

MICHIGAN STATE
UNIVERSITY

Project Plan

Visual Hierarchy Selection

The Capstone Experience

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

Project Overview

- User-friendly Visual UI
 - Displays the hierarchy in a rows in which each row has a series of items with text and photos.
 - Replace current text based tree structure
- Quick search function
 - Ability to search for a single node within the tree



Functional Specifications

- Search
 - All-Level
 - Current Level
- Navigation
 - Mouse/touchscreen or keyboard
 - Scrolling
- Appearance
 - Pictures & Text
- Items
 - Each item can fall into multiple categories as well as be a category within itself

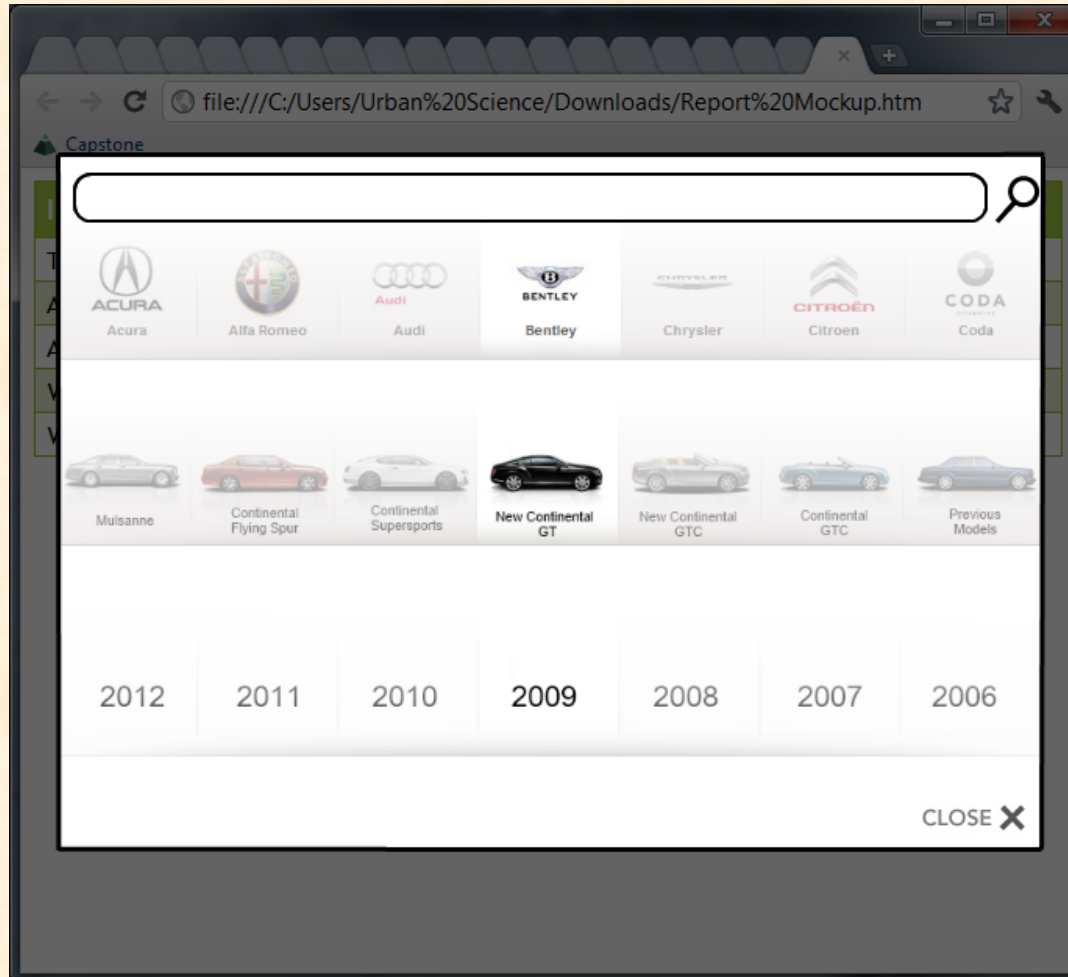


Design Specifications

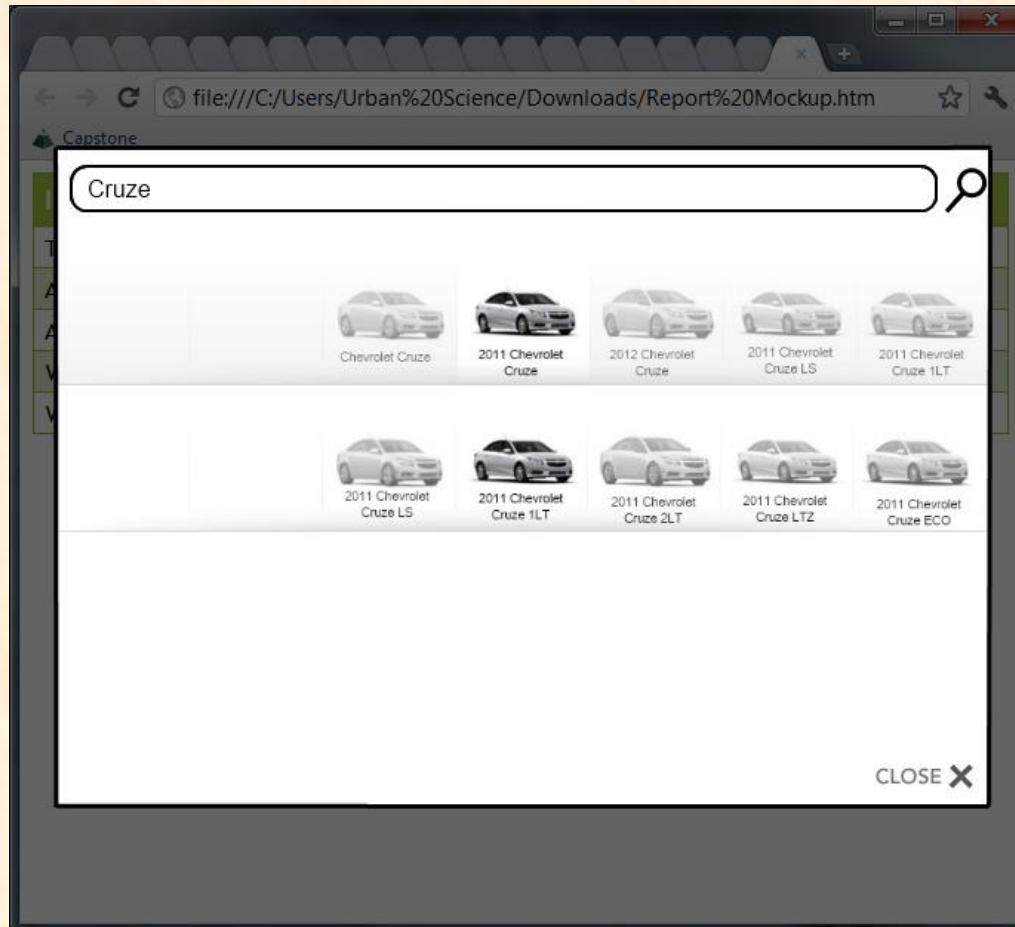
- Appearance
 - Tree will be displayed in an overlay
 - Categories will appear in rows
 - Rows will shift up as the user navigates across categories
 - The selected item/category will be displayed in the center of the overlay
 - Quick search bar



