

APROTRAIN-APTECH

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VEHICLE SHOWROOM MANAGEMENT SYSTEM

TEAM: 2

This is to certify that :

Mr.Nguyễn Bá Sơn (Leader)

Mr. Nguyễn Đức Cường

Mr. Cao Anh Quân

Mr. Phạm Anh Tuấn

Has Successfully Designed & Developed :

Vehicle Showroom Management System

Submitted by:

Mr.

Date of Issue:

11-Oct-2015

Contents

I.	Acknowledgement.....	4
II.	Problem Definition.....	4
1.	Problem abstraction.....	4
2.	Current System.....	4
2.	Hardware and Software Requirement	5
III.	Customer Requirement Definition	6
IV.	Architecture & Design of the Project:	6
V.	System Design.....	7
1.	<i>Hierarchy Function Diagram</i>	7
2.	<i>Data Flow Diagram (DFD Level 0)</i>.....	8
VI.	Database.....	8
1.	<i>Database Diagram</i>	8
2.	<i>Table Design</i>.....	8
VII.	Flow Chart.....	14
1.	<i>Login</i>	14
2.	<i>Add Record</i>.....	15
3.	<i>Update / Edit Record</i>	16
4.	<i>Delete Record</i>.....	17
VIII.	Interface Design.....	18
1.	<i>Config Form</i>	18
2.	<i>Login Form</i>.....	18
3.	<i>Main Form</i>	19
4.	<i>Customer Form</i>.....	20
5.	<i>Supplier Form</i>.....	21
6.	<i>Order</i>.....	15
7.	<i>Product</i>.....	15
8.	<i>Employee</i>	16
9.	<i>Export Product</i>.....	17
10.	<i>Import Product</i>	17
IX.	Project Plan.....	26
X.	Checklist of Validations :.....	28

XI. Submission Checklist:	28
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I. Acknowledgement

We would like to acknowledge all those who have given moral support and helped us make the project a success.

We wish to express our gratitude to the eProject Team at the Head Office, who guided and helped us. Particular thanks to Mr.Nguyen Song Huong, who guided and helped us develop the analysis. I would also like to express my gratitude to all the student members of my centre for not only providing me with the opportunity to work with them on this project, but also for their support and encouragement throughout the process.

Although, there have been many attempted but by the time the limited practice should not be able to avoid the mistakes and omissions. Hope is the understanding of eProject Team at the Head Office .And finally, we would like to offer many thanks to all my friends for their valuable suggestions and constructive feedback.

II. Problem Definition

1. Problem abstraction

Our client is a car dealer cars. There are around 40 executives are working in the show room. Lot of attrition keeps on happening every now and then. And new people are recruited. For them time is required to understand all vehicles details as well as keep track of all the processes taking place in the showroom. To override the gap the owner thought of this software, where all the information is preloaded, and at any moment, any car information is available at just a click.

The software will store the information of all the employees, sales data and will also generate the monthly reports with the help of which owner can analyze the sales and take necessary steps in order to enhance the business further.

The software hereafter would be called as “***Vehicle Showroom Management System***”.

2. Current System

Vehicle Showroom Management System is a automatically system application that deal with all the information concerned about the cars, dealers and wholesale retailers... of a standard vehicle showroom. This application includes some convenience GUI form to help user to manage all information and to solve some difficulty in work such as:

1. Entering, editing and deleting the details of the Customers, Dealers, Retailers and Distributors.
2. Managing all the details of the stock available
3. Coping every purchase of products and from that can automatically calculate the available stock list.
4. Maintain all the payment details and the purchasable done
5. Permit user to retrieve the details of the stock and create report.

2. Hardware and Software Requirement

➤ *Hardware*

- **Processors:** Intel Pentium 4, Intel Centrino, Intel Xeon, or Intel Core Duo (or compatible) 1.8 GHz minimum (2.6 GHz Intel Pentium IV or equivalent recommended)
- **Operating systems:** Microsoft Windows XP or higher
- **Memory:** 512 MB of RAM (1 GB recommended)
- **Disk space:** 778 MB of free disk space (1 GB recommended)
- **Java SE Development Kit (JDK):** JDK 6 Update 7 minimum ([JDK 6 Update 13](#) recommended)

The JDK installation includes the Java Runtime Environment (JRE)

➤ *Software*

- NetBeans 8.1
- Microsoft .Net Framework 3.5
- .Net Frame work / J2EE
- Servlets

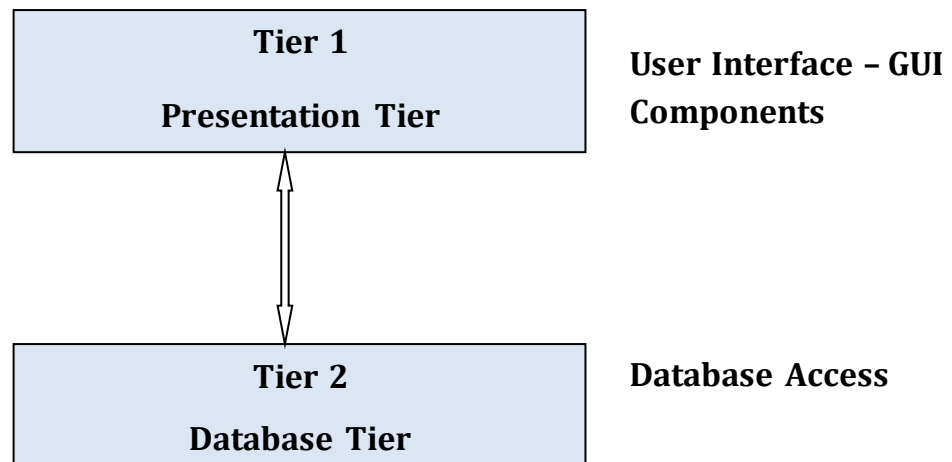
- JDBC
- SQL Server 2008
- ODBC Driver
- Microsoft Office Visio2003
- Java Virtual Machine

