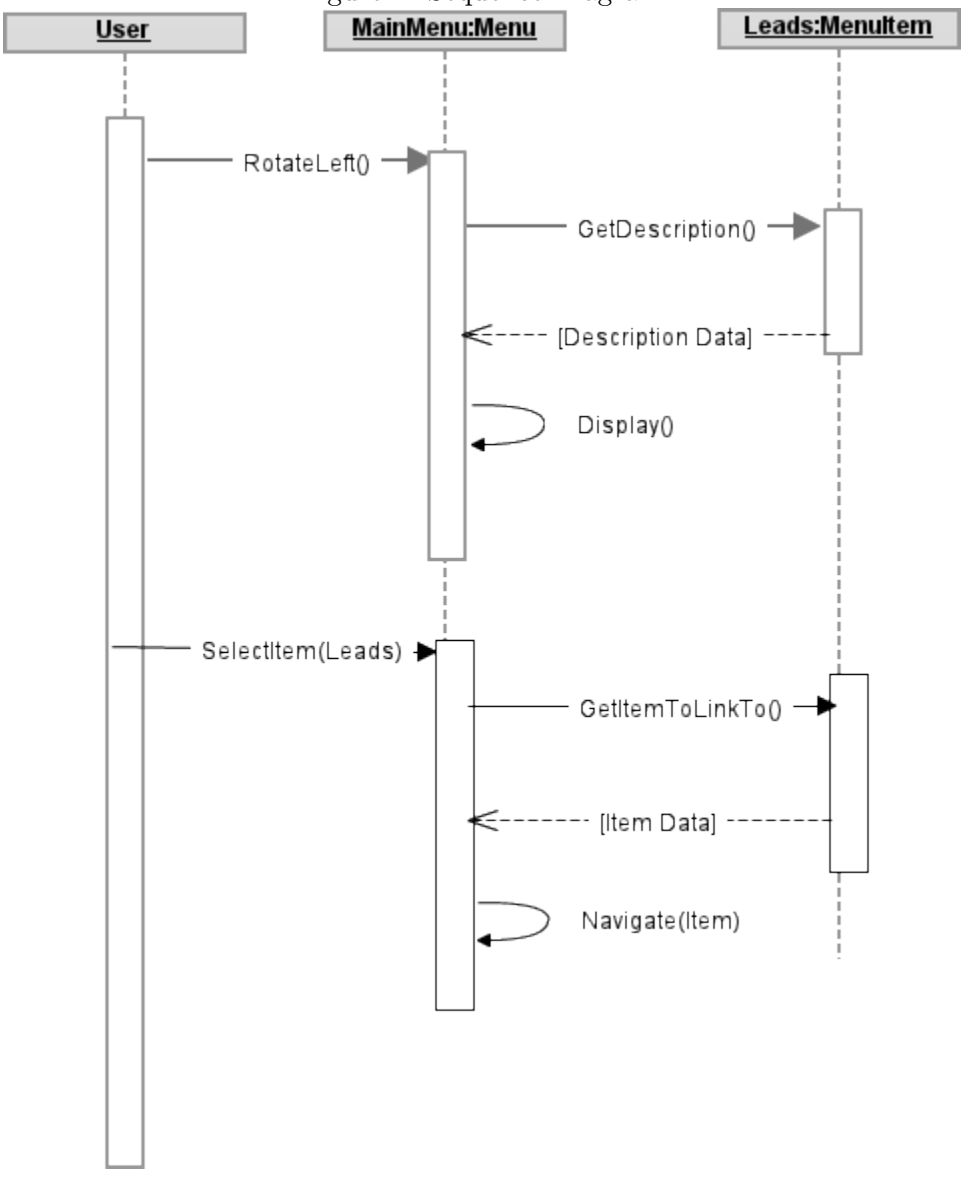
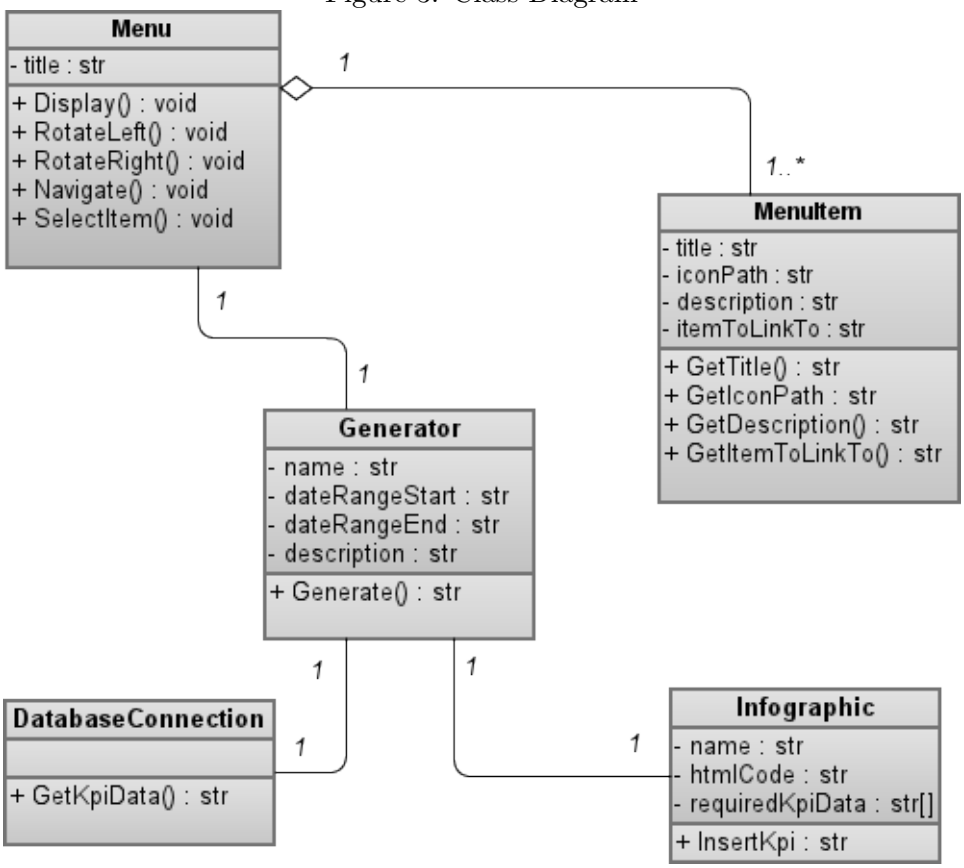


