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# Quick-Quoter Web Application

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*Dakota State University*

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# **QUICK-QUOTER WEB APPLICATION**

A graduate project submitted to Dakota State University in partial fulfillment of the requirements for the degree of

Master of Science

in

Information Systems

May, 2010

By

Michael Osborn

Project Committee:

Dr. Kevin Streff

Dr. Ronghua Shan

Chris Olson



## PROJECT APPROVAL FORM

We certify that we have read this project and that, in our opinion, it is satisfactory in scope and quality as a project for the degree of Master of Science in Information Systems.

Student Name: Michael Osborn

Master's Project Title: Quarter-Quarter Web Application

Faculty supervisor: [Signature] Date: 5/7/2010

Committee member: \_\_\_\_\_ Date: \_\_\_\_\_

Committee member: \_\_\_\_\_ Date: \_\_\_\_\_



## PROJECT APPROVAL FORM

We certify that we have read this project and that, in our opinion, it is satisfactory in scope and quality as a project for the degree of Master of Science in Information Systems.

Student Name: Michael Osborn

Master's Project Title: Quick Quotes Web Application

Faculty supervisor: \_\_\_\_\_ Date: \_\_\_\_\_

Committee member: Roylma Sham Date: 5/7/2010

Committee member: \_\_\_\_\_ Date: \_\_\_\_\_





## PROJECT APPROVAL FORM

We certify that we have read this project and that, in our opinion, it is satisfactory in scope and quality as a project for the degree of Master of Science in Information Systems.

Student Name: Michael Osborn

Master's Project Title: Quick-Quote Web Application

Faculty supervisor: \_\_\_\_\_ Date: \_\_\_\_\_

Committee member: Chris Olson \_\_\_\_\_ Date: \_\_\_\_\_

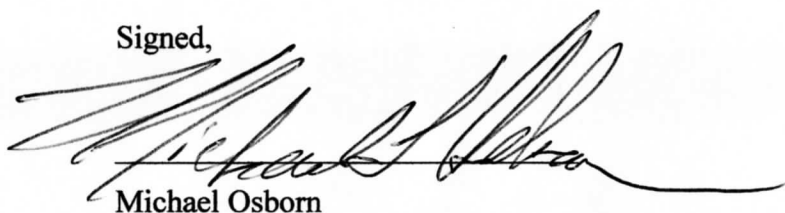
Committee member: \_\_\_\_\_ Date: \_\_\_\_\_

## DECLARATION

I hereby certify that this project constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions or writings of another.

I declare that the project describes original work that has not previously been presented for the award of any other degree of any institution.

Signed,

A handwritten signature in black ink, appearing to read "Michael Osborn", written over a horizontal line. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Michael Osborn

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## INTRODUCTION

### **Background of the Problem**

Lyle Magorien contacted me in regards to automating his price quoting process for customers interested in purchasing new campers and trailers at his business. Lyle needs a way to develop quotes quickly and accurately based a set of options chosen by a customer. Currently his system involves looking up models, walking through the options with the customer, recording the options the customer wants, and manually calculating the quote on the spot. Customers will usually re-negotiate the quote by adding or removing options from the model, which requires another on the spot calculation.

### **Statement of the problem**

Lyle's current process is paper-based, labor intensive, prone to errors, and produces quotes that are not easy to modify at a later date. The cost of shipping the product and the cost of the material involved in creating the campers or trailers changes frequently and must be re-calculated during later negotiations with the customer. During the quoting process, the customer may become aware of the cost of options, because the price and the cost are on the sheets used to identify the options for a specific model. After the quote is accepted by the customer Lyle has to make sure that all options the customer wanted are correctly reported to the vendor during purchasing. Lyle also needs to calculate the cost of the purchase for billing purposes, which requires another look at the options selected in the quote.

## OBJECTIVES

The goal of this project is to automate the quoting process currently conducted at Lyle's business to reduce the amount of labor and errors during daily operations. The project will result in a web application and a relational database that enables Lyle's customers to easily view the options for all supported camper and trailer models, and produce real-time quotes. The web application will automate the reporting of quotes, so Lyle can email and print quotes for customers, produce internal pricing sheets, and produce product ordering sheets.

The web application will allow Lyle to administrate the addition of new campers and trailers and document the price, cost, and other variables pertaining the model itself and the options available to the model.

Lyle has also requested that this same web application be developed in a way in which he can resell the web application as a service to other businesses interested in automating their quoting process. To do this, the web application must allow for administration of business accounts and user accounts. Specific models of campers created by Lyle's business will be available for other businesses through an import feature.

# SCOPE

## 1. Quick-Quoter Web Application

### a. Planning & Design Phase

#### i. Planning

1. Define Purpose
2. Define Scope

#### ii. Analysis

1. Document Requirements
2. Develop ERD
3. Verify Requirements

#### iii. Design

##### 1. Web Page Design

- a. Create Quote Page
- b. Manage Quote Page
- c. Profile Page
- d. **Generic Administration**
  - i. Type Page
  - ii. Make Page
  - iii. Make Options Page
  - iv. Model Page
  - v. Dealer Page
  - vi. Import Page
- e. **Global Administration**
  - i. Dealers page

##### 2. Report Design

- a. Quote Report
- b. Pricing Report
- c. Manufacturer Report

### b. Implementation

#### i. Develop Database

##### 1. Create Database Tables

- a. Identify Column Data Types

##### 2. Create Database Procedures

- a. Identify and Create Procedures

##### 3. Create Database Functions

- a. Identify And Create Functions

##### 4. Identify Program Objects

##### 5. Create Program Objects

- a. Identify Class Functions / Procedures
- b. Create Class Functions / Procedures

##### 6. Create Master Page GUI

- a. Write CSS

- 7. Create Content Pages**
  - a. Code HTML
  - b. Code Behind
- 8. Create Reports**
  - a. Quote Report
  - b. Pricing Report
  - c. Manufacturer Report
- 9. Debug**
  - a. Verify Functionality
  - b. Verify Requirements are met

## **DELIVERABLES**

At the completion of this project, the following items will be reviewed and/or delivered to the committee for final approval:

1.  Project Plan Document (Word 2007 Document)
2.  Work Breakdown Structure (Microsoft Project File)
3.  Gantt Chart (Microsoft Project File)
4.  Entity Relationship Diagram (Visio 2007 Document)
5.  SQL Database Diagram (Microsoft XPS Document)
6.  Requirement Documentation (Word 2007 Document)
7.  Web Application (ASP.NET Web Application developed in Visual Studio 2008 using VB.NET)
8.  Relational Database (SQL Server 2005 Express Database)