III. Customer Requirement Definition

- Entering the Details of the Customers, Dealers, Retailers and Distributors
- Entering all the details of the stock available
- For every purchasable of products, the number of products purchased to be debited from that of the available list by the application itself automatically so as to increase the comfort level as the details of the stock will be regularly updated
- Depending on the type of the customer and his relation ship he will be availing the discount.
- Payment details and the details of the purchases done are maintained in purchasable module so as to keep track of the payments.
- Easy to retrieve the details of the stocks that are maintained along with the expiry date and that of the customers, and clients are maintained for easy reference.

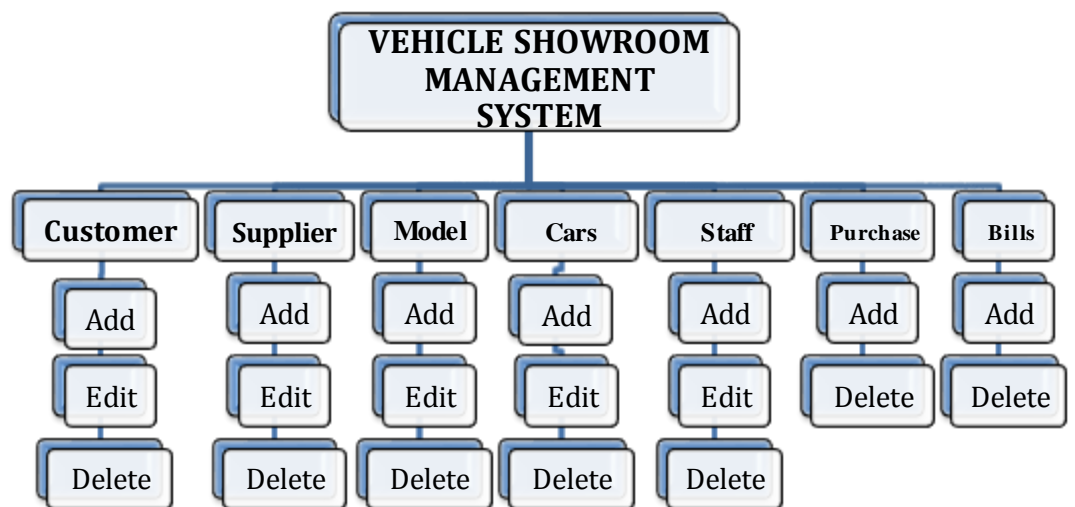
IV. Architecture & Design of the Project:

This system will have client- server architecture. So it has a two-tier architecture.

