American International University – Bangladesh

Course Name: Introduction to Database[F]

Course Code: CSC 2107

Project Final

A Database Management System Of A Car Dealing Company

Submitted To: NASHIA AHMED NABILA

Course Instructor

Submitted By :

Name	ID
DebNath,Anindha	16-32926- 3
Islam, Tariqul	16-32937- 3
Tasnimul Hoque Ridoy	16-32738- 3
Kazi Ashikur Rahman	16-32472-2

Table of Contents

PART A

Project overview:

- This database system will give the car company information and also their customers entries like car model, employee's name, employee's salary, customer name, customer address etc. information.

Technical database summarization:

- If a company with this database management system wants to know about its worker and sell information then they can easily do it using customer id, car id and employee id.
- Company owner can know which car sold from which branch, who sold it to which customer along with the information of the customer.
- Using this project the owner of the car company can know about his company very easily.

Project justification:

- The purpose of this project is to help a car dealer company to store some common data for their data section.

Scenario

Car Dealing Company Database Management

Car Dealing Company Database Management Requirements

Connecting the branch office:

- Every branch office has a id which is named as branch id. Branch office has an address which is called branch address. Phone number named branch phone number.

- Employees works in branch office. And employees has their employee name, id and salary.

- Employees are salesman, manager, cleaner and manager has his phone number and cleaner has his address.

Connecting the cars:

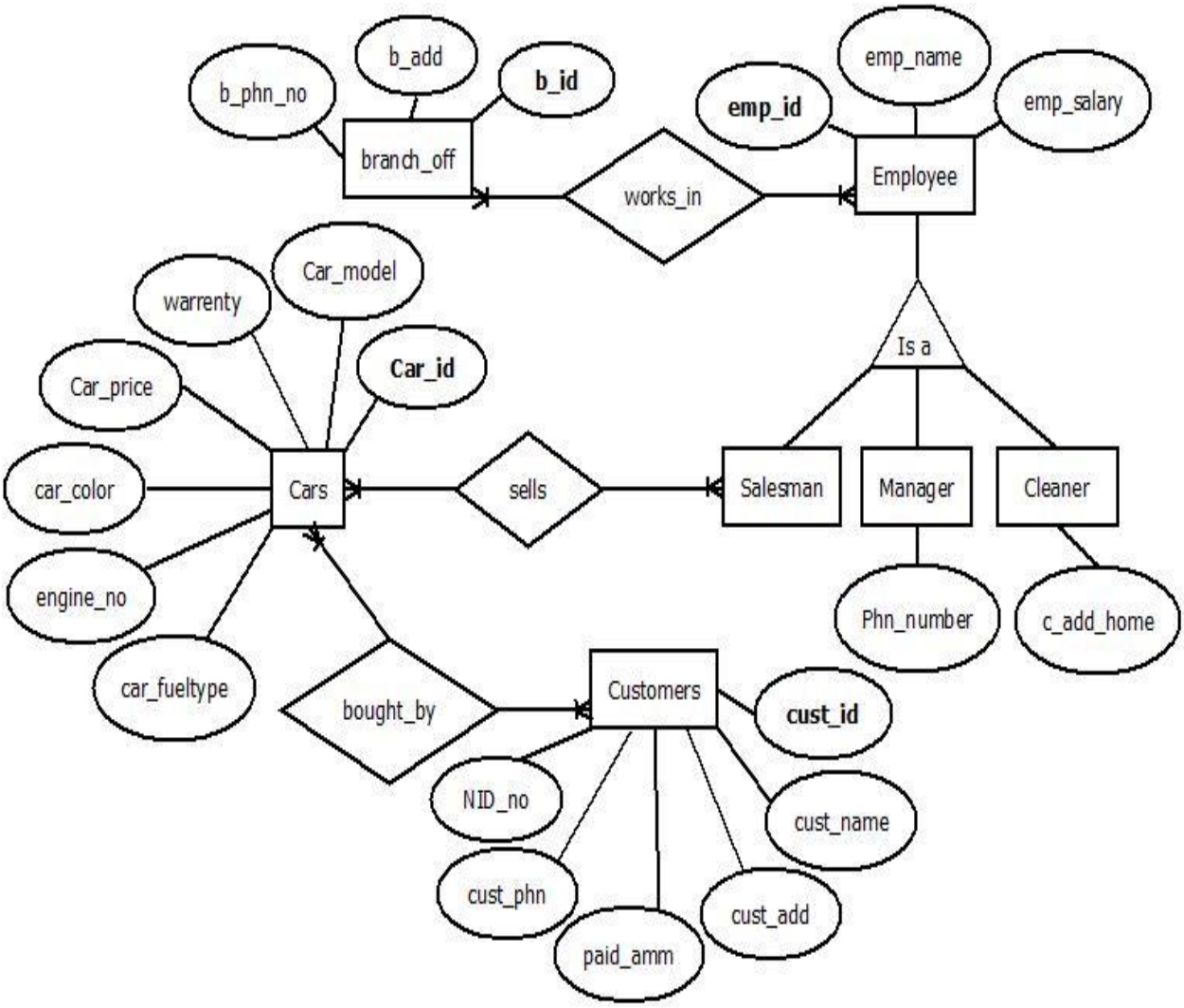
- Salesman sells cars and cars has a car id, car model, car price and car color .

- Car has a minimum warranty engine number and car fuel type.

Connecting the customers:

- Customers bought the cars. When customer has a id named customer id. Each customer has a name which is named customer name. Customer has a customer address, customer phone number and NID number. Each customer have to paid an amount for buying the cars.

Entity Relationship Diagram(ER diagram) for a car dealer Company



Bold letters are denoted as **Primary Key**

Normalization

Works_in

UNF: b_phn_no, b_add, **b_id, emp_id,** emp_name, emp_salary.

1NF:

Branch Office: **b_id,** b_phn_no, b_add.

Employee: **emp_id,** emp_name, emp_salary.

2NF:

Branch Office: b_phn_no, **b_id.**

Employee: **emp_id,** emp_name, emp_salary, b_id.

3NF:

Branch Office: **b_id,** b_phn_no.

Employee: **emp_id,** emp_name, emp_salary.

Is s

UNF: **emp_id,** emp_name, emp_salary, salesman, manager, cleaner.

1NF:

Employee: **emp_id,** emp_name, emp_salary.