# Work Breakdown Structure

Quick-Quoter Web Application

## MSISProject

ID	Task Name	Duration
1	<b>Quick-Quoter Web Application</b>	<b>110.13 days</b>
2	<b>Planning</b>	<b>0.5 days</b>
3	Define Purpose	2 hrs
4	Define Scope	2 hrs
5	<b>Analysis</b>	<b>12 days</b>
6	Document Requirements	2 wks
7	Develop ERD	2 days
8	<b>Design</b>	<b>19.75 days</b>
9	<b>Web Page Design</b>	<b>2.25 days</b>
10	Quote Page	5 hrs
11	Manage Quote Page	5 hrs
12	Profile Page	1 hr
13	<b>Generic Administration</b>	<b>0.75 days</b>
14	Type Page	1 hr
15	Make Page	1 hr
16	Make Options Page	2 hrs
17	Model Page	1 hr
18	Dealer Page	1 hr
19	<b>Global Administration</b>	<b>0.13 days</b>
20	Dealers Page	1 hr
21	<b>Report Design</b>	<b>0.38 days</b>
25	Database Specification	1 wk
26	Model Domain Objects	1 wk
27	Model Data Transfer Objects	2 days
28	Model Data Transfer Interfaces	2 days
29	<b>Implementation</b>	<b>77.88 days</b>
30	<b>Develop Database</b>	<b>7 days</b>
31	Create Database Tables & Relationships	2 days
32	Create Database Procedures	1 wk
33	<b>Develop Objects</b>	<b>11 days</b>
34	Create Business Objects	2 wks
35	Create Data Transfer Objects	1 day
36	<b>Develop Data Access Layer</b>	<b>5 days</b>
37	Implement Data Transfer Interfaces	1 wk
38	Develop Master Page	1 wk
39	<b>Develop Content Pages</b>	<b>19 days</b>
40	Develop Page Controls	1 wk
41	Integrate Domain Objects	2 wks
42	Develop Reports	3 days
43	<b>Debug</b>	<b>27.88 days</b>
44	Automate Test Cases	3 wks
45	Verify Requirements	3 days

# Requirements Specification

Quick-Quoter Web Application

**Contents**

- Minimum Operational Requirements .....3
- Administrative Requirements .....3
  - Global Administration .....3
    - Dealership & User Account Information .....3
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## Minimum Operational Requirements

1. Windows Server 2003.
2. SQL Server 2005 Express Edition.
3. SQL Server 2005 Toolkit.
4. Internet Information Services 6.0.
5. ASP.Net 3.5.

## Administrative Requirements

Administration within the tool will have two different components: global and normal administration. Normal administration refers to the setting up of content prior to the quoting process and the management of users for a specific dealership. Global administration will have these privileges as well as the ability to manage all dealership account information within the tool. Global administration privileges will be given to administrators of a global dealership. This dealership is unique and represents the access granted to the owner of the tool.

### Global Administration

#### Dealership & User Account Information

1. Administrators must be able to create new dealership accounts. The following information is required when creating a new dealership.
  - a. Name.
  - b. Login.
    - i. Logins must be unique across all dealerships.
  - c. City.
  - d. State.

#### *Recognized States include:*

Alabama	Federated States of Micronesia	Kentucky	Montana	Ohio
Alaska	Florida	Louisiana	Nebraska	Oklahoma
American Samoa	Georgia	Maine	Nevada	Oregon
Arizona	Guam	Marshall Islands	New Hampshire	Palau
Arkansas	Hawaii	Maryland	New Jersey	Pennsylvania
California	Idaho	Massachusetts	New Mexico	Puerto Rico
Colorado	Illinois	Michigan	New York	Rhode Island
Connecticut	Indiana	Minnesota	North Carolina	South Carolina
Delaware	Iowa	Mississippi	North Dakota	South Dakota
District of Columbia	Kansas	Missouri	Northern Mariana Islands	Tennessee

Texas

Vermont

Virginia

West Virginia

Wyoming

Utah

Virgin Islands

Washington

Wisconsin

- e. Account Expiration Date.
2. Administrators must be able to update or delete dealership account information at any time.
3. Administrators must be able to add new users for a given dealership. The following information is required when creating a new user account for a dealership.
  - a. Name.
  - b. Login.
    - i. Logins must be unique within each dealership.
  - c. Email.
  - d. Phone.
  - e. Password.
  - f. Administration Status.
4. Administrators must be able to enable and disable user accounts for a given dealership.
5. Administrators must be able to update user account information at any time.
6. Administrators must be able to delete user accounts at any time.
  - a. Administrator cannot delete their own account.

#### Normal Administration

##### Dealership & User Account Information

1. Administrators must be able to update dealership name at any time.
2. Administrators must be able to add new users to its dealership. The following information is required when creating a new user account for a dealership.
  - a. Name.
  - b. Login.
    - i. Logins must be unique within the dealership.
  - c. Email.
  - d. Phone.
  - e. Password.
  - f. Administration Status.
3. Administrators must be able to enable and disable user accounts to its dealership.
4. Administrators must be able to update user account information at any time.
5. Administrators must be able to delete user accounts at any time.
  - a. Administrator cannot delete their own account. This prevents administrators from removing all access to the tool for its dealership.

#### Content Administration

1. Administrators will be able to add/update/delete types. The following information is required when adding a new type:
  - a. Name.
    - i. Type names must be unique.

2. Administrators will be able to add/update/delete makes. The following information is required when adding a new make:
  - a. Type.
  - b. Name.
    - i. Make names must be unique.
  - c. Percent Markup.
3. Administrators will be able to add/update/delete options and sections for a make. Sections are used to break apart different options or for a specific make.
  - a. The following information is required when adding sections:
    - i. Section name.
  - b. The following information is required when adding options:
    - i. Section
    - ii. Option name.
    - iii. Price.
    - iv. Cost.
    - v. Required (means options must be included in the quote).
    - vi. Multiples (means you can specify at quote time how many of this option you would like).
4. Administrators will be able to order options within each section.
5. Administrators will be able to add/update/delete models. The following information is required when adding a new model:
  - a. Type.
  - b. Make.
  - c. Name.
  - d. Price.
  - e. Cost.
  - f. Year.
    - i. Available years will be listed from 1980 to (current year + 1).
6. A model must be unique in the context of its name and year for a specific make.
7. Models will by default inherit the options of its parent make.
8. Administrators will be able to enable and disable options for a specific model.
9. Administrators will be able to enable and disable models for a specific make. This disables the model from quoting and allows the administrator time to enter the model and verify the options are correctly added.

## User Profile

1. Each user has the ability to update their personal profile. The following information may be updated in the profile.
  - a. Name.
  - b. Email.
  - c. Phone.