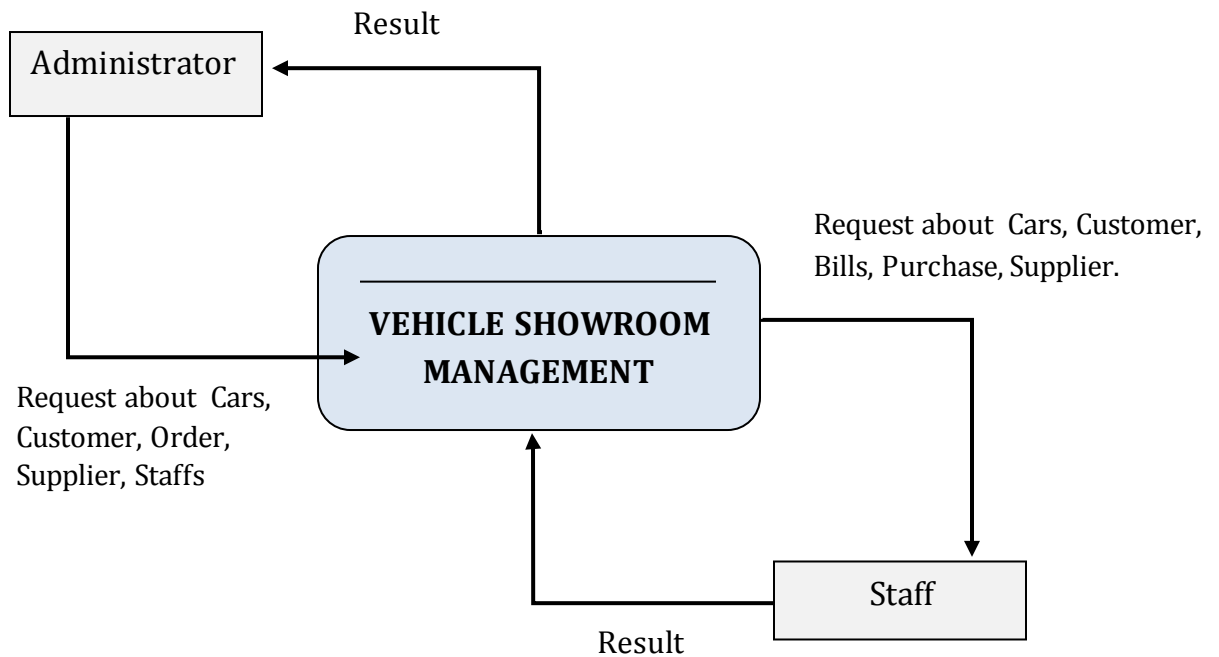


V. System Design

1. Hierarchy Function Diagram

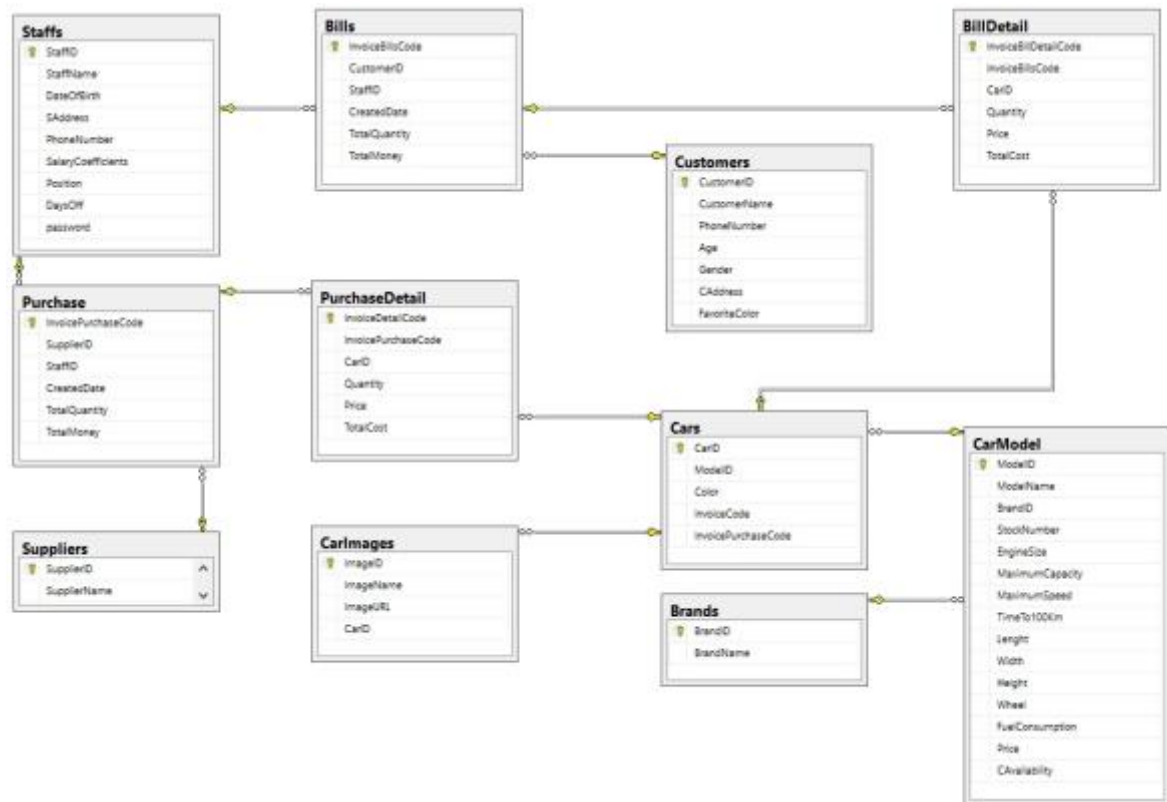


2. Data Flow Diagram (DFD Level 0)



VI. Database

1. Database Diagram



2. Table Design

Customer			
Field name	Data type	Constraint	Description
CustomerID	Nvarchar(20)	Primary key	ID of customer
CustomerName	Nvarchar(100)		Name of Customer
PhoneNumber	Nvarchar(20)		Phone Number of Customer
Age	int		Age of customer
Gender	tinyint		Age of customer
CAddress	Nvarchar(200)		Address of Customer
FavouriteColor	Nvarchar(40)		Customer's color

Staffs			
Field name	Data type	Constraint	Description
StaffID	Nvarchar(20)	Primary key	ID of staff (Log in ID)
StaffName	Nvarchar(100)		Name of staff
DateOfBirth	Date		Staff's birthday
SAdress	Nvarchar(200)		Staff's Address
Password	Nvarchar(30)		Pass of Staff
PhoneNumber	Nvarchar(20)		Staff's Phone Number
SalaryCoefficient	Float		Staff's salary
Position	Nvarchar(50)		Staff's position
DaysOff	Int		Staff's days off

Brands			
Field name	Data type	Constraint	Description
BrandID	Nvarchar(20)	Primary key	Id of Brand

BrandName	Nvarchar(100)		Name of Brand
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CarModel			
Field name	Data type	Constraint	Description
ModelID	Nvarchar(40)	Primary key	Id of Car's Model
ModelName	Nvarchar(100)		Name of Car's Model
BrandID	Nvarchar(20)		Id of Brand
StockNumber	Int		Number of Model
EngineSize	Float		Size of Engine
MaximunCapacity	Float		Car's seats
MaximumSpeed	Float		Car's Speed
TimeTo100Km	Float		Timer to 100km/h
Length	Float		Length of car's model
Width	Float		Width of car's model
Height	Float		Height of car's model
Wheel	Int		Wheel of car'smodel
FuelConsumption	Float		Car's tank
Price	Float		Price of car's model

