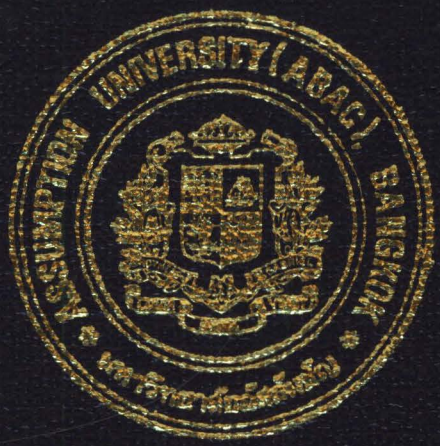

Practical Development of Information System in Business Context: Sales Support System for Big Yon Company

Mr. Witthaya Jinnam - Olan

Submitted in Partial Fulfillment
of the Course BC 4500 280 Hour Training Program
Bachelor's Degree of Business Administration
in Business Computer Program
Assumption University

December 2002

Project Name:	Practical Development of Information System in Business Context:
Intern:	Mr. Witthaya Jinnam - Olan
Advisor:	A. Jitti Thongmuang
Academic Year:	December 2002

The Department of Business Computer, ABAC School of Management has approved the aforementioned student's BC 4500 280 - Hour Training Project, Which includes complete documentation and program as a partial fulfillment of the requirements for the Bachelor's Degree of Business Administration in Business Computer

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December 2002

Practical Development of Information System in Business Context: Sales Support System for Big Yon Company

Advisor: A. Jitti Thongmuang

BC 4500 280-HOUR TRAINING PROGRAM WRITE-UP

Prepared by
Mr. Witthaya Jinnam - Olan

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December 2002

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I. INTRODUCTION

1.1 Background of Organization

Big Yon Company was established in January 2000 by Miss Wilaiwan J. and her partners. The main business of Big Yon Company is on used car trading include buying, selling and performing service for customer

Since the beginning of the company, sales volume is expanding as well as number of competitors also increased by more then triple. The company need to increase work performance efficiency is the main reason to be able to compete with other competitor effectively. So, the quality of service should be improve and better for customers.

There are 4 main departments in the company Marketing, Customer Service, Financial, and Inventory departments. Sales Support System is developed under work co-ordinating between Marketing department and Customer Service as show in organization chart and department chat as bellows.

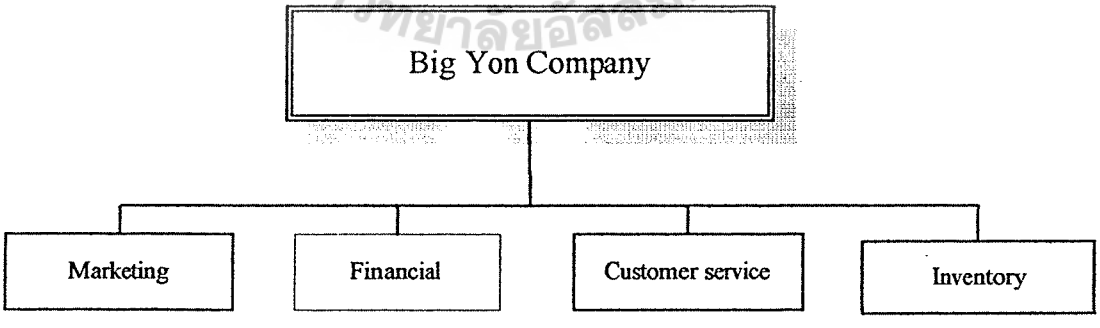


Figure 1.1 Organization Chart.

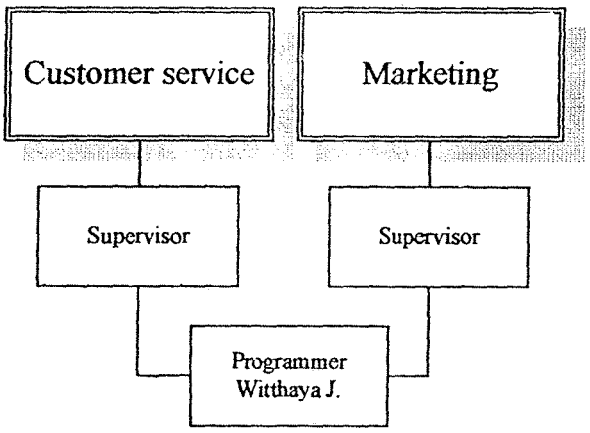


Figure 1.2 Department chart

1.2 Objectives of the system:

(1) To understanding existing system

(2) To analyze current problems

(3) To develop current system to solve current problems.

(4) To increase staff's performance and reduce time and errors.

(5) To make systematic documentation for future reference.

(6) To implement the system in the real working context.

1.3 Scope of the system:

(1) To collect customer and his/her used car information.

(2) To provide necessary information according to requirement

(3) To generate report to support decision making and serve future plan

(4) To support sales activity

1.4 PROJECT PLAN:

The tentative plan for this project: "Big Yon Company: Sales Support System" is exhibited in Table 1-1

No.	Task Name	September				October				November				December			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	I. Analysis of the Existing System																
1.	Study the Existing System																
2.	Identify the Existing Problems																
3.	Existing Context Diagram																
4.	Existing Data Flow Diagram																
	II. Preliminary Investigation																
5.	Define the objectives and scope																
6.	Hardware Requirements																
7.	Software Requirements																
	III. Analysis and Design of the Proposed System																
8.	Entity-Relationship Diagram																
9.	Database Design																
10.	Data Flow Diagram																
11.	Functional Description																
12.	Interface Design																
13.	Report Design																
	IV. Implementation of the Proposed System																
14.	Coding																
15.	Testing																
16.	Documentation																

Table 1-1 Project plan or Scheduled for develop and implement for Bigyon Company : Sales Support System

II. THE EXISTING SYSTEM

2.1 Background of Existing System

Since Company started business, it relies up on paper- manual system as the result of it is difficult to setup certain kind of standard. The performance is hardly evaluated. It quite often that with this system produce very poor to error as much as duplicate of effort.

Staff must provided information according to customer's required when customer visited the company. Staff must let customer to view all available used cars and provided information about its.

Senior staff take care customer by let customer to office and provide information, such as condition term, financial and others information to customer include suggest used car for customer.

It is possible for customer to sign contract immediately but contract is not complete. Customer has to submit personal documents such as copy of personal id card and others documents include payment. Customer can make only once payment or periodic payment according to the contract.

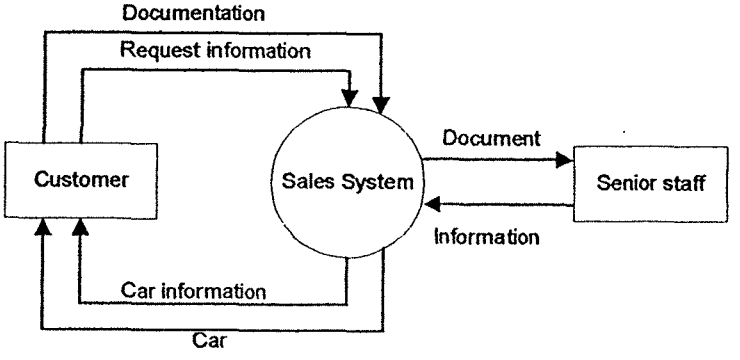


Figure 2.1 Context diagram of existing system

2.2 Problem Definition

(1) Lack of information and Immediately

According to paper-manual system, it required time for staff to flow data or information according through all process. Customer always wastes time for waiting staff prepare information. It affects all system process, and decrease performance efficiency of the system.

(2) Difficulties in information Integration for management review

According to manual system, data or information have separate away from each others, for example customer information is kept by marketing department while car information is kept by inventory department. When marketing department need car information or car information is old, staff has to find car information from Inventory department. Staff has to waste time to find information from different department and information always out of date.

(3) Waste time and Inaccuracy of Information

According to problem (1) and (2) the results of problems show that staff have to waste time to complete the process and make information flow through the system. According to problem (2), car information that keeps by marketing department might not same car information that keeps by inventory department or information is out of date. Staff must waste time to up date it. According to manual system, staff might cause error on information record easily.

III. THE PROPOSED SYSTEM

3.1 System Specification

(1) Hardware Requirements

Table 3-1 Hardware Requirements

HAREWARE	SPECIFICATION
CPU	Pentium 4 1.5 GB
RAM	256 MB
Hard disk	40 GB

Pentium III 1 GHz should be powerful enough to use in business. After compare price of Pentium III1 GHz. After compares Pentium III 1.5 GHz with other CPU in market. The result shows that Pentium 4 1.5 GHz is the appropriate CPU with competitive price and can support future applications.

In order to gain full benefit of CPU performance, RAM 256 MB is recommend for working corporate with CPU. To store data and applications to use in business, hard disk should large enough to store all of then. Hard disk 40 GB suitable to use in business because it appropriate hard dish with competitive price when compare with others.

(2) Software Requirements

Table 3-2 Software Requirements

SOFTWARE	SPECIFICATION
Operating System	Windows ME or Windows XP
Application	Microsoft office XP Bigyon's Sales Support System program

Operating System should be Windows Me or Windows XP is recommended, because Bigyon's Sales System program is works under Windows's environment. For another reason, Windows use graphic user interface to communicate with user. Every one can use it more easily and it is one of most popular operating system.

Microsoft office XP is basic application, it's also popular to use in business. It provide convenient for user to create their own work more easily and support others work in office.

Bigyon's Sales Support System program is custom program that create according to Sales Support System. It use to apply in business for Big Yon Company.