- d. Password.
- e. Disclosure Statement.

## Quoting

1. The tool must be able to create a quote based on a set of options for a given model/year
2. Users must be able to select a type, make, model, and year.
  - a. The options enabled options for that model/year will be displayed.
  - b. The calculated price of that model/year will be displayed in a total.
    - i. Initial price is the price of the model  $*(1 + \text{Make Markup percent}) + \text{initial required options}$ .
3. The user will be able to select options at their discretion.
  - a. As options are selected/removed/required their price added/removed from the total.
  - b. Options that allow multiples will begin with a multiple of one. Users may enter in a new number representing the number of times they would like to purchase that option.
    - i. If selected, the price of the option reflected in the total must be multiplied by the number of multiples.
    - ii. The number of multiples must be one or more.
4. Freight may be added but is not required. If added it will be reflected in the total
5. Contact information may or may not be included in the quote. If desired, the following information may be entered to identify the contact.
  - a. Name.
  - b. Email.
  - c. Home Phone.
  - d. Cell Phone.
  - e. Other Phone.
6. Quotes can be generated at any time for a selected type, make, model, and year.
  - a. The report generated must include the following information.
  - b. Dealer Information.
    - i. Name.
    - ii. City.
    - iii. State.
  - c. User Information.
    - i. Name.
    - ii. Phone.
    - iii. Email.
    - iv. Disclosure Statement.
  - d. Contact information (if available).
    - i. Name.
    - ii. Email.
    - iii. Home Phone.
    - iv. Cell Phone.



- v. Other Phone.
- e. Quote Information.
  - i. Current Date.
  - ii. Type.
  - iii. Make.
  - iv. Model.
  - v. Year.
  - vi. Relevant sections.
  - vii. Selected options and quantity.
  - viii. Freight.
  - ix. Total Price.
- 7. Quotes may be saved.
  - a. All relevant contact information must be saved.
  - b. All required and selected options and their multiples must be saved.
  - c. Date of the quote must also be saved.

## Managing Quotes

1. Quotes will be viewable only by the user who created it.
2. Quotes will be organized by date (newest first).
3. Contact name if available, model, and the date created must be displayed to the user.
4. Quotes will only contain selected options that are currently available for a model.
5. Quote totals must reflect current price changes.
6. Quotes will not be stored as a physical file on the hard-drive, but rather as options selected in the database.
7. Quotes must be able to be reissued to the quoting page where all available selected options, freight, and contact information will be populated.
8. Quotes may be deleted at any time.
9. Three different reports must be made available to the user.
  - a. Quote report (as describe above).
  - b. Price report with the following information:
    - i. Dealer Information.
      1. Name.
      2. City.
      3. State.
    - ii. User Information.
      1. Name.
      2. Phone.
      3. Email.
      4. Disclosure Statement.
    - iii. Contact information (if available).
      1. Name.

2. Email.
3. Home Phone.
4. Cell Phone.
5. Other Phone.

iv. Quote Information.

1. Current Date.
2. Type.
3. Make.
4. Model.
5. Year.
6. Relevant sections.
7. Selected options
8. Quantity with unit price/cost.
9. Option Price and Cost
10. Total price and cost for selected options.
11. Model Price and cost.
12. Markup percent, markup percent \* price, and markup percent \* cost.
13. Freight.
14. Total Price and cost.

c. Manufacturer report with the following information:

i. Dealer Information.

1. Name.
2. City.
3. State.

ii. User Information.

1. Name.
2. Phone.
3. Email.
4. Disclosure Statement.

iii. Contact information (if available).

1. Name.
2. Email.
3. Home Phone.
4. Cell Phone.
5. Other Phone.

iv. Quote Information.

1. Current Date.
2. Type.
3. Make.
4. Model.
5. Year.

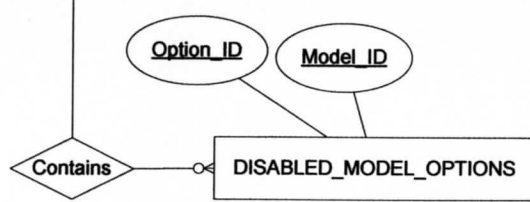
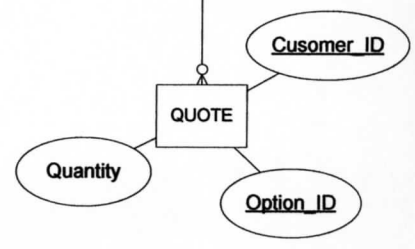
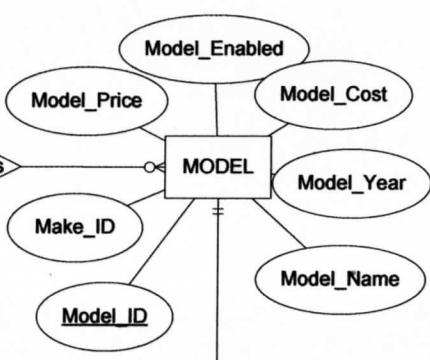
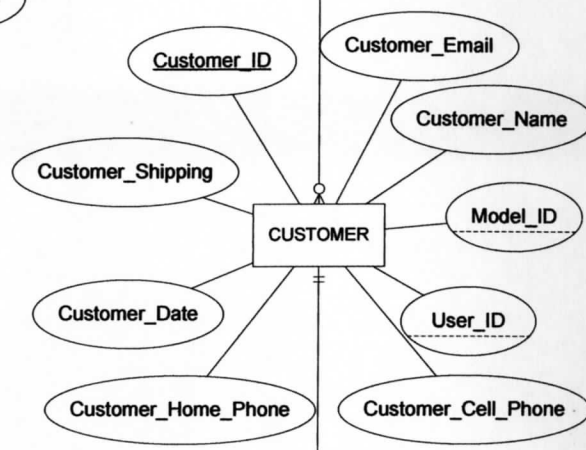
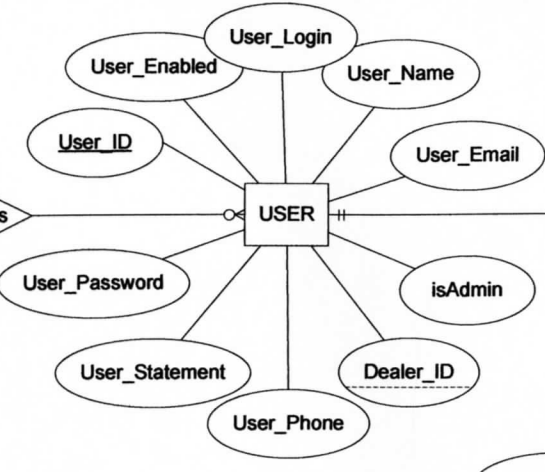
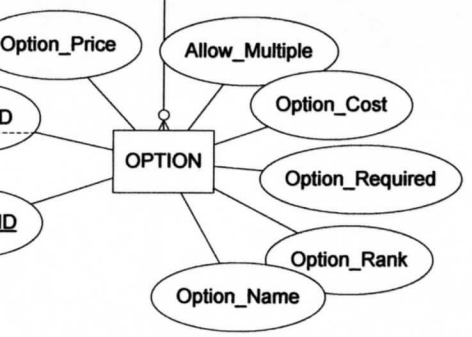
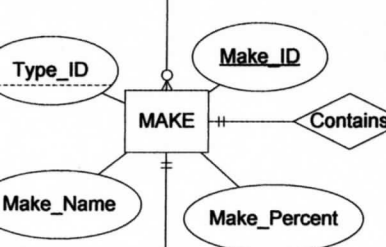
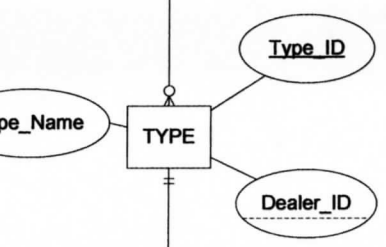
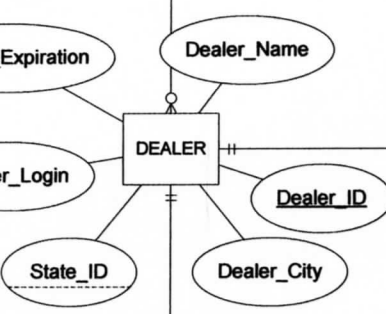
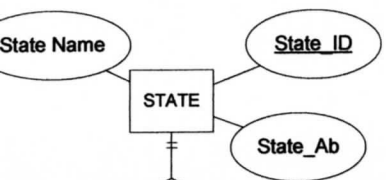
6. Relevant sections.
7. Selected options
8. Quantity with unit cost.
9. Option Cost
10. Total selected option cost.
11. Model cost.
12. Markup percent and markup percent \* cost.
13. Total Cost.