CAvailability	Tinyint		Status of car's model
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Supplier			
Field name	Data type	Constraint	Description
SupplierId	Nvarchar(20)	Primary key	Id of Supplier
SupplierName	Nvarchar(100)		Name of Supplier
PhoneNumber	Nvarchar(20)		Phone of Supplier
SAddress	Nvarchar(200)		Address of Supplier
Fax	Nvarchar(20)		Fax of Supplier

Cars			
Field name	Data type	Constraint	Description
CarID	Nvarchar(20)	Primary key	Id of Cars
ModelID	Nvarchar(40)		Model's Id of Car
Color	Nvarchar(40)		Color of Car
InvoiceCode	Nvarchar(20)		Bill's ID of car
InvoicePurchase	Nvarchar(20)		Purchase's ID of car

Bills			
Field name	Data type	Constraint	Description
InvoiceBillCode	Nvarchar(20)	Primary key	Id of Bill
CustomerID	Nvarchar(20)	Foreign key	Id of Customer
StaffID	Nvarchar(20)	Foreign key	Id of Staff

CreatedDate	Date		Date of bill
TotalQuantity	Int		Quantity of bill
TotalMoney	Float		Total of bills

BillDetail			
Field name	Data type	Constraint	Description
InvoiceBillDetailCode	int	Primary key, Foreign key	Id of BillDetail
InvoiceBillCode	Nvarchar(50)		Id of Bill
CarID	Nvarchar(20)	Primary key, Foreign key	Id of Car
Quantity	Int		Quantity
Price	Float		Price in Bill
TotalCost	Float		Total price of bill detail

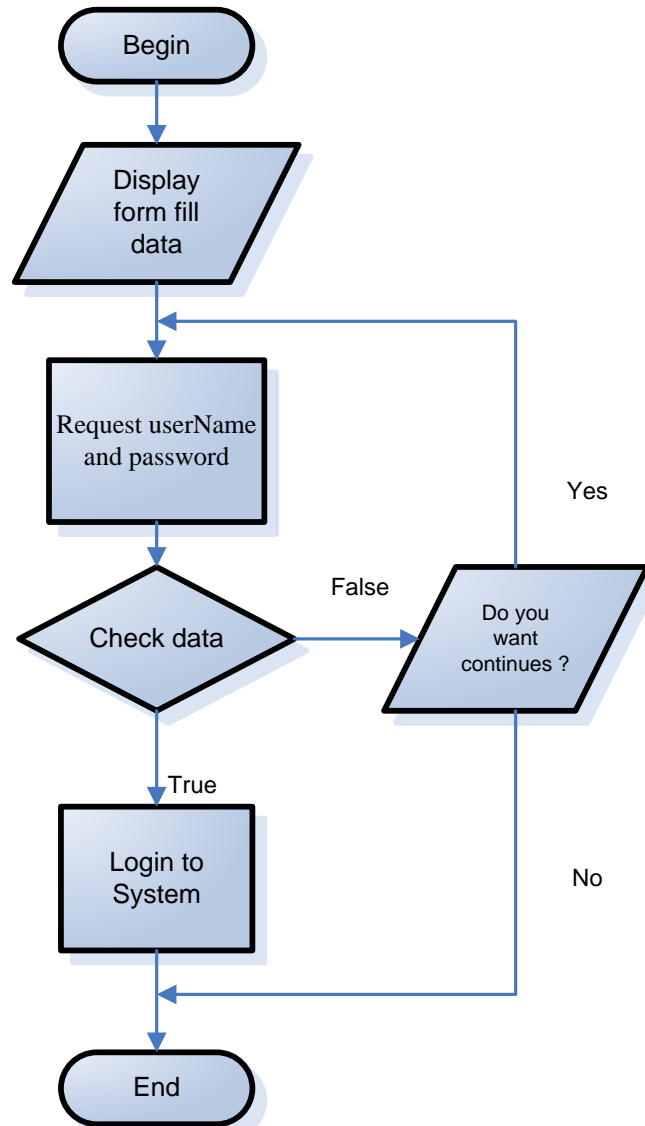
Purchase			
Field name	Data type	Constraint	Description
InvoicePurchaseCode	Nvarchar(20)	Primary key	Id of Purchase
SupplierID	Nvarchar(20)	Foreign key	Id of Supplier
StaffID	Nvarchar(20)	Foreign key	Id of Staff
CreatedDay	Date		Day of purchase
TotalQuantity	Int		Quantity of Car
TotalMoney	Float		Total price of purchase

PurchaseDetail			
Field name	Data type	Constraint	Description
InvoiceDetailCode	Int	Primary key, Foreign key	Id of purchase detail
InvoicePurchaseCode	Nvarchar(20)	Foreign key	Id of purchase
CarID	Nvarchar(20)	Foreign key	Id of car
Price	Float		Price of purchase detail
Total	Float		Total price od purchase detail