3.2 System design

(1) Dataflow Diagram

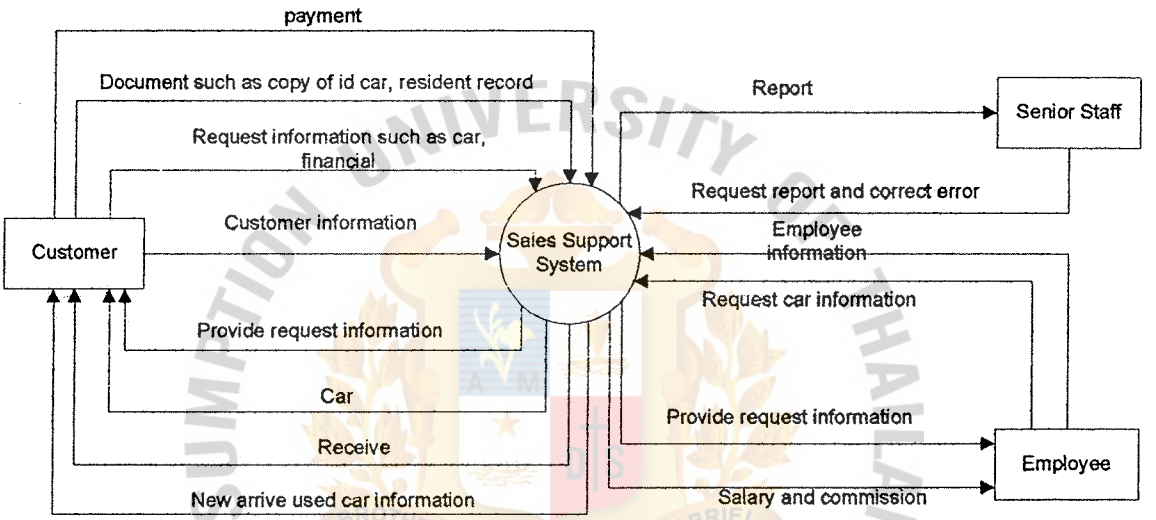


Figure 3.1 Data Flow Diagram – Context diagram

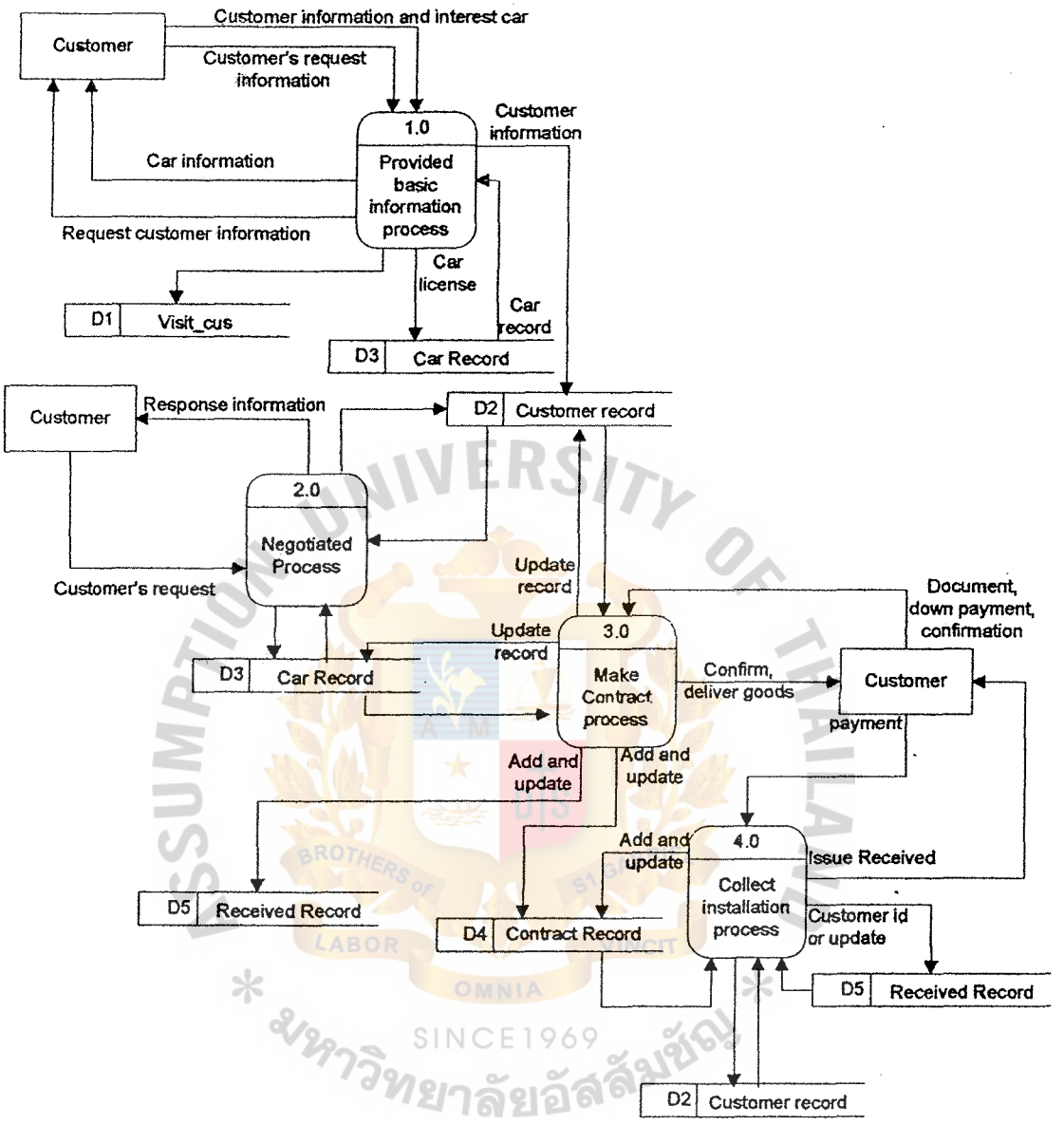


Figure 3.2 Dataflow diagram – Level 0

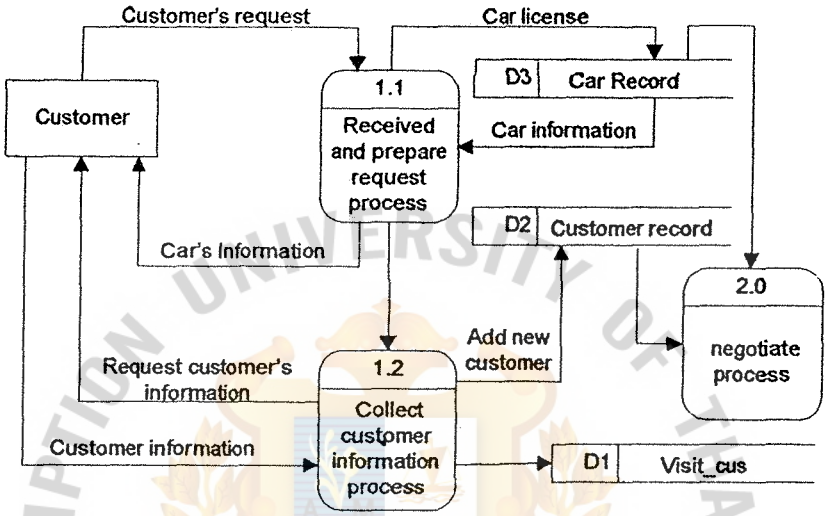


Figure 3.3 Data Flow Diagram – Level 1 for Process 1

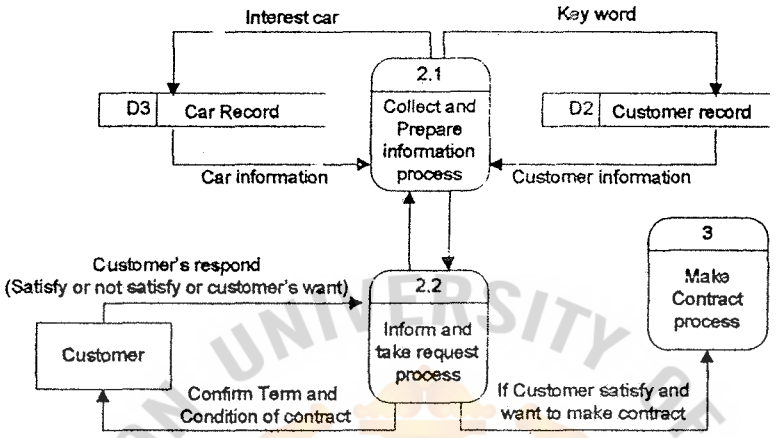


Figure 3.4 Data Flow Diagram – Level 1 for Process 2

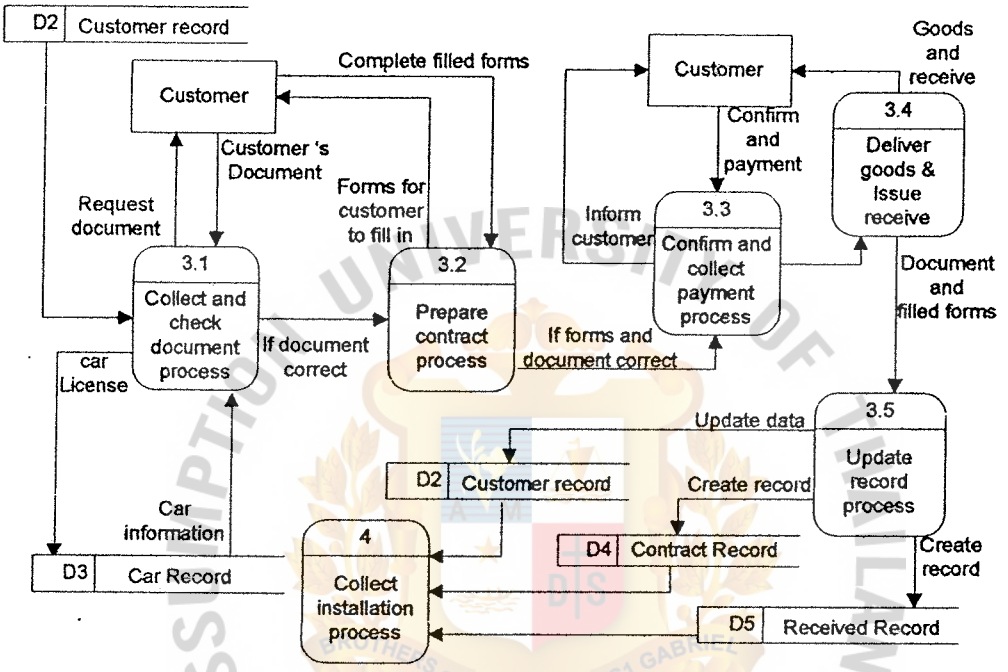


Figure 3.5 Data Flow Diagram – Level 1 for Process 3

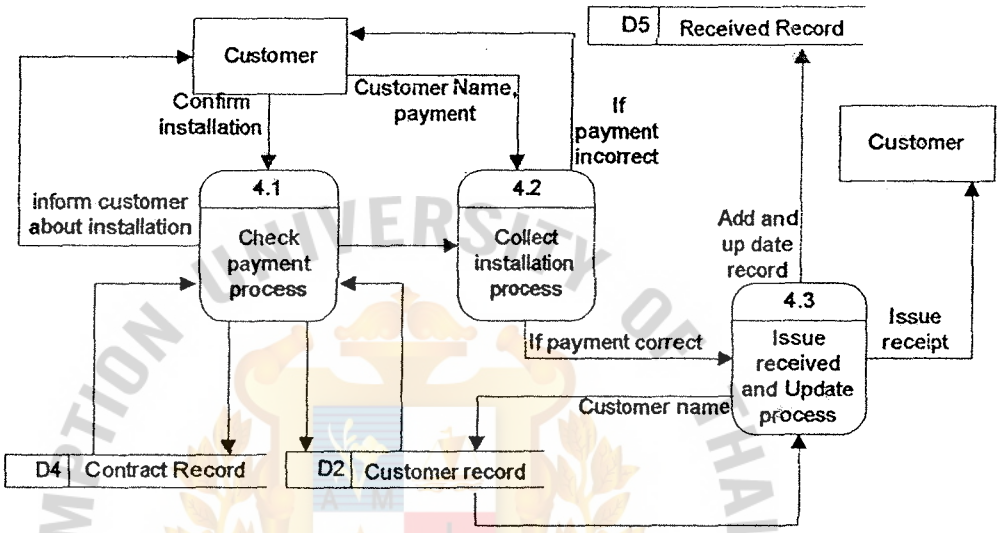


Figure 3.6 Data Flow Diagram – Level 1 for Process 4

(2) Entity-Relationship Diagram

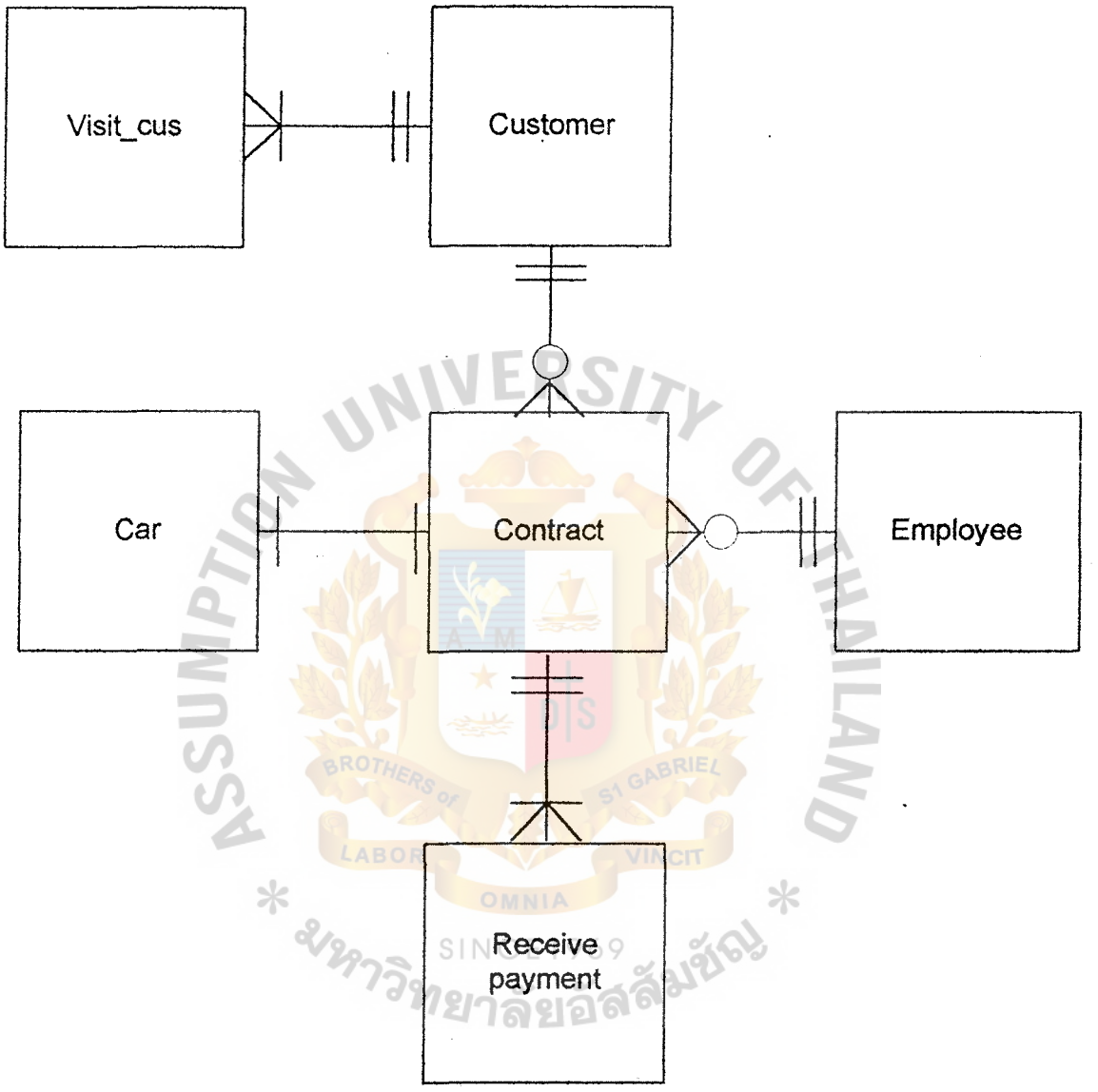


Figure 3.7 Entity - Relationship Diagram

(3) Database Design

Database is group of data or real fact that collect together for specific purpose. It is also a central source of data; it is mean that database can be share by many users. There are many advantages of database design that reduce redundancy of data, reduce Data inconsistency and fast to retrieve and up date data and etc. There are 5 tables of database that used in this system showed bellow.

1. Customer table

Customer table is a table which collects information of customer such as customer name, address, phone number and etc. Customer id, Customer name can be use as index to search customer record

2. Car table

Cartable is a table which collects information about used car. It contain car information which available to sales and sold out. Car_id is primary key to identify the record and also used car license as index to search car record

3. Contract table

Contract table keep information about contract such as contract id, contract date, also includes car id, customer id and employee id. contract id, customer_id, car_lecense can be use as index to search contract record

4. Visit_cus table

Visit_cus table keeps records when customer visit Big Yon Company. It will collect customer name and contract address, phone number and car trademark or car model that customer want to see or customer's prefer.

5. Receive_payment

Receive_payment is table that collect information about payment of customer include installation of financial. Some customer might pay once at time, but most customers prefer to pay installation monthly. This table is used full for check payment of customer.

6. Employee

Employee table is keep record of employees both existing employee and expelled employee. This table use associate with contract table and receive_payment to evaluate staff performance by check how many cars that each employee can sales.

(Database Design is exhibited in Appendix A)

(4)Process Specification

Table 3-3 Process Specification for Process 1.0

Process Name:	Provide basic information process
Data In:	(1) Customer information (2) Customer request (3) Car information
Data Out:	(1) Customer information (2) Car information
Process:	(1) Receive request from customer (2) Prepare information and hand to customer (3) Request customer information (4) If new customer then add new customer (5) Up date Visit_cus file
Attachment:	(1) Customer (2) Data Store D1 (3) Data Store D3 (4) Process 2.0

Table 3-5 Process Specification for Process 1.2

Process Name:	Collect customer information process
Data In:	(1) Customer information
Data Out:	(1) Customer information
Process:	(1) Request customer information from customer (2) Check customer (3) If existing customer then add and update data store D1 (4) If new customer then add new customer (data store D2) and add and update data store D1
Attachment:	(1) Customer (2) Data Store D1 (3) Data Store D2 (4) Process 1.1

Table 3-7 Process Specification for Process 2.1

Process Name:	Collect and prepare Information Process
Data In:	(1) Car Information (2) Customer information
Data Out:	(1) Car Information (2) Customer Information (3) Prepare information for customer
Process:	(1) Collect car information from data store (2) Collect customer information from data store (3) Prepare information for customer
Attachment:	(1) Data Store D2 (2) Data Store D3 (3) Process 2.2

Table 3-8 Process Specification for Process 2.2

Process Name:	Inform and take request process
Data In:	(1) Information which prepare for customer from process 2.1 (2) Feed back or request from customer
Data Out:	(1) Information which prepare for customer from process 2.2
Process:	(1) Take Information which prepare for customer from process 2.2 to customer (2) Receive feedback from customer (3) if customer not satisfy term and condition then go back to process 2.1 (4) if customer satisfy term and condition then let go to Process 3.0
Attachment:	(1) Customer (2) Process 2.1 (3) Process 3.0

Table 3-9 Process Specification for Process 3.0

Process Name:	Make Contract process
Data In:	(1) Customer information (2) Documentation from customer (3) Car information (4) Payment from customer (5) Confirm from customer
Data Out:	(1) Payment information (2) Inform customer (3) Goods (4) Contract record information (5) Car information
Process:	(1) Collect and Check customer's document (3) If document incorrect that request document from customer (4) Give contracts form to customer to complete and collect it (6) If contract incorrect then ask customer to correct it (7) Collect payment from customer and deliver goods to customer (8) Keep all documents and contract form in storage and update Receive Record and add new contract record
Attachment:	(1) Customer (2) Data Store D4 (3) Data Store D5

Table 3-10 Process Specification for Process 3.1

Process Name:	Collect and check document process
Data In:	(1) Customer's documents (2) Car information (3) Customer information
Data Out:	(1) All customer's documents (2) Car information (3) Customer information
Process:	(1) Ask customer for document before make contract (2) Check customer's document (3) if documents incorrect then ask customer for required documents (4) If documents correct then go to next process