## Information Sanitization and Standardization

1. All information will be sanitized before being added to the database.
  - a. Email addresses will conform to xxx@xxx.xxx.
  - b. Phone numbers will conform to 555-555-555.
    - i. Phone numbers may have an extension 555-555-555x555.
  - c. Currency will be display with "\$" symbol and two decimals throughout the tool. "\$" symbol and commas may be omitted when entering data into the tool.
  - d. Percentages will have four decimal places and will be displayed with "%" symbol. "%" symbol may be omitted when entering data into the tool.
  - e. Dealer Names, Dealer Logins, User Names, User Logins, Type Names, Make Names, Model Names, and Contact Names will be limited to (a-z, A-Z, 0-9, ', -, &) characters.
  - f. Passwords will not be stored as plain text in the database.
  - g. Data Length must be restricted based on the data type of the column to be updated in the database. This restriction must be applied to the GUI in all relevant areas for data entry.

## Messages

1. Success and error messages will be shown whenever there is an attempt to change information in the database.
  - a. Success messages will be shown when information is successfully changed
  - b. Error messages will be shown if there is an error in the program, or if the new information is invalid.



# Database Specification

Quick-Quoter Web Application

**Option**

1-1

**Option\_Quote**

Column Name	Data Type	A
Quote_ID	bigint	
Option_ID	bigint	
Quantity	tinyint	
Type_ID	bigint	
Make_ID	bigint	
Section_ID	bigint	

## Quote

Column Name	
Customer_ID	big
Quote_ID	big
Type_ID	big
Make_ID	big
Model_ID	big
Shipping	mo
Info	nv
Date	da
User_ID	big

FK\_Option\_Quote\_Quote1

FK\_Quote\_Mo





Allow Nulls

- 
- 
- 
- 
- 
- 
- 
- 
- 
- 

FK\_Package\_Quote\_Quote1

8

**Package\_Quote**

Column Name	Data Type	Allow Null
 Quote_ID	bigint	<input type="checkbox"/>
 Package_ID	bigint	<input type="checkbox"/>
 Type_ID	bigint	<input type="checkbox"/>
 Make_ID	bigint	<input type="checkbox"/>
		<input type="checkbox"/>

8



User

FK\_Quote\_Customer

Column Name	Data Type	Allow Nulls
Type_ID	bigint	<input type="checkbox"/>
Make_ID	bigint	<input type="checkbox"/>
Section_ID	bigint	<input type="checkbox"/>
Option_ID	bigint	<input type="checkbox"/>
Option_Name	nvarchar(MAX)	<input type="checkbox"/>
Option_Price	money	<input type="checkbox"/>
Option_Cost	money	<input type="checkbox"/>
Option_Code	nvarchar(50)	<input checked="" type="checkbox"/>
Option_Rank	numeric(3, 0)	<input type="checkbox"/>
Allow_Multiple	bit	<input type="checkbox"/>

Column Name	Data Type	Allow Nulls
Quote_ID	bigint	<input type="checkbox"/>
Quote_Type	bigint	<input type="checkbox"/>
Quote_Make	bigint	<input type="checkbox"/>
Quote_Section	bigint	<input type="checkbox"/>
Quote_Price	money	<input type="checkbox"/>
Quote_Cost	money	<input type="checkbox"/>
Quote_Code	nvarchar(50)	<input type="checkbox"/>
Quote_Rank	numeric(3, 0)	<input type="checkbox"/>
Quote_Allow_Multiple	bit	<input type="checkbox"/>



FK\_Option\_Quote\_Option1

FK\_Disabled\_Model\_Option\_Option



FK\_Option\_Section

Column Name	Data Type	Allow Nulls
Type_ID	bigint	<input type="checkbox"/>
Make_ID	bigint	<input type="checkbox"/>
Section_ID	bigint	<input type="checkbox"/>
Section_Name	nvarchar(100)	<input type="checkbox"/>



**Disabled\_Model\_Option**

Column Name	Data Type	Allow Nulls
Type_ID	bigint	<input type="checkbox"/>
Make_ID	bigint	<input type="checkbox"/>
Model_ID	bigint	<input type="checkbox"/>
Section_ID	bigint	<input type="checkbox"/>
Option_ID	bigint	<input type="checkbox"/>

**Model**

Column Name	Data Type	Allow Nulls
Type_ID	bigint	<input type="checkbox"/>
Make_ID	bigint	<input type="checkbox"/>
Model_ID	bigint	<input type="checkbox"/>
Model_Name	nvarchar(100)	<input type="checkbox"/>
Model_Year	numeric(4, 0)	<input type="checkbox"/>
Model_Price	money	<input type="checkbox"/>
Model_Cost	money	<input type="checkbox"/>
Model_Enabled	bit	<input type="checkbox"/>