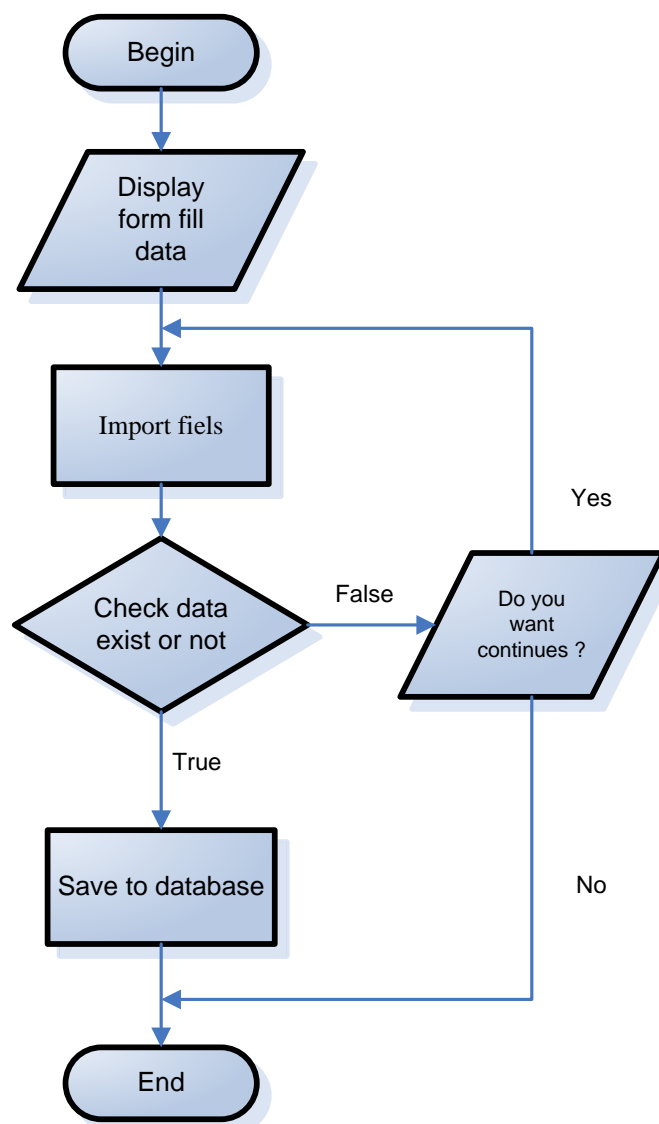
CarImages			
Field name	Data type	Constraint	Description
ImagesID	Nvarchar(20)	Primary key,	Id of Car's Image
ImagesName	Nvarchar(20)		Name of Image
ImageURL	Nvarchar(500)		Url of images
CarID	Nvarchar(20)	Foreign key	Id of car