Attachment:	(1) Customer (2) Data Store D3 (3) Process 3.2

Table 3-11 Process Specification for Process 3.2

Process Name:	Prepare contract process
Data In:	(1) Contracts forms (2) Car information (3) Customer information
Data Out:	(1) Complete Contract forms (2) Car information (3) Customer's documents (4) Customer information
Process:	(1) Ask customer to complete contract. (2) Check contract forms (3) if contract form incorrect or incomplete then ask customer to complete it (4) If contract correct then go to next process
Attachment:	(1) Customer (2) Process 3.1 (3) Process 3.3

Table 3-12 Process Specification for Process 3.3

Process Name:	Confirm and collect payment process
Data In:	(1) Customer's document (2) Complete contract forms (3) Car information (4) Customer information
Data Out:	(1) Customer's document (2) Complete contract forms (3) Car information (4) Payment (5) Customer information
Process:	(1) Confirm customer about contracts (2) Ask collect payment from customer (3) if payment incorrect then inform customer about incorrect payment again (4) if payment correct then go to next process
Attachment:	(1) Customer (2) Process 3.2 (3) Process 3.4

Table 3-13 Process Specification for Process 3.4

Process Name:	Deliver goods and issue receive process
Data In:	(1) Customer's document (2) Complete contract forms (3) Car information (4) Payment (5) Customer information
Data Out:	(1) Customer's document (2) Complete contract forms (3) Car information (4) Payment (5) Received for customer (6) Copy of receive (7) Customer information (8) Goods (Used car)
Process:	(1) check document and contract again ensure that contract forms, document collect and payment collect (2) Issue received to customer (3) Deliver goods to customer (4) Submit all document to next process
Attachment:	(1) Customer (2) Process 3.3 (3) Process 3.5

Table 3-14 Process Specification for Process 3.5

Process Name:	Update Record process
Data In:	(1) Customer's document (2) Complete contract forms (3) Car information (4) Payment (5) copy of received (6) Customer information
Data Out:	(1) Contract information (2) Received information
Process:	(1) Check all document again (2) Update customer information from customer's document (3) Create new contract record (4) Add new received payment record
Attachment:	(1) Data Store D2 (2) Data Store D4 (3) Data Store D5 (4) Process 3.4

Table 3-15 Process Specification for Process 4.0

Process Name:	Collect installation process
Data In:	(1) Contract information (2) Receive information (3) Payment
Data Out:	(1) Received of payment (2) Payment information
Process:	(1) Check contract record that which contract is not complete of installation (2) Check history of payment or installation (3) Inform Customer to make payment or installation (4) If customer make payment then issue received to customer (5) Up date received record
Attachment:	(1) Customer (2) Data Store D4 (3) Data Store D5

Table 3-16 Process Specification for Process 4.1

Process Name:	Check Payment Process
Data In:	(1) Contract Information (2) Received Information
Data Out:	(1) Received information (2) Contract Information
Process:	(1) Check contract which complete or not complete installation (2) If not complete installation or over date of installation then inform customer about installation and appoint customer to make installation (3) Keep note to the next process
Attachment:	Process 4.2 Data Store D2 Data StoreD4

Table 3-17 Process Specification for Process 4.2

Process Name:	Collect Installation Process
Data In:	(1) Payment of installation (2) Customer information
Data Out:	(1) Payment of installation (2) Customer information
Process:	(1) Check payment of installtion (2) If incorrect then inform customer about incorrect payment (3) If payment correct then go to next process
Attachment:	Process 4.1 Process 4.3 Data Store D2

Table 3-18 Process Specification for Process 4.3

Process Name:	Issue received and Update Process
Data In:	(1) Payment of installation (2) Customer information
Data Out:	(1) Installation Information (2) Customer information
Process:	(1) Check customer information (2) Add and update installation record (3) Issue received of installation to customer
Attachment:	Process 4.2 Data Store D2 Data Store D5

(5) Data Dictionary

Table 3-19 Data Dictionary of Sales Support System process

Field Name	Meaning
Add and update	Information or data that used to up date record
Car information	Information about car. It can be license number, expire date of license, year of car register and etc.
Car license	License of car that issued by department of land transport
Car Record	Record of information about car
Confirm	Confirm of customer or staff, make sure that information correct
Customer information	Information about customer such name, surname, address and etc of customer
Customer's request-information	Information which customer want to know it's can car information, or term of condition about trading or agreement and etc
Deliver goods	After contract and down payment complete then staff will deliver key of car to customer
Document	Document that customer have to prepare for make contracts
Down payment	Money that customer have to pay when make contract.
Issue received	Received that issue and give to customer after customer make payment
Payment	Method of payment can be cash, check etc.
Response information	Information that prepare for customer according to customer's request

(6) Interface Design

Interface Design is design interface of program that used to communicate between user and computer and allow user access database easier. It also increase productivity of staff and reduce error

1. Add customer form

This form is used to add new customer only. It contain name, address and phone number of customer.