Model\_ID

FK\_Section\_Make

FK\_Model

FK\_Package\_Quo

### Package

Column Name	Data Type	Allow Nulls
Type_ID	bigint	<input type="checkbox"/>
Make_ID	bigint	<input type="checkbox"/>
Package_ID	bigint	<input type="checkbox"/>
Package_Na...	nvarchar...	<input type="checkbox"/>
Package_Co...	nvarchar...	<input type="checkbox"/>
Package_Price	money	<input type="checkbox"/>
Package_Cost	money	<input type="checkbox"/>

### Disabled\_Model\_Package

Column Name	Data Type	Allow Nulls
Type_ID	bigint	<input type="checkbox"/>
Make_ID	bigint	<input type="checkbox"/>
Model_ID	bigint	<input type="checkbox"/>
Package_ID	bigint	<input type="checkbox"/>





Disabled\_Model\_Packag

FK\_Package\_Make

### Type

Column Name	Data Type	Allow Nulls
Manufacturer_ID	bigint	<input type="checkbox"/>
Type_ID	bigint	<input type="checkbox"/>
Type_Name	nvarchar(100)	<input type="checkbox"/>

### Package\_Option



Column Name	Data Type	Allow Nulls
 Type_ID	bigint	<input type="checkbox"/>
 Make_ID	bigint	<input type="checkbox"/>
 Package_ID	bigint	<input type="checkbox"/>
 Package_Option_ID	bigint	<input type="checkbox"/>
Package_Option_Name	nvarchar(200)	<input type="checkbox"/>

∞  
\_Option\_Packa






### Make

Column Name	Data Type
 Type_ID	bigint
 Make_ID	bigint
Make_Name	nvarchar(100)
Make_Percent	money

FK\_Make\_Type


FK\_Type\_Dealer

### Manufacturer

Column Name	Data Type	Allow Nulls
 Manufacturer_ID	bigint	<input type="checkbox"/>
Manufacturer_Name	nvarchar(100)	<input type="checkbox"/>
Manufacturer_Login	nvarchar(50)	<input type="checkbox"/>
Manufacturer_City	nvarchar(50)	<input type="checkbox"/>
State_ID	numeric(3, 0)	<input type="checkbox"/>
Manufacturer_Expiration	datetime	<input type="checkbox"/>


FK\_User\_Dealer

### User

Column Name	
Manufacturer_ID	bi
 User_ID	bi
User_Login	va
User_Password	va
User_Name	va
User_Email	va
User_Phone	va
User_Enabled	bi
isAdmin	bi
User_Statement	nv

FK\_Manufacturer\_State

### State

Column Name	Data Type	Allow Nulls
 State_ID	numeric(3, 0)	<input type="checkbox"/>
State_Name	varchar(50)	<input type="checkbox"/>
State_Ab	nchar(2)	<input type="checkbox"/>





### Customer

Column Name	Data Type	Allow Nulls
User_ID	bigint	<input type="checkbox"/>
Customer_ID	bigint	<input type="checkbox"/>
Customer_Name	varchar(100)	<input checked="" type="checkbox"/>
Customer_Email	varchar(100)	<input checked="" type="checkbox"/>
Customer_Home_Phone	varchar(28)	<input checked="" type="checkbox"/>
Customer_Cell_Phone	varchar(28)	<input checked="" type="checkbox"/>
Customer_Other_Phone	varchar(28)	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

FK\_Customer\_Users

#### Allow Nulls

- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
-

# User Interface Design

Quick-Quoter Web Application

Quote

Manage Quote

Admin

Profile

Logout

Message Area

Green or Red

Message Bar

Displays Error or

Success Messages

Silver Gradient Bar

Gold and Silver keys

Hide Me

Javascript Animation to Hide  
or Show During Actions

1024 x 768 resolution web page

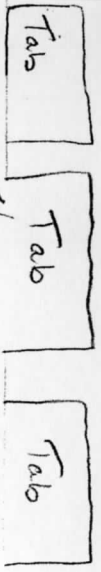
Silver & tone —  
color for borders  
and depth

Ivory color outside of display  
for larger monitors

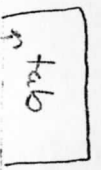
Header Design

Minimum Height will be set

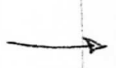
...



Borders Erased on Selected tab  
Background is white



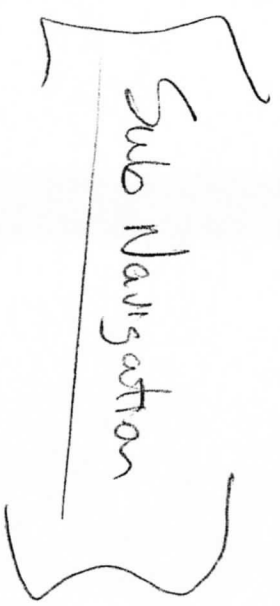
CSS mouse over  
"Highlights Tab"



Darker Grey than Headers

Offset color from

Sub Nav



Type Name > Make Name > Model > Year

Select "Current Action"

Link 1      Link 4

Link 2      Link 5

Link 3      Link 6

Current Action can be:

- 1 Type
- 2 Make
- 3 Model
- 4 Year

Clicking Items In Bar Will take you back into Section that Current Action and na Hide or Show custom Page content

alt+/> tag used to break  
no content from page

Links represent the name of the current objects, children links will span 4-6 columns on page  
Columns will be dynamic and based on the number of children available

Only the Max Bar will be left when all criteria of the page is met  
\*Not all Type, Make, Model, and year have to be selected

Selection Custom Control

Selection Custom Control

Available Options ← HTA styled Blue large font Bold

Option Name

Selected

Quantity ✓ Table Headers Black color

Section

option

option

Section

option

option

Freight:  \$100.001

Total cost: \$1,000.00

HTA  Large font Blue

Contact Information ← HTA

Name:

Email:

Home phone:

Cell phone:

HTA ✓

HTA ✓

HTA ✓

Quote Page

Manage Quotes

HA  
4/1/15

Name

Model

Table Header

Date

Mike Osborn

NCU A2008

10/11/2008

Reports

Actions

Quote, Prices, Manufacturer

EDIT

DELETE

Downloads Reports

Populates Quote P  
With specific Sales  
Options and Custom  
Data

Manage Quote Page

- Types
- Makes
- Make Options
- Models
- Dealers

New Type

Add

~hr/s

Name ↙ Table Headers

Edit

Delete

↙ Disabled on load

↘ Switches between Edit and Save

Clicking Edit Enables the Text Box for editing

Clicking Save Validates Data and updates DB

Also Disables Textbox if successful

Admin: Types



- Types
- Makes
- Make options
- Models
- Dealers

### Selection Custom Control (Types)

New Make ← H2

← H1 >

Name

Percent Markup

Table Headers

← H1 >

Name

Percent Markup

Table Headers

Disables on load

Switches between Edit and Save

Clicking Edit enables Textbox for editing

Clicking Save validates Data and updates DB

Also Disables Textbox if successful

Admin: Makes

Types Makes Make options Model Dealers

Selection Custom Control (Type/Make)

New Option   ← can also be Section  
 ↙ ↘  
 <hr/>

A  
V

Price  Cost  Required multiple     Add

Hidden if section

Existing Options ↙ ↘

Action   ↙ ↘ can also be edit

Move Option Section

Exterior Color

Red

Green

Blue

} Option

Navigation icons: up, down, left, right, search, refresh, etc.

Admin: Make Options

<hr/>

Existing Options

Action  Edit

Option Name

Exterior Color

red

Green

Blue

Delete

Standard Edit  
 cause Action

Price Cost Required Multiple

100  50

100  50

300  100

Types Make Options Models Dealers

Selection Custom Control (Type Make)

New Model ↖ H2

↳ H1/H2

Name Price Cost Year

↳ Table Header

8008 10 Add

↳ Table Header

Standard Edit/Save Behavior

Name Year Price Cost

↳ expands Colors

↳ Option Name

↳ Table Header

Enabled

Make Options

Exterior Color  
Red  
Green  
Blue

Admin: Models

Types

Notes

Make Options

Models

Dealers

New Dealer ↙ H2

Name:

Login:

City:

State:

Account Expiration:

Administrate Dealer ↙ H2

New User ↙ H2

Name:

Login:

Email:

Phone:

password:

Admin?

↖ Password  
Textbox

Current Users

Admin: Global Administration  
Dealers

↙ H2 / S

Edit Dealer ↙ H2

Name:

Login:

City:

State:

Account Expiration:

Standard Edit/Save

- Types
- Makes
- Make Options
- Models
- Dealer
- Import Model

### Dealers Information ← #2

Name: Mike's Auto - Editable

Login: Mauto

City: Madison

State: Alabama

Account Exp: 12/25/2008

} Disable

Admin: Normal Administration

Dealers

Headers

Types | Makes | Make Options | Models | Dealer | Import Model |

Selection Custom Control Type / Make / Model / Year

Option Name

Extension Color

Red

Green

Blue

Enabled  $\swarrow$  Table Headers

$\swarrow$  HR

$\swarrow$  HR / s

Import

# User Information

Name:

Wilee Osborn

Email:

Wosborn@dbi.com

Phone:

555-555-5555

Password:

[Redacted]

Release Statement

Information may change often  
Initial Quote

[Redacted]

Save

# Profile

ship Name  
State  
me | Email | phone  
Make > model > year

Date (mm/DD/YYYY)

(Header)

er Information

t Content - Varies Depending on Report

s - Vary Depending on Report

sure Statement

[ Report Skeleton ]



# Quote Report]

ed Options

Quantity

exterior Color

Red

tra Tire

\$150.00  
\$3,150.00

# Report]

ed Options

Quantity

Price

Cost

exterior Color

Red

1x 500.00/500.00

\$ 500.00

\$250.00

tra Tire

1x 150.00/100.00

\$ 150.00

\$100.00

option Total:

\$ 650.00

\$350.00

model:

\$ 2,150.00

\$2,000.00

(10%):

\$ 200.00

\$ 200.00

\$ 150.00

\$150.00

\$ 3,150.00

\$2700.00

# Structure Report]

ed Options

Quantity

Cost

exterior Color

Red

1x 250.00

\$250.00

tra Tire

1x 100.00

\$100.00

option Total:

\$350.00

cost:

\$ 2,000.00

(10%):

\$ 200.00

Quick-Quote

Chase Auto Connection

Choose Brand

- CLASSIC CONNECTION HUBS I
- CLASSIC CONNECTION HUBS II
- CLASSIC CONNECTION HUBS III
- SPAC OVER DRIVE TRAILER
- SPAC
- SPAC OVER DRIVE
- FUTURE CONNECTION
- MAX OVER TRAILER
- MAX OVER DRIVE
- TRAVEL TRAILER
- UTILITY

Quick-Quote

Chase Auto Connection

Choose Brand

Choose Brand

Quick-Quote

Chase Auto Connection

Choose Brand

- CLASSIC CONNECTION HUBS I
- CLASSIC CONNECTION HUBS II
- CLASSIC CONNECTION HUBS III
- SPAC OVER DRIVE TRAILER
- SPAC
- SPAC OVER DRIVE
- FUTURE CONNECTION
- MAX OVER TRAILER
- MAX OVER DRIVE
- TRAVEL TRAILER
- UTILITY

Quick-Quote

Chase Auto Connection

Model Year  
2009

Quick-Quote

Blank area for quote details.

Chase Auto Connection

Model Year

Quick-Quote

Form with checkboxes for vehicle options like 'Chromed Wheel', 'Econo Hailer', etc.

Chase Auto Connection

Model Year

Quick-Quote

Form with checkboxes for vehicle options like '5.8 & 7 Power', 'Econo Hailer', etc.

Chase Auto Connection

Model Year

Quick-Quote

Form with checkboxes for vehicle options like 'Chromed Wheel', 'Econo Hailer', etc.

Chase Auto Connection

1/14/2015

Account: Chase Auto Connection - 2000

Account	Chase Auto Connection - 2000
Account Type	Auto Connection
Account Number	12345678901234567890
Account Status	Active
Account Balance	\$1,234.56
Account Opening Date	01/15/2015
Account Closing Date	
Account Holder	John Doe
Account Address	123 Main St, Anytown, CA 90210
Account Phone	(555) 123-4567
Account Email	john.doe@chase.com

Account	Chase Auto Connection - 2000
Account Type	Auto Connection
Account Number	12345678901234567890
Account Status	Active
Account Balance	\$1,234.56
Account Opening Date	01/15/2015
Account Closing Date	
Account Holder	John Doe
Account Address	123 Main St, Anytown, CA 90210
Account Phone	(555) 123-4567
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Account Closing Date	
Account Holder	John Doe
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Account Phone	(555) 123-4567
Account Email	john.doe@chase.com