VII. Flow Chart

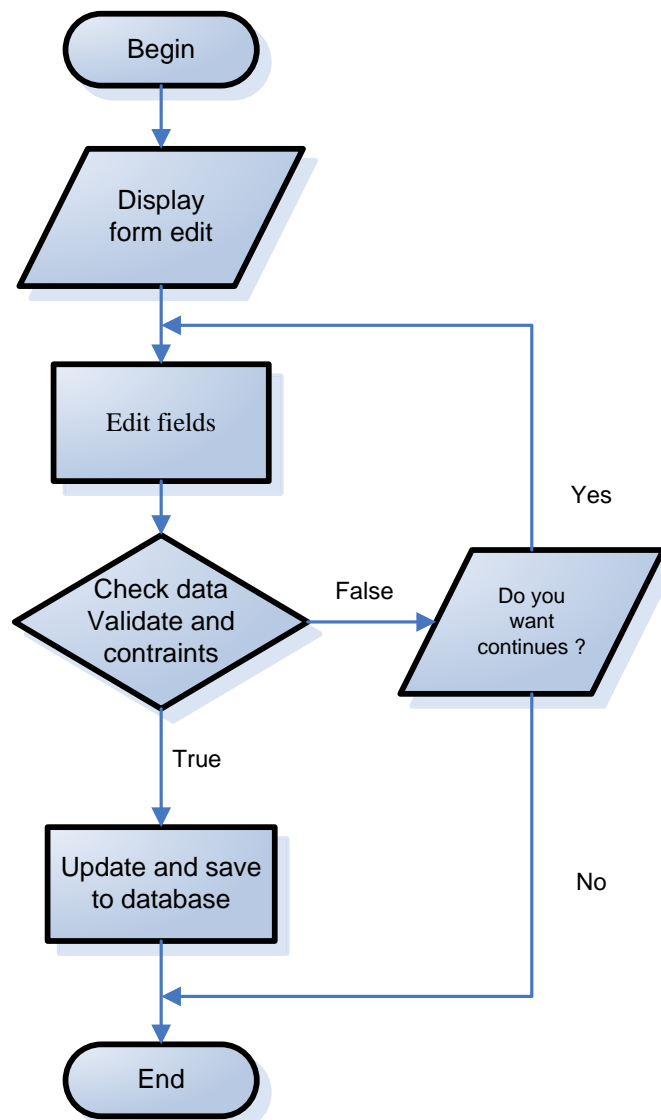
1. Login



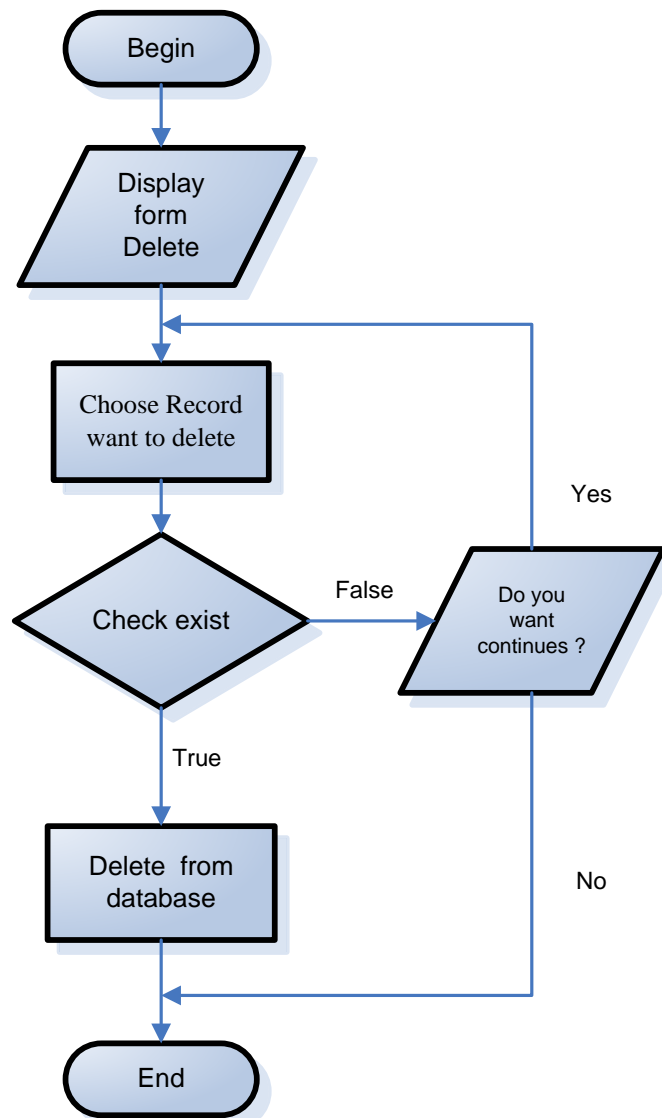
2. Add Record



3. Update / Edit Record



4. Delete Record



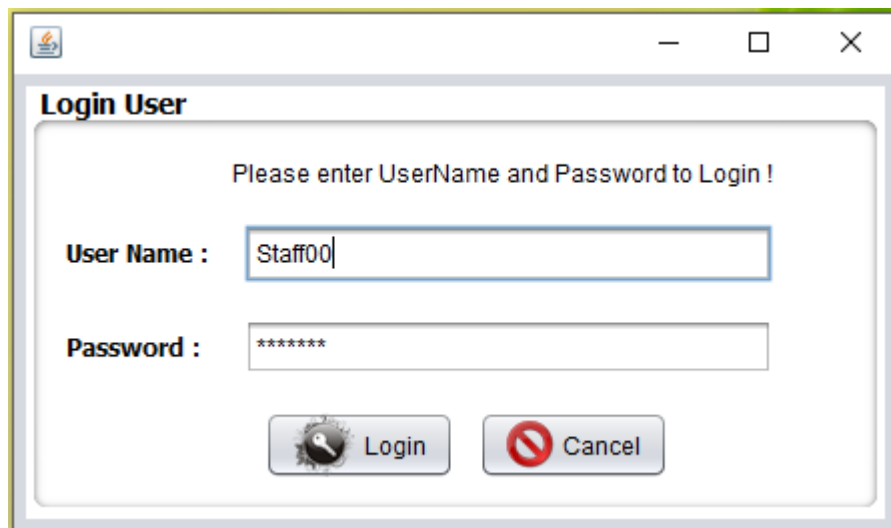
VIII. Interface Design

1. Config Form



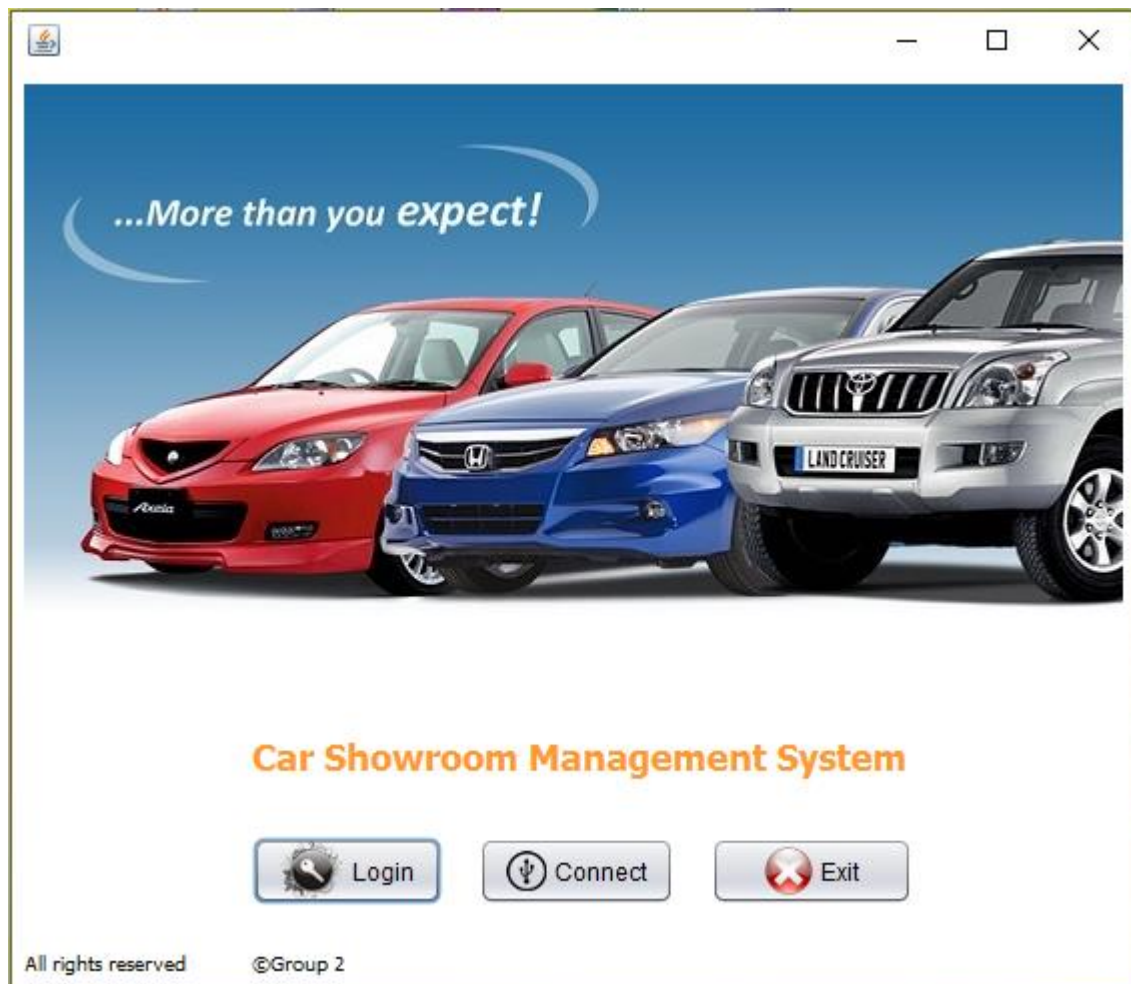
The screenshot shows a window titled "Server Config" with a red title bar. It contains five input fields for configuration: "Server Name" (localhost), "User Name" (sa), "Password" (masked with asterisks), "Port" (1433), and "Database Name" (ShowRoom). At the bottom, there are three buttons: "Test" (with a document icon), "Config" (with a gear icon), and "Cancel" (with a red prohibition icon).