2. Main Administration form

This form is showing menu that like to others form which used to add, modify and delete record. Before access this form user have to identify them self by enter name and password at Login Admin form.

3. Car Administration form

This form is used to add, delete and update information and also keep secrete information such as cost of car. Only administrator can view, add or modify record, it can access this form by select of option at Admin Main form

4. Car information form

This form contain information not secrete level information about used cars. User also can search information about it. It's show car's information in both in store and sold out.

5. Change password form

This form allows administrator or person who can access secret information level can change password.

6. Employee Information form

This form contains basic information of all employees. User can only view employee information. It also link to commission form.

7. Employee administration form

This form contains all information about employee. Only administrator can access this form by select Employee Admin form at Admin Main form

8. Financial information

This form is used to negotiate with customer user have to input 4 data that use to calculate. The result show financial term.

9. Contract Form

This form is used to view and add contract information. This form used to keep record of contract after customer sigh all contract forms. Only add and view allow to active in this form. For modify and update data can active by use Contract admin form

10. Customer Form

This form is used to keep more information about customer such as customer's ID card number (Thai resident number, passport number), office address

11. Main Form

This form is used as main program. It can link to all other others form by click at toolbar

12. Commission Form

Commission Form show information about employee can sales car and also calculates commission. The commission show only contract which not pay commission. There are 2 options for user can choose.

13. Login Administration

This form allow administrator can access to Admin Main Menu, but administrator must input 2 priorities to login

14. Make payment

This form provide for record information when customer make payment or pay installation.

15. Pay Add Item form

This form will show information be fore add list into Make payment form

16. Payment information

This form show information about payment of each customer who make contract.

17. Receive Administration form

This forma allow administration add, delete, or change all information about payment of customer

18. Show all payment form

This form show all record of payment of every customer. This form will only show by select option from Receive admin form

19. Visit_cus form

This form is record information when customer come and visits Bigyon company. It's also record which car that customer interested.

(Interface Design is exhibited in Appendix B)

(7) Report Design

(1) Car report

Use to view total car inventory. It's easy form senior staff to check quantity of car. It's can help senior staff determine to order new car or not.

(2) Sales Car report (Contract report)

This report contents information about car that was sold out. It can help senior staff to determine the future of used car. They also know which car model is popular or not .

(3) Employee commission report

This report content information about each employee and how many car that they sold. It's show ability of each employee.

(4) Installation report

This report show installation of each contact then it easier form senior to know how many contract complete installation or not, which contract over due date. So, Senior can inform customer immediately to make installation.

(5) Visit customer report

This report content how many customers have been visited Big yon company. Senior staff can used this report to determine future used car market or apply new strategy into business

(6) Customer report

This report contents information about customers. Senior staff can use this report to contact customer or inform customer such as there is cars arrival or used it to analyze market.

(Report Design is exhibited in Appendix C)

IV. SYSTEM IMPLEMENTATION

4.1 Overview of the System Implementation

The new system will be implemented with DIRECT CHANGE OVER. There are many reason that first, the old system operated manually, so the new system can be immediately operated. Second, there is no effect to the old system after implemented new system because the new system is developed from old system. Big Yon Company has never used a computer to operate their jobs, they write down everything on the paper and all transaction is recorded separately according by department. The new system will let every thing more easily like one stop service, because the new system will act like data center, allow user can access to data base and retrieve information that they want but not allow them change database or see secret level information (limited access to database).

4.2 Test Plan

Top-down testing methodology is applied for testing software. Top-down testing where starts with the most abstract component and works downwards. User will test main program and then test subprogram. There are 9 parts of program that 1.Visit_customer, 2.Customer information, 3.Car information, 4.Contract information, 5.Employee information, 6.Administration, 7. Data report, 8. Financial information and 9.payment.

First, user have to test visit customer part and it sub function or sub programs after finished then test another parts program thought all parts of program. User must recommend that the programs that user satisfy enough or not, before apply into business and keep recommendation to develop the program

V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Sales Support System can use to apply into business immediately in order to increase employee's performance and use to support sales activity. Sales Support System developed from old system and gather data in one place under concept "one stop service" Sales Support System can provide information immediately according to the request of information.

Program that used to support the systems also designed to cover all need information need. Staff can use program Sales support system to present information to customer. Senior staff can use this information (data report) for future prediction of business.

Data or Information that records by used Sales Support System program will act like datacenter and also can use as reference data for all departments because all information flow pass Sales Support System and all information is kept and retrieved immediately. Staff does not waste precious time to update information manually and data always update immediately.

5.2 Recommendations

Sales Support System is used only one computer act like datacenter. Every one can come and retrieve information that they need. The system worked best when one person come and retrieves information once at a time if every one wants to retrieve data at the same time, it might cause lack of data flow problem again.

Lack of data flow can be reduce by apply computer network into business by use one computer as database server and use others computer as client computer. Every one can retrieve information by immediately.

APPENDIX A
DATABASE DESIGN

Table A-1 Customer Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key	Check	Key Type
1	CustomerID	Interger	Y	Y		Contract, Car,visit_cus		Primary Key
2	Title	varchar (5)						Attribute
3	ContactFirstname	varchar (50)						Attribute
4	ContactLastname	varchar (80)			Y			Attribute
5	DOB	date			Y			Attribute
6	ID_type	varchar (50)			Y			Attribute
7	ID_number	Integer			Y			Attribute
8	Issue _by	varchar (50)			Y			Attribute
9	Issue_date	date			Y			Attribute
10	Expire_date	date			Y			Attribute
11	Address	varchar (50)						Attribute
12	Province	varchar (50)						Attribute
13	Pastal code	varchar (6)						Attribute
14	Phonenumber	Integer(9)						Attribute
15	Office_name	varchar (50)			Y			Attribute
16	Office_address	varchar (50)			Y			Attribute
17	Office_phone	Integer(9)			Y			Attribute
18	Fax Number	Integer(9)			Y			Attribute
19	E-Mail address	varchar (50)			Y			Attribute
20	Note	Varchar			Y			Attribute

Table A-2 Car Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to	Check	Key Type
1	Car_id	Interger	Y	Y		Contract		Primary Key
2	LicenseNo	Var char(50)						Attribute
3	Province	Var char(50)						Attribute
4	Trade_mark	Var char(50)						Attribute
5	Madel_car	Var char(50)						Attribute
6	Type_car	Var char(50)						Attribute
7	Year	Var char(4)						Attribute
8	Color	Var char(50)						Attribute
9	Frame_no	Var char(50)						Attribute
10	Engine_no	Var char(50)						Attribute
11	Regis_expire_date	date						Attribute
12	Old_license	Var char(50)			Y			Attribute
13	Old_province	Var char(50)			Y			Attribute
14	Customer_id	integer						Foreign key
15	Total_cost	integer						Attribute
16	Set_price	integer						Attribute
17	Min_selling_price	integer						Attribute
18	Memo	Var char(255)			Y			Attribute

Table A-3 Contract Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to	Check	Key Type
1	Contract_id	Interger	Y	Y		Receive_payment		Primary Key
2	Contract_type	Var char (50)						Attribute
3	Car_id	Integer				Car		Foreign Key
4	Customer_id	Integer				Customer		Foreign Key
5	Contract_date	date						Attribute
6	Memo	Var char (255)			Y			Attribute
7	EmployeeID	Integer				Employee		Foreign Key
8	Downpayment	Integer						Attribute
9	Princeple of loan	Integer						Attribute
10	Interest	Integer						Attribute
11	Period_install	Integer						Attribute
12	Amount_install	Integer						Attribute
13	Start_date	date						Attribute
14	EndDate	date						Attribute
15	Pau_com_yesno	Boolean(yes,no)						Attribute
16	Complete_install	Boolean(yes,no)						Attribute

Table A-4 Visit_cus Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to	Check	Key Type
	Vistited_id	Interger	Y	Y				Primary Key
	Date	date						
	Unefficient_customer	Boolean(yes,no)			Y			
	Customer_id	Integer						Foreign Key
	Car_trademark	Var cahr (50)			Y			
	Car_model	Var cahr (50)			Y			
	Car_type	Var cahr (50)			Y			
	Budget	Integer			Y			
1	Memo	Var cahr (255)			Y			

Table A-5 Received_payment Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to	Check	Key Type
	Received_id	Interger	Y	Y				Primary Key
	Invoice_id							Attribute
	Contract_id							Foreign Key
	Customer_id							Foreign Key
	Paydate							Attribute
	Payment_descrition							Attribute
	Payment_section							Attribute
	Payment amount							Attribute
	Employee_id							Attribute

Table A-6 Employee Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to	Check	Key Type
1	EmployeeID	Integer	Y	Y		Contract, Receive_payment		Primary Key
2	Title	Var char						Attribute
3	Firstname	Var char						Attribute
4	LastName	Var char						Attribute
5	ID_type	Var char						Attribute
6	ID_number	Integer						Attribute
7	Address	Var char						Attribute
8	Province	Var char						Attribute
9	Postal_code	Integer						Attribute
10	Homephone	Integer						Attribute
11	MobilePhone	Integer						Attribute
12	Birthday	Date						Attribute
13	DateHired	Date						Attribute
14	Lastday_hired	Date						Attribute
15	position	Var char						Attribute
16	Salary	Integer						Attribute
17	Emer_contract	Var char						Attribute
18	Emer_phone	Integer						Attribute
19	Username	Var char						Attribute
20	Password	Var char			y			Attribute
21	Expelled	Boolean(yes,no)			y			Attribute
22	Note	Var char(255)			y			Attribute