Screen Mockups



Screen Mockups

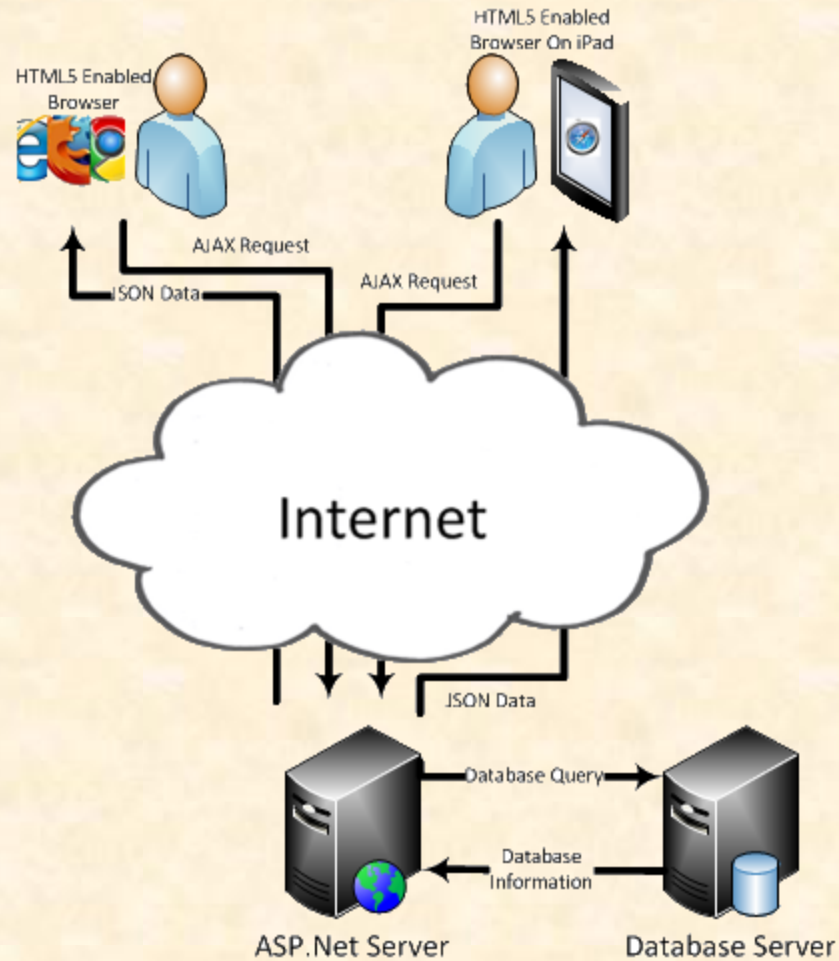


Technical Specifications

- Server
 - ASP.NET web component
 - Responds to AJAX queries
 - Retrieves information from SQL database
- Client
 - HTML5 Canvas in an overlay
 - JavaScript to draw the UI
 - Uses local storage to cache data



System Architecture



System Components

- Hardware Platforms
 - ASP.NET Server
 - HTML5 compatible browser
 - SQL Database
- Software Platforms / Technologies
 - ASP.NET
 - HTML5
 - JavaScript



Testing

- Browser compatibility testing
 - Graceful failure
- Speed testing
- Large data sets
 - Many level hierarchy
 - Many items on each level
- Multiple input methods intuitive
 - Keyboard
 - Mouse
 - Touchscreen



Risks

- **Browser Compatibility**

Making the component work with multiple browsers, including mobile browsers.

- **Database Retrieval**

Difficulty in retrieving information from the databases could vary depending on the sizes of the databases.

- **HTML5 and ASP.NET**

Web development is unfamiliar.