Chase Auto Connection

Quick-Quote

My Chase

John Doe | 123 Main St, Anytown, CA 90210 | (555) 123-4567

Quote Cost: \$1,234.56

Full Data

Account	Chase Auto Connection - 2000
Account Type	Auto Connection
Account Number	12345678901234567890
Account Status	Active
Account Balance	\$1,234.56
Account Opening Date	01/15/2015
Account Closing Date	
Account Holder	John Doe
Account Address	123 Main St, Anytown, CA 90210
Account Phone	(555) 123-4567
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Chase Auto Connection

1/14/2015

Account: Chase Auto Connection - 2000

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Account Email	john.doe@chase.com









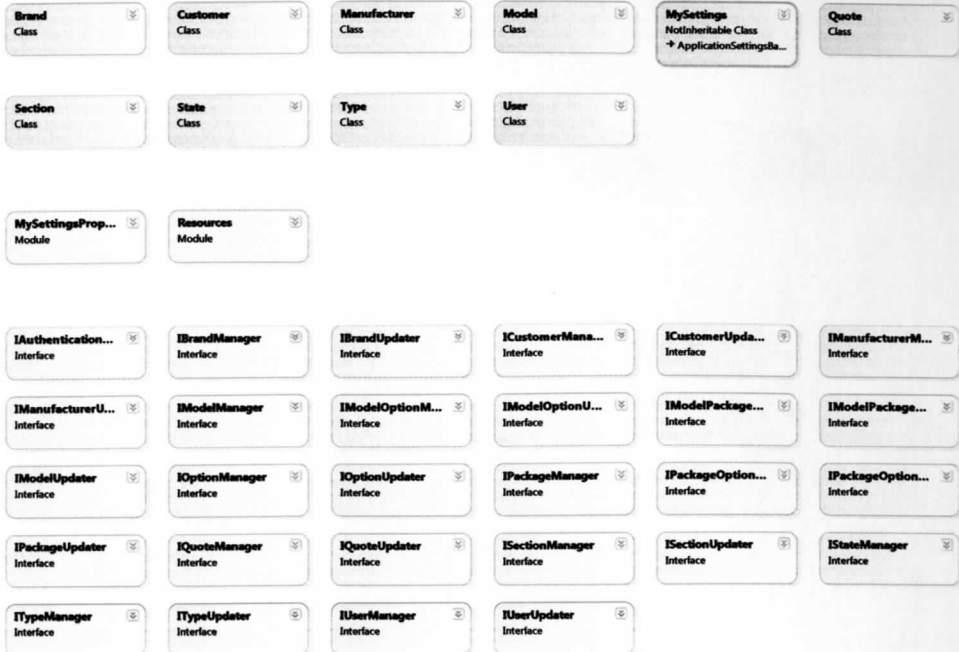
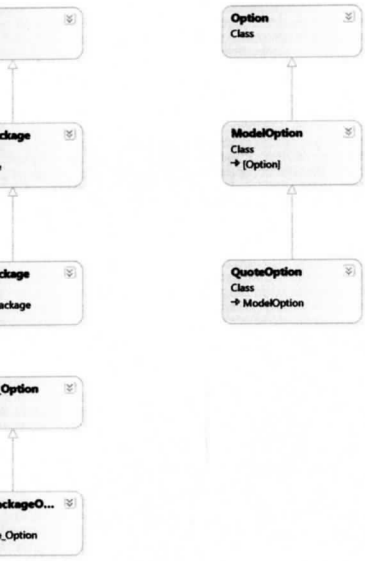
Name	City	State	Zip	Phone	Account Exp. Date
Chase Auto Connection	Adrian	MI	48106		
Chase Auto Connection	Adrian	MI	48106		
Chase Auto Connection	Adrian	MI	48106		
Chase Auto Connection	Adrian	MI	48106		
Chase Auto Connection	Adrian	MI	48106		

Name	City	State	Zip	Phone	Account Exp. Date
Chase Auto Connection	Adrian	MI	48106		
Chase Auto Connection	Adrian	MI	48106		
Chase Auto Connection	Adrian	MI	48106		
Chase Auto Connection	Adrian	MI	48106		
Chase Auto Connection	Adrian	MI	48106		