APPENDIX B

INTERFACE DESIGN

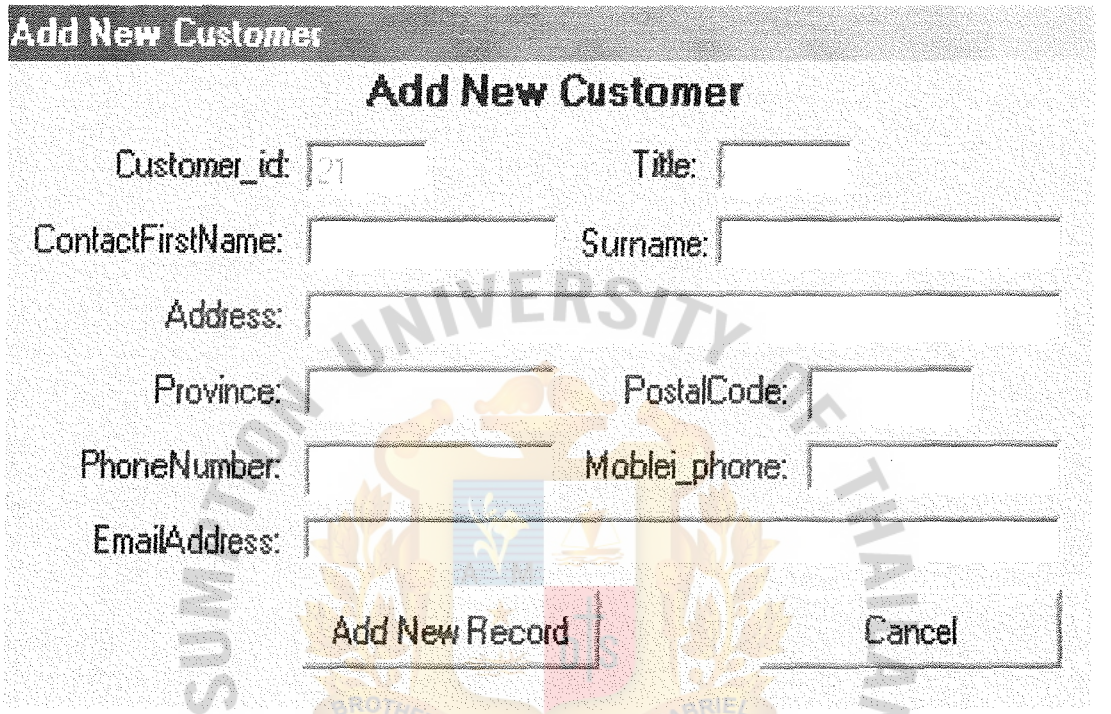


Figure B-1 Add New Customer form

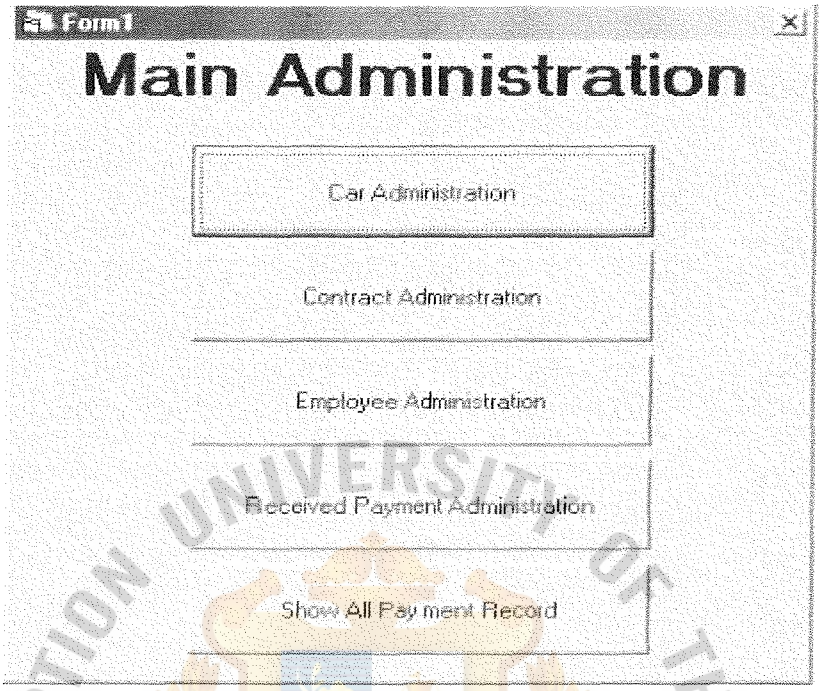


Figure B-2 Main Administration form

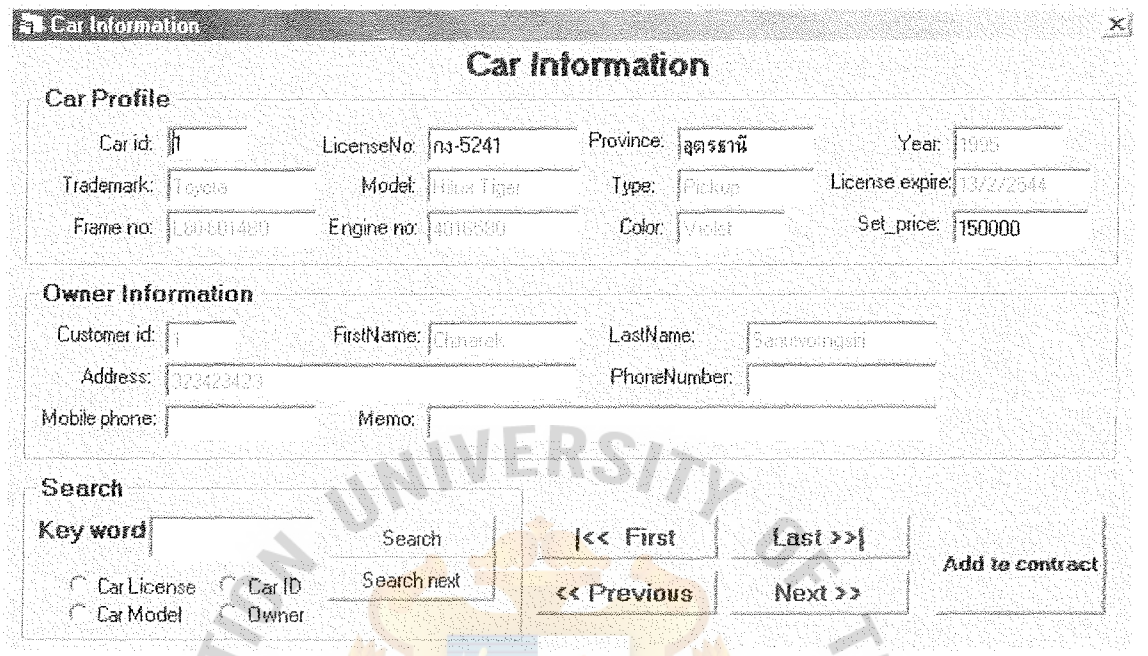


Figure B-4 Car Information form

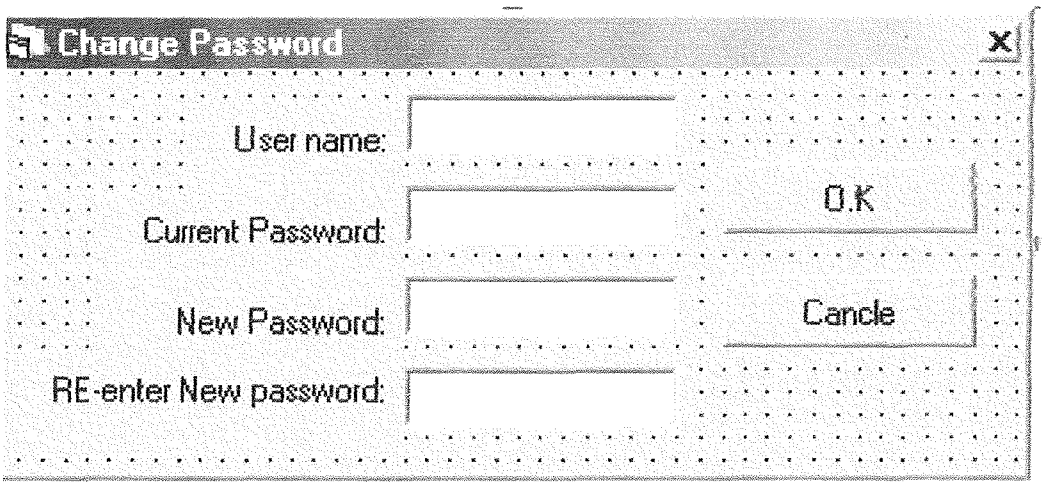


Figure B-5 Change Password form

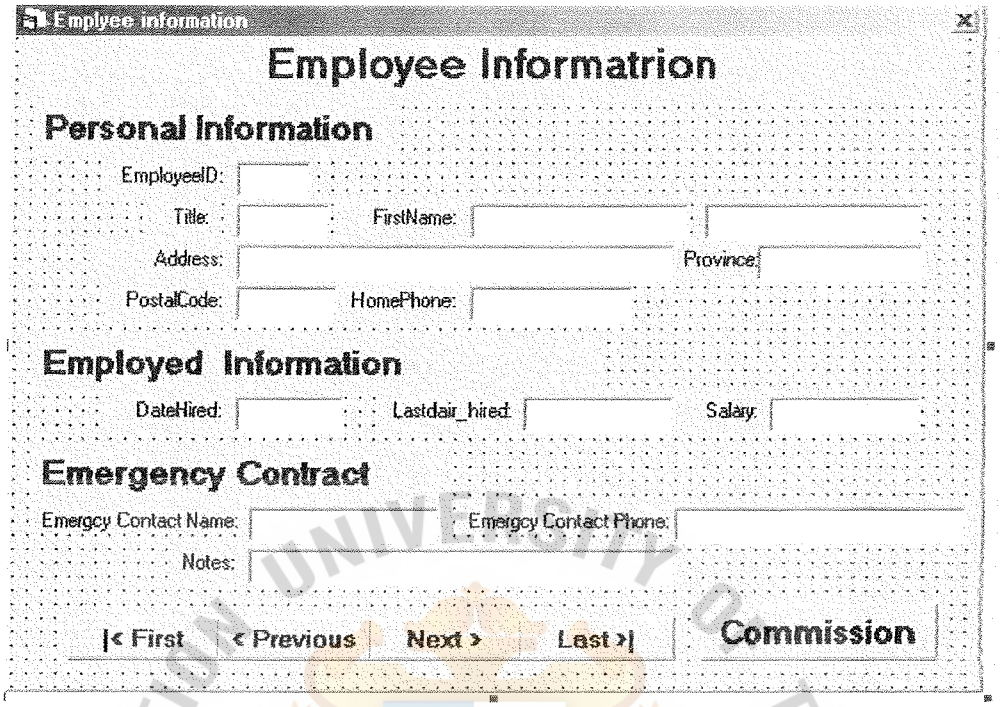


Figure B-6 Employee Information form

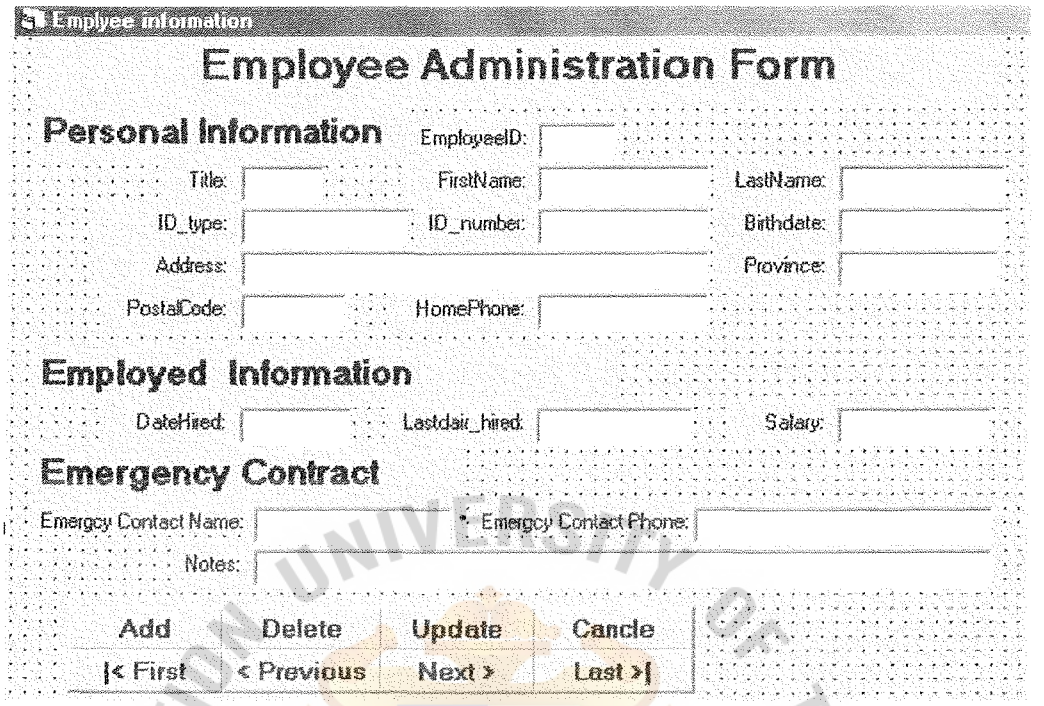


Figure B-7 Employee Administration form

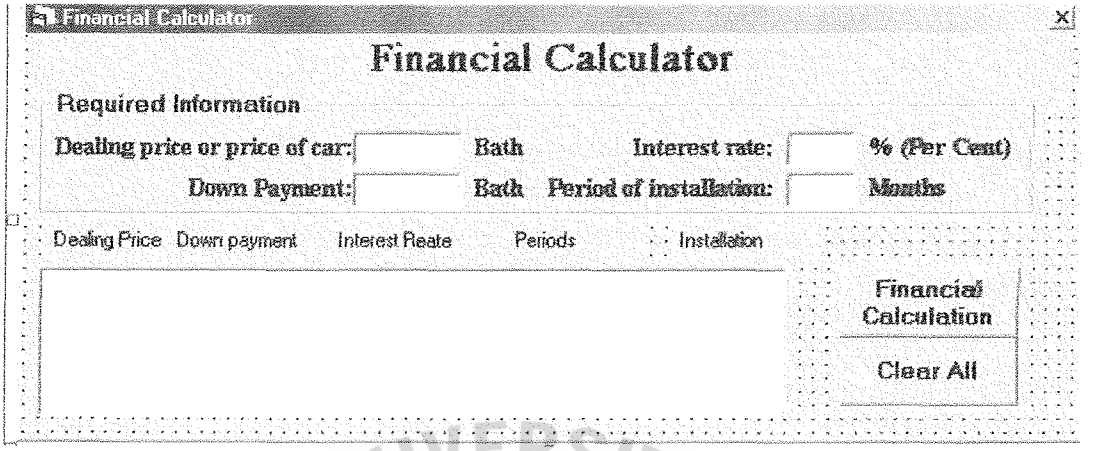


Figure B-8 Financial information form

Figure B-9 Contract form

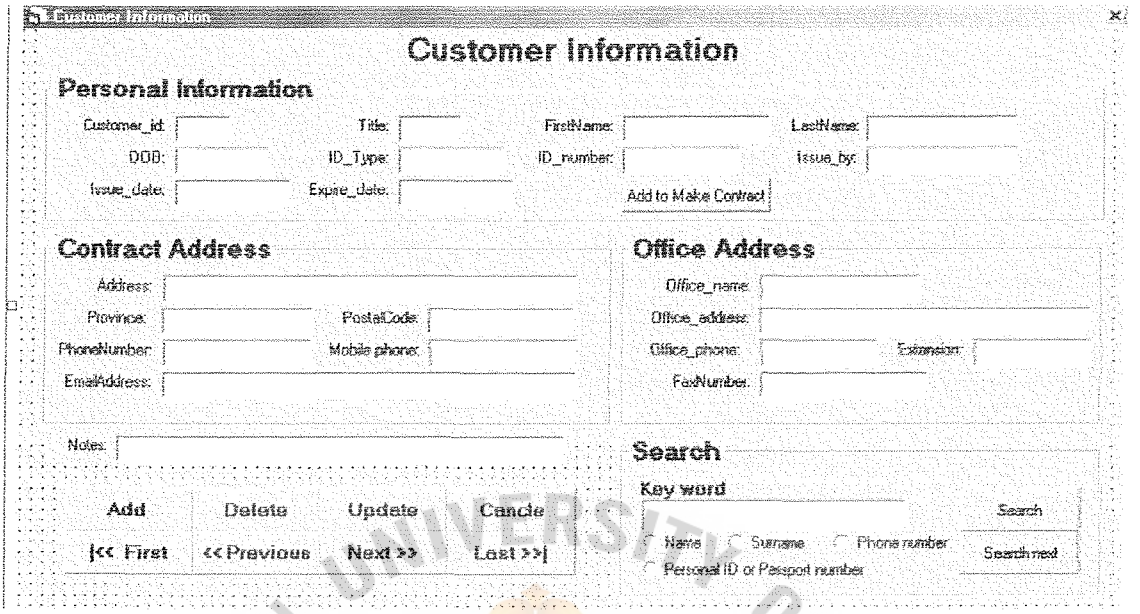


Figure B-10 Customer Information form

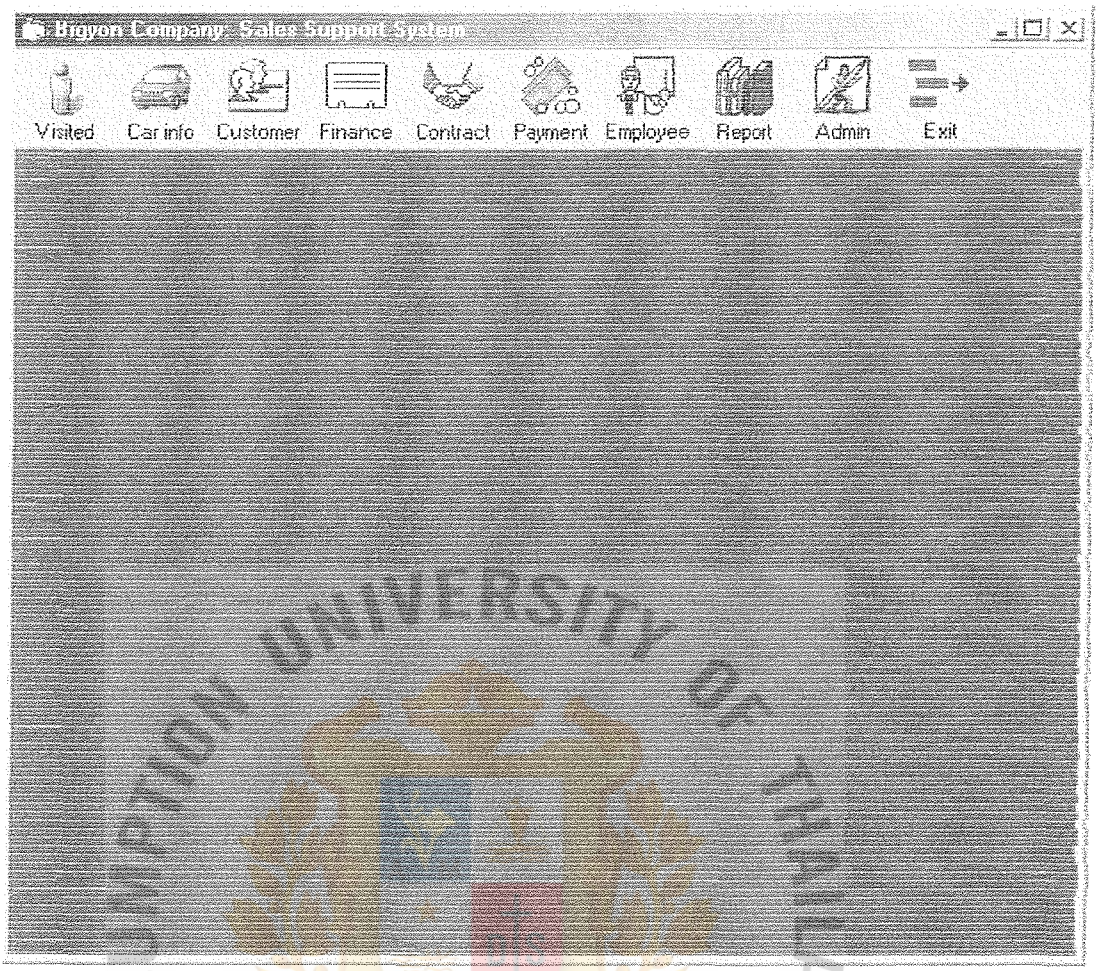


Figure B-11 Main Menu Form

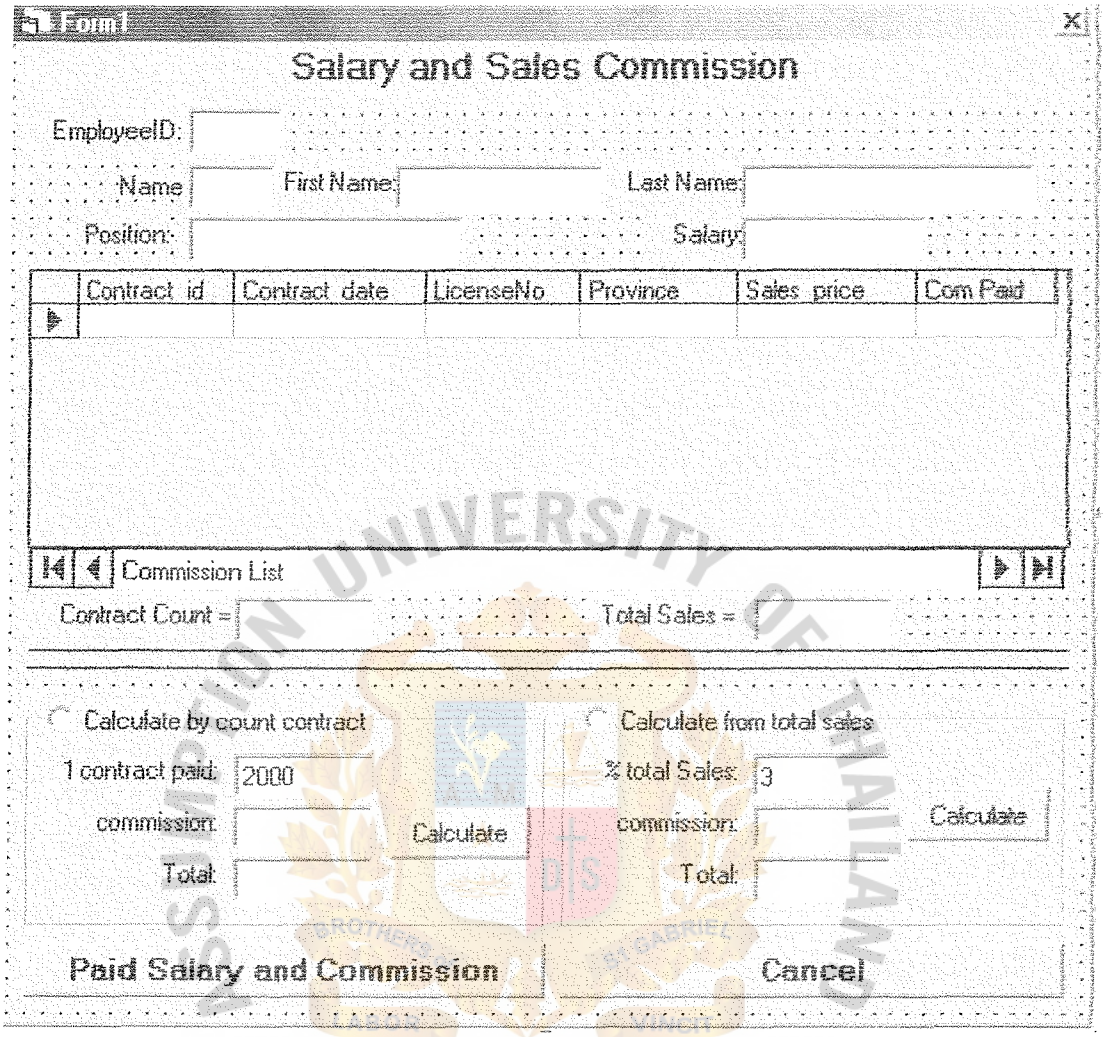


Figure B-12 Commission form

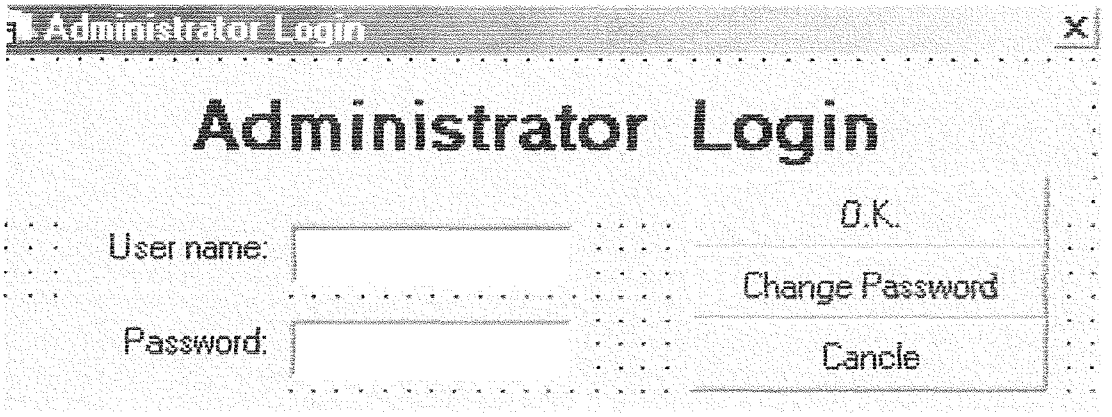


Figure B-13 Login Administration

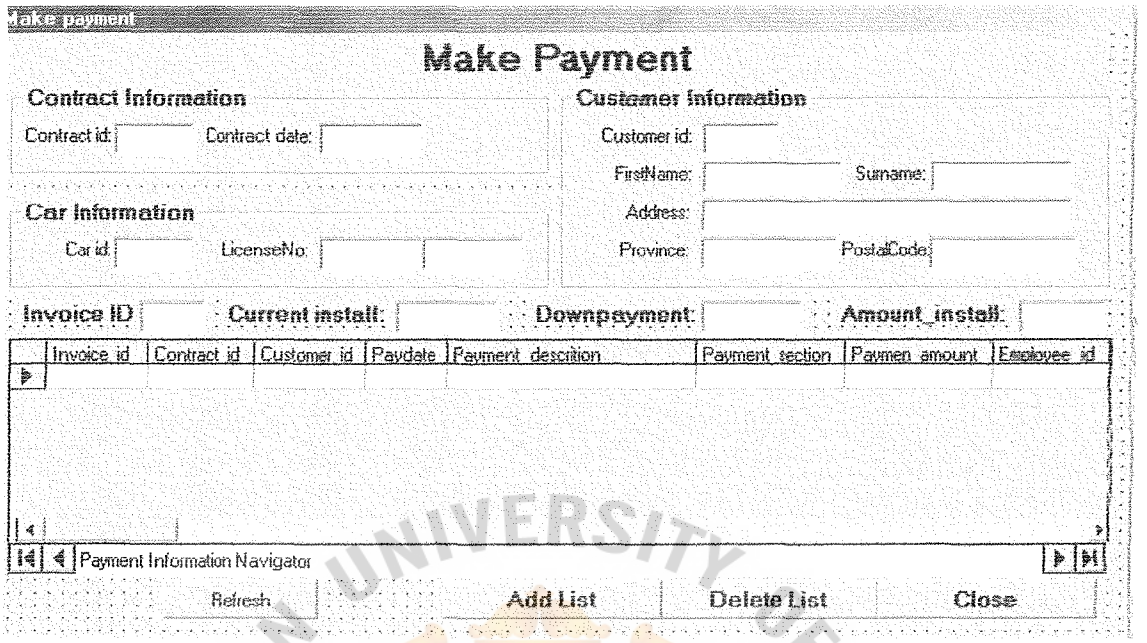


Figure B-14 Make Payment form

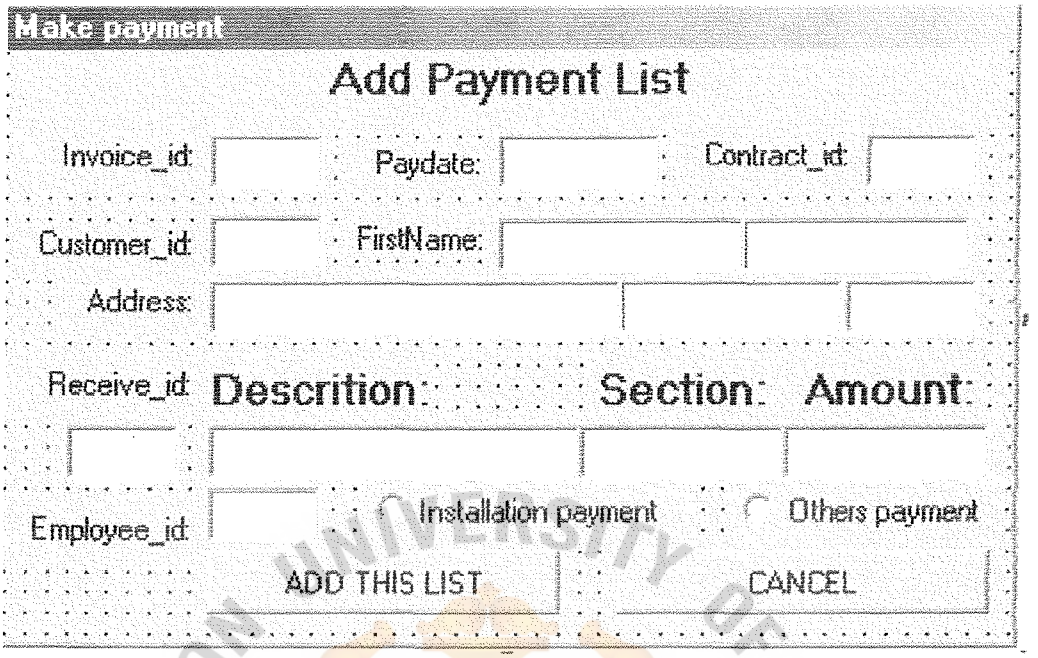


Figure B-15 Pay Add Item form

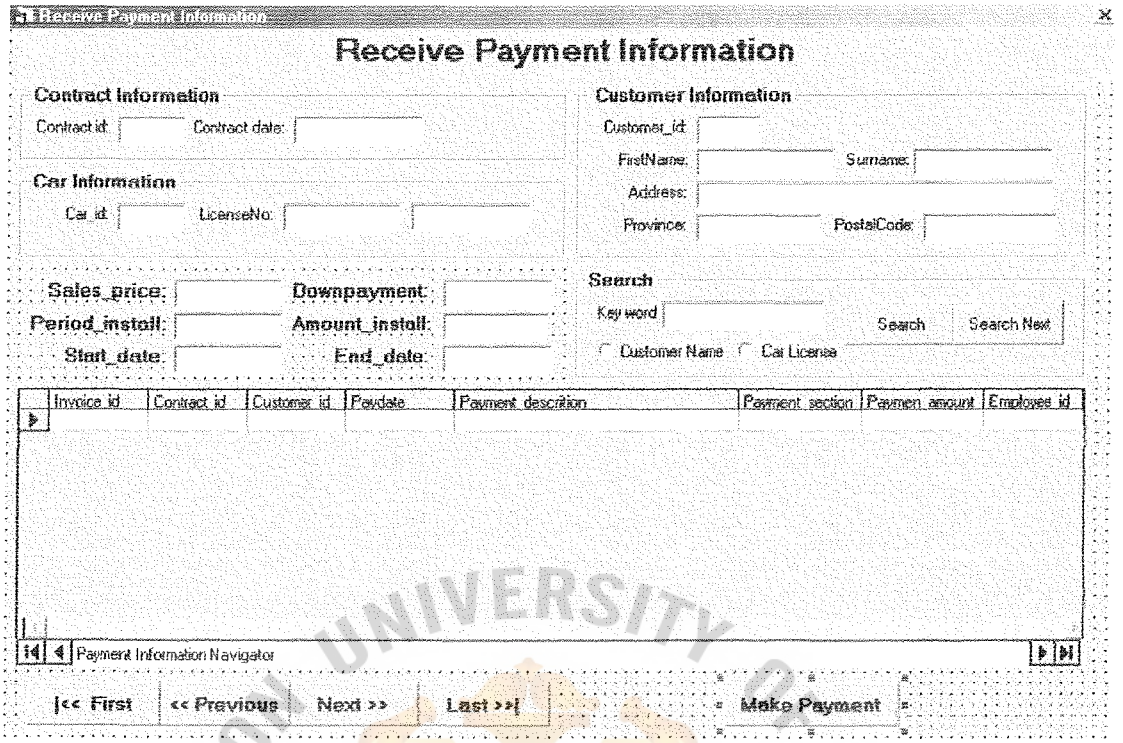


Figure B-16 Receive Payment Information form

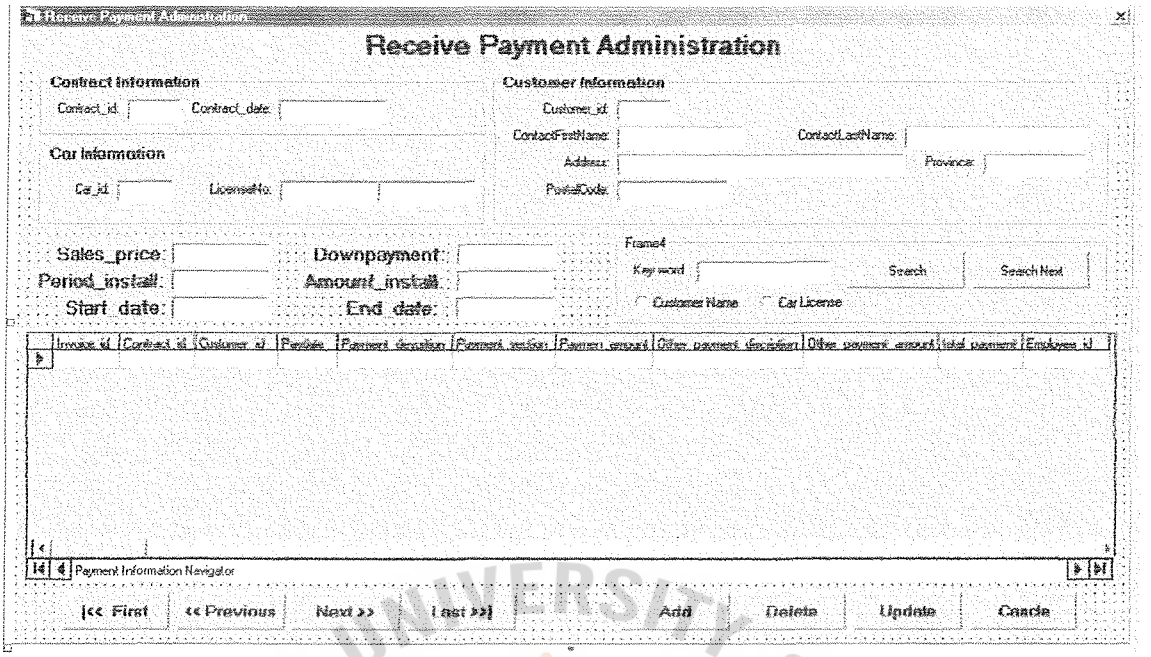
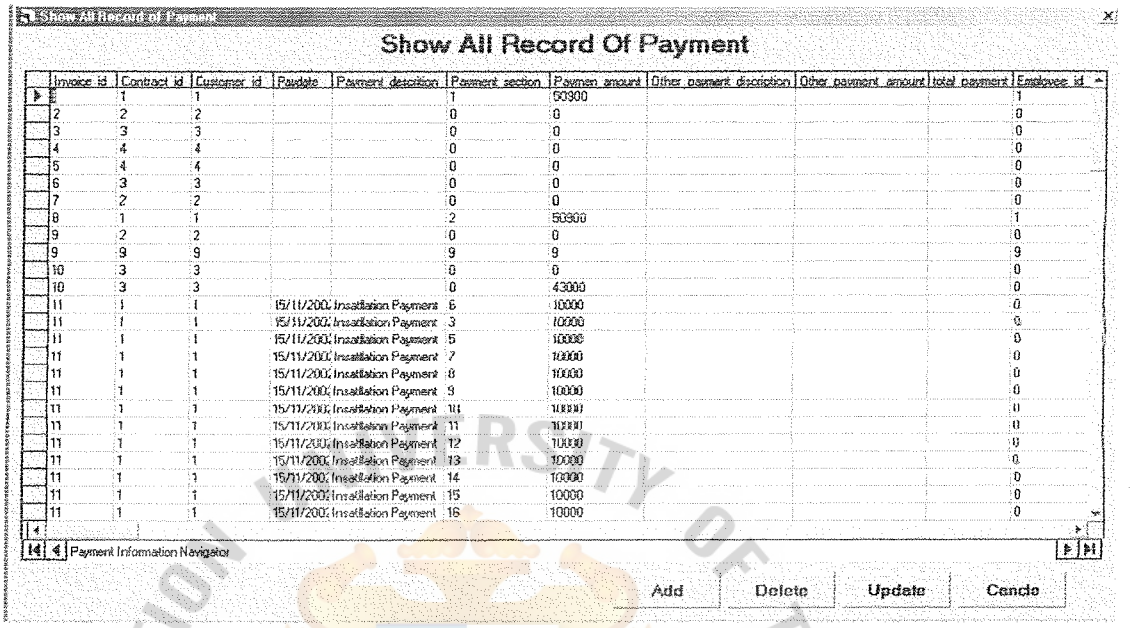


Figure B-17 Receive Payment Administration form