2. Login Form



The screenshot shows a window titled "Login User" with a grey title bar. It contains a message "Please enter UserName and Password to Login !" and two input fields: "User Name" (Staff00) and "Password" (masked with asterisks). At the bottom, there are two buttons: "Login" (with a key icon) and "Cancel" (with a red prohibition icon).

3. Start Form



4. Main Form (customer form)

Nguyễn Ngọc Hiền Anh

Profile Logout


Customer Staff Brand & Model Car Bill Supplier Purchase

Search

CustomerID	Name	FavoriteColor
Customer01	Phạm Thị Thu	Hồng,Xanh Dương
Customer02	Nguyễn Thị Thủy	Hồng,Xanh Dương
Customer03	Nguyễn Thị Hương	Hồng,Xanh Dương
Customer04	Trần Thị Phương	Hồng,Xanh Dương
Customer05	Nguyễn Thị Hằng	Hồng,Xanh Dương
Customer06	Nguyễn Thị Dung	Hồng,Xanh Dương
Customer07	Phạm Thị Huệ	Hồng,Xanh Dương
Customer08	Lê Thị Chanh	Hồng,Xanh Dương
Customer09	Nguyễn Thị Hà Ngân	Hồng,Xanh Dương
Customer10	Nguyễn Văn Nam	Hồng,Xanh Dương
Customer11	Tổng Văn Trường	Vàng,Xanh Dương
Customer12	Ninh Anh Tuấn	Vàng,Xanh Dương
Customer13	Nguyễn Hoàng Minh	Vàng,Xanh Dương
Customer14	Nguyễn Hoài Thu	Hồng,Xanh Dương


Details Add new Edit Delete Refresh

5. Supplier Form



Nguyễn Ngọc Hiền Anh






Profile Logout




Customer Staff Brand & Model Car Bill Supplier Purchase

Search

SupplierID	Name	Phone Number
Supplier01	Trần Vũ Hồng Cửa Quý	01654454983
Supplier02	Nguyễn Thị Yến	01654454983
Supplier03	Phạm Việt Anh	01654454983
Supplier04	Phạm Thị Thu	01654454983
Supplier05	Phạm Tiến Tài	01654454983
Supplier06	Vũ Đình Lộc	01654454983
Supplier07	Hoàng Đình Tấn	01654454983
Supplier08	Phạm Quang Trung	01654454983


 Details  Add new  Edit  Delete  Refresh

6. Bills Form



Nguyễn Ngọc Hiền Anh


Profile Logout



Customer Staff Brand & Model Car Bill Supplier Purchase


Code	CustomerID	StaffID	Created Date	Total Money
InvoiceBillsCode0...	Customer01	Staff04	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer04	Staff02	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer03	Staff08	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer17	Staff09	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer08	Staff04	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer05	Staff05	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer09	Staff06	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer20	Staff01	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer22	Staff03	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer15	Staff09	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer07	Staff01	2015-07-10	\$850,000,000.00
InvoiceBillsCode0...	Customer11	Staff04	2015-07-10	\$850,000,000.00

7. Cars Form



Nguyễn Ngọc Hiền Anh






Profile Logout




Customer Staff Brand & Model Car Bill Supplier Purchase

Search

CarID	Model	Color
CarID0001	Mercedes-benz-A200	red
CarID00010	Toyota-Fortuner-2.7	Black
CarID00011	BMW-M3	White
CarID0002	Mercedes-benz-A250	Blue
CarID0003	Mercedes-benz-C200	White
CarID0004	Mercedes-benz-C250	Red
CarID0005	Mercedes-benz-C300	Yellow
CarID0006	Mercedes-benz-cls350	Gray
CarID0007	Toyota-Altis-1.8	Gray
CarID0008	Toyota-Camry-2.0E	Blue
CarID0009	Toyota-Camry-2.5G	Orange
CarID0010	Chevrolet-Canada	Red