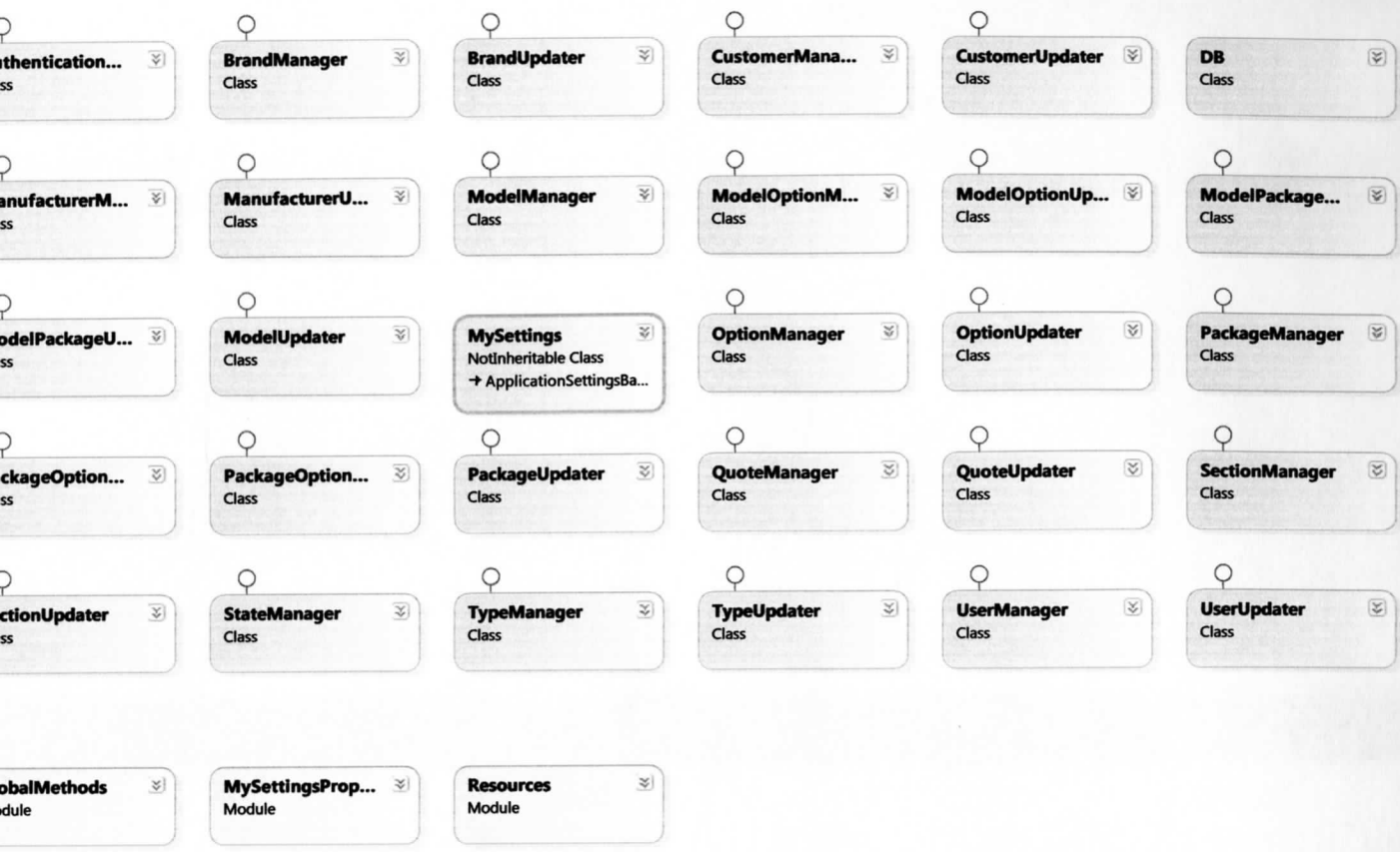
# Data Transfer Objects Design

Quick-Quoter Web Application



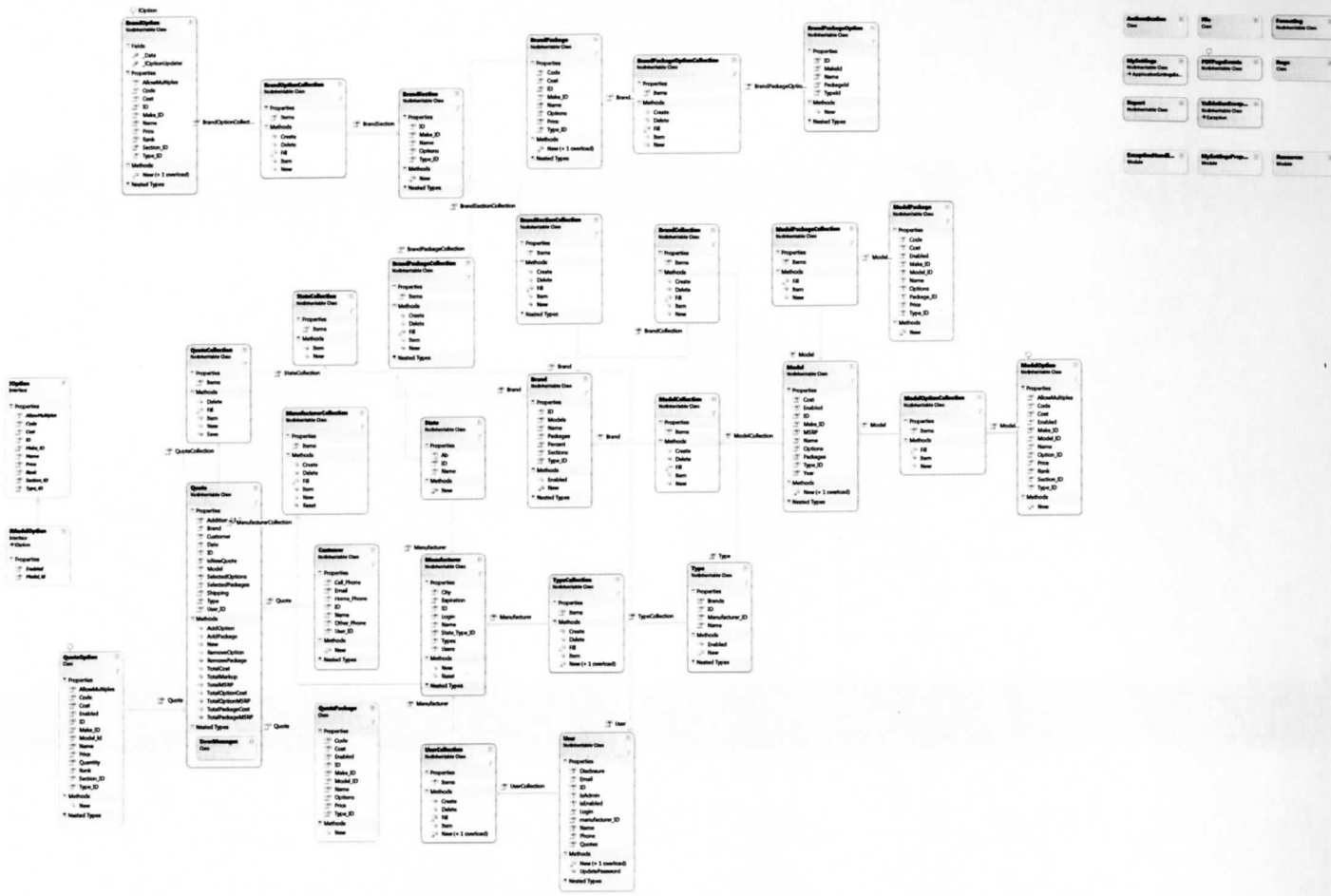
# Data Access Design

Quick-Quoter Web Application



# Domain Model Design

Quick-Quoter Web Application



# Presentation Power Point

Quick-Quoter Web Application

# Quick-Quoter Web Application



# Quick-Quoter Web Application

- **Perform quotes on campers or trailers**
  - Choose a model/year
  - Choose from available packages
  - Choose from available options
  - Get Final Price
- **Save quotes with customer information**
- **Generate reports on saved quotes**
- **Manage quoting content**

# Software Development Lifecycle

- Water fall methodology
  - Planning
  - Analysis
  - Design
  - Implementation

# Planning

- **Primary Output**
  - Project Plan
- **Challenges Faced**
  - Project size estimation
  - Maintaining the project plan

# Analysis

- **Primary Output**
  - Requirements Specification
  - Data Model
- **Challenges Faced**
  - Long Distance Communication with project sponsor
  - Incorrect Requirements
  - Missing Requirements

# Design

- **Primary Outputs**
  - Database Specification
  - Domain Model
  - Interface Design
  - Testing Specification
- **Challenges Faced**
  - Consistency between models
  - Developing a 3 tier architecture

# Implementation

- **Primary Output**
  - Integrated System
- **Challenges Faced**
  - Implementing various programming languages
  - Knowing & following best practices

# Lessons Learned

- Analysis is key.
- Images are worth a thousand words!
- Requirements DO change over time
- Separation of concerns allows for multitasking
- Favor Conceptual Object Modeling
- Test Driven Development