Invoice id	Contract id	Customer id	Paydate	Payment description	Payment section	Paymen amount	Other payment discription	Other payment amount	total payment	Employee id
1	1	1			1	50300				1
2	2	2			0	0				0
3	3	3			0	0				0
4	4	4			0	0				0
5	4	4			0	0				0
6	3	3			0	0				0
7	2	2			0	0				0
8	1	1			2	50300				1
9	2	2			0	0				0
9	9	9			9	9				9
10	3	3			0	0				0
10	3	3			0	43000				0
11	1	1	15/11/2002	Installation Payment	6	10000				0
11	1	1	15/11/2002	Installation Payment	3	10000				0
11	1	1	15/11/2002	Installation Payment	5	10000				0
11	1	1	15/11/2002	Installation Payment	7	10000				0
11	1	1	15/11/2002	Installation Payment	8	10000				0
11	1	1	15/11/2002	Installation Payment	9	10000				0
11	1	1	15/11/2002	Installation Payment	10	10000				0
11	1	1	15/11/2002	Installation Payment	11	10000				0
11	1	1	15/11/2002	Installation Payment	12	10000				0
11	1	1	15/11/2002	Installation Payment	13	10000				0
11	1	1	15/11/2002	Installation Payment	14	10000				0
11	1	1	15/11/2002	Installation Payment	15	10000				0
11	1	1	15/11/2002	Installation Payment	16	10000				0

Figure B-18 Show All Record form

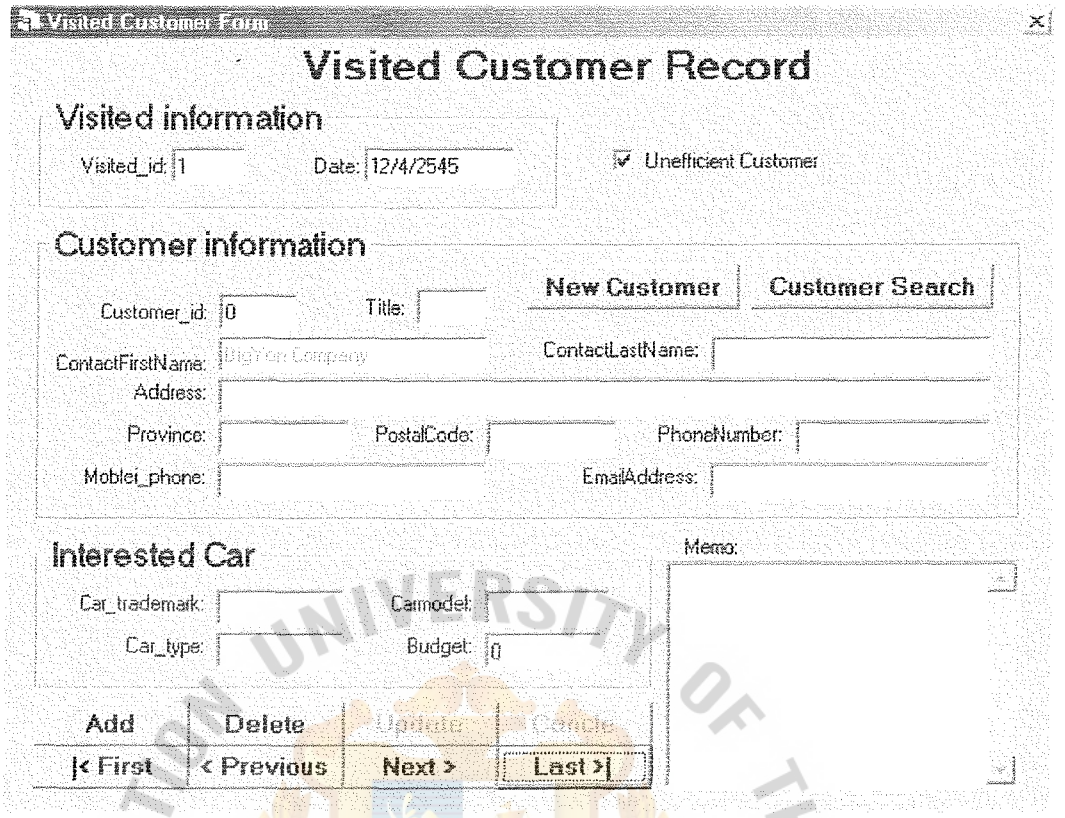


Figure B-19 Visited Customer Record form

APPENDIX C
REPORT DESIGN

Big Yon Company

135/ Udon-dusadee Rd. Mark kheang Udonthaini 41000 Ph. 042223036

Cars Available in Stock Report

Car_id:	LicenteNo:	Engine_no:	Frame_no:	Trade_mark:	Model_car:
5	กข-8548 กรุงเทพมหานคร	CV2900970	CV2900970	Toyota	Starlet