 Detail  Insert  Edit  Delete  Refresh

8. Staffs form



Nguyễn Ngọc Hiền Anh






Profile Logout




Customer Staff Brand & Model Car Bill Supplier Purchase

Search

StaffID	Name	PhoneNumber
Staff00	Nguyễn Ngọc Hiền Anh	01654454983
Staff01	Cao Anh Quân	01654454983
Staff02	Nguyễn Đức Cường	01654454983
Staff03	Phạm Anh Tuấn	01654454983
Staff04	Nguyễn Bá Sơn	01654454983
Staff05	Nguyễn Phương Thảo	01654454983
Staff06	Trần Linh Chi	01654454983
Staff07	Đỗ Việt Cường	01654454983
Staff08	Nguyễn Thị Thu Trang	01654454983
Staff09	Nguyễn Văn Tiến	01654454983


 Details  Add new  Edit  Delete  Refresh

9. Purchase form



Nguyễn Ngọc Hiền Anh

Profile Logout



Customer Staff Brand & Model Car Bill Supplier **Purchase**

Code	SupplierID	StaffID	Created Date	Total Money
InvoicePurchase01	Supplier01	Staff01	2015-06-10	\$2,550,000,128.00
InvoicePurchase02	Supplier01	Staff01	2015-06-10	\$1,700,000,000.00
InvoicePurchase03	Supplier01	Staff01	2015-06-10	\$2,550,000,128.00
InvoicePurchase04	Supplier01	Staff01	2015-06-10	\$850,000,000.00
InvoicePurchase05	Supplier01	Staff01	2015-06-10	\$2,550,000,128.00
InvoicePurchase06	Supplier01	Staff01	2015-06-10	\$3,400,000,000.00
InvoicePurchase07	Supplier01	Staff01	2015-06-10	\$850,000,000.00
InvoicePurchase08	Supplier01	Staff01	2015-06-10	\$850,000,000.00

10. Brand and Model form

Nguyễn Ngọc Hiền Anh

Profile Logout

Customer Staff **Brand & Model** Car Bill Supplier Purchase

Model ID	Model Name	Brand	Stock Number
ModelID001	Mercedes-benz-A...	Mercedes-Benz	101
ModelID002	Mercedes-benz-A...	Mercedes-Benz	102
ModelID003	Mercedes-benz-...	Mercedes-Benz	103
ModelID004	Mercedes-benz-...	Mercedes-Benz	104
ModelID005	Mercedes-benz-...	Mercedes-Benz	105
ModelID006	Mercedes-benz-c...	Mercedes-Benz	106
ModelID007	Toyota-Altis-1.8	Toyota	201
ModelID008	Toyota-Camry-2.0E	Toyota	202
ModelID009	Toyota-Camry-2....	Toyota	203
ModelID010	Toyota-Fortuner-...	Toyota	204
ModelID011	BMW-M3	BMW	301

Detail Mod... Add Model Edit Model Delete Model

Brand ID	Brand Name
Brand01	Mercedes-Benz
Brand02	Toyota
Brand03	BMW
Brand04	Ford
Brand05	CHEVROLET

Add Brand Edit Brand Delete Brand

IX. Project Plan

No.	Task	Start Date	End Date	Member Name
1	Analysis and Design system	11-Sep-2015	21-Sep-2015	All member
2	Design GUI system Form	21-Sep-2015	01-Oct-2015	All member

3	Write Control Code for the Program	01-Oct-2015	07-Oct-2015	All member
4	Debug Program	07-Oct-2015	10-Oct-2015	All member

Task sheet

Task	Member Mane	Issue Date	Due Date	Completed
Problem definition and basic function	All member	11-Sep-2015 21-Sep-2015	21-Sep-2015	100%
Assign task for each member	All Member	21-Sep-2015	21-Sep-2015	100%
Design basic function and requirement	All member	21-Sep-2015 01-Oct-2015	01-Oct-2015	100%
Design ERD and database	All member	21-Sep-2015 01-Oct-2015	01-Oct-2015	100%
Design and code GUI form	All member	21-Sep-2015 01-Oct-2015	01-Oct-2015	100%
Design Flowchart and FHD	All member	21-Sep-2015 01-Oct-2015	01-Oct-2015	100%
Coding control functions for Program	All member	01-Oct-2015 07-Oct-2015	07-Oct-2015	100%

Basic Test	All member	07-Oct-2015 09-Oct-2015	09-Oct-2015	100%
Final Test and Debug Program	All member	09-Oct-2015 10-Oct-2015	11-Oct-2015	100%

X. Checklist of Validations :

Option	Validated
Can administrator create a new user to enter the application ?	Yes
Has the hardware and software been correctly chosen ?	Yes
Does the application's functionality resolve the user problem, and satisfy their needs	Yes
Do all the options present in the application display the correct result ?	Yes

XI. Submission Checklist:

Sr. No	Particulars	Yes	No	N/A	Comments
1	Are the users able to login the application	Yes			

	after validation is performed on the client name and Password ?				
2	Are the administrat or able to modify the user information after getting created ?	Yes			
3	Can the administrat or to edit information details after getting added ?	Yes			
4	Is the application user-friendly ?	Yes			Windows GUI is familiar with everyone