Figure 3: Class Diagram



5 Schedule

5.1 Week 1 (January 9, 2012)

- Had our first conference call with our customer
- Set up weekly conference calls with our customer
- Set up regular team meetings to meet twice a week
- Installed virtual machines

5.2 Week 2 (January 16, 2012)

- Started UML diagrams
- Installed Windows Server 2008 R2
- Installed IIS 7
- Installed ASP.NET
- Installed Microsoft SQL Server
- Talked with our customer about interface mockups

5.3 Week 3 (January 23, 2012)

- Completed more UML diagrams
- First draft of project-plan
- Installed Visual Studio 2010
- Created screen mockups
- Created sample infographic elements

5.4 Milestone: Status Reports

- Gave report to class

5.5 Week 4 (January 30, 2012)

- Created infographic elements using actual KPI data
- Wrote website to showcase infographics
- Decided to work on sales infographic first

5.6 Milestone: Project Plan Presentation

- Gave presentation in class

5.7 Week 5 (February 6, 2012)

- Presented project plan to class
- Changed from using XML to JSON for pulling database information
- Have roundabout working with several images for infographic selector buttons
- Successfully pulled data from a SQL database using ASP.NET

5.8 Week 6 (February 13, 2012)

- Sales infographic exists in basic form
- Added background image to main menu

5.9 Week 7 (February 20, 2012)

- Infographics now use values from database
- Rewrote pump in sales infographic
- Practiced Alpha Demonstration

5.10 Milestone: Alpha Demonstrations

- Demonstrated software to Urban Science for first time
- Recieved usefull feedback from Urban Science

5.11 Week 8 (February 27, 2012)

- Planning for betas
- Created mockups of service and lead management infographics

5.12 Week 9 (March 12, 2012)

- Added service infographic to website
- Fixed bugs with swiping
- Local storage now refreshes with website

5.13 Week 10 (March 19, 2012)

- Added MSU and Urban Science branding to website
- Visited Urban Science headquarters in Detroit, MI

5.14 Week 11 (March 26, 2012)

- Added remaining KPI to service and lead management infographics
- Implemented drill down display
- Began writing script for video
-

5.15 Milestone: Beta Demonstrations

- Presentation was successful
- Project was feature complete

5.16 Week 12 (April 2, 2012)

- Changed text formatting upon customer request
- Fixed bugs with swiping

5.17 Week 13 (April 9, 2012)

- Updated project plan to reflect most recent version of webapp
- Discovered origin of grey background in jquery css

5.18 Week 14 (April 16, 2012)

- Has not occured

5.19 Week 15 (April 23, 2012)

- TODO: clean up code
- TODO: write documentation for functions
- TODO: project video
- TODO: rename /webapp/images/avg$.png because of potential problems with having a dollar sign in the filename

5.20 Milestone: Projet Video

- Has not occured

5.21 Milestone: All Deliverables

- Has not occured

5.22 Milestone: Design Day

- Has not occured

6 Remaining tasks

- clean up code
- write documentation for functions
- project video
- rename /webapp/images/avg$.png because of potential problems with having a dollar sign in the filename
- make close rate a percentage