6	กง-3248 อุดรธานี	4G15NFTAL-28	CB2ASNC-18279	Toyota	Celora
7	กม-6789 อุดรธานี	9098765654	1234567789	Toyota	Celera

Figure C-1 Car report

Big Yon Company

135/ Udon-dusadee Rd. Mark kheang Udonthani 41000 Ph. 042223036

Contract Report

Contract_id: 1 **Contract_date:** 26/11/2002 **Contract_type:** Trading Agreement

Customer Information report

Customer_id: 1 ContactFirstName: Chinarak Sanuwongsiri

Car Information report

Car_id: 1 LicenseNo: กง-5241 อุดรธานี

Frame_no: L80-601480 Engine_no: 4016580

Trade_mark: Hilux Tiger **Sales_price: 360000**

Financial Information report

Downpayment:	Princeple of loan:	Interest rate:	Period_install:	Amount_install:
4000	645000	4	24	46225

Start_date: 26/11/2002 End_date: Installation status: **Incomplete**

Sales person Information report

EmployeeID: 1 Employee Name: SanSuk NaGrieng

Memo:

Figure C-2 Sales Car report (contract report)

Big Yon Company

135/ Udon-dusadee Rd. Mark kheang Udonthaini 41000 Ph. 042223036

Employee with Sales Report

EmployeeID: 1 FirstName: SanSuk NaGrieng Salary: 9000

Contract_id:	Contract_date:	LicenseNo:	Sales_price:
1	26/11/2002	กจ-5241 อุดรธานี	360000
Total contracts: 1		Total Sales:	360000

Figure C-3 Employee commission report

Big Yon Company

135/ Udon-dusadee Rd. Mark kheang Udonthaini 41000 Ph. 042223036

Contract_id: 4 Contract_date: 20/11/2002 Period_install: 24

Customer_id: 10 Customer name: Krisada Yumpenboon

Car_id: 5 LicenseNo: กจ-8548 กรุงเทพมหานคร Monthly install: 22667

Invoice_id:	Paydate:	Payment_descriti	Payment_section:	Paymen_amount:
23	20/11/2002	Down payment	1	22667
23	20/11/2002	Insatllation Payment	1	22667
Total Installations				45334

Figure C-4 Installation report

Big Yon Company

135/ Udon-dusadee Rd. Mark kheang Udonthaini 41000 Ph. 042223036

Customer Report Group

Customer_id: 1 Customer Name: Chinarak Sanuworngsiri

PhoneNumber: Moblei_phone:

Car_trademark:	Carmodel:
Toyota	Hilux
Toyota	Hikus Tiger
Nissan	Cefiro

Figure C-5 Visit customer report

Big Yon Company

135/ Udon-dusadee Rd. Mark kheang Udonthaini 41000 Ph. 042223036

Customer report

Customer_id: 10 Title: Mr.

Customer Name: Krisada Bumpenboon DOB: 1/1/2515

ID_Type: Resident id ID_number: 3677585756398 Issue_date:

Expire_date:

Address: 113/45 Ram khum Heang Huamark Bangkapi Bkk 10240

PhoneNumber: 2567899 Moblei_phone: 19827665

Office_address: Rankhumheang Rd.Office_address: Rankhumheang Rd.

Office_phone: 28393948 12343 FaxNumber: 25676754

EmailAddress:

Notes:

Figure C-6 Customer report

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O'Brien J. A. **Management Information Systems: Managing Information Technology in the Internetworked Enterprise,** Fourth Edition. USA: McGraw Hill, 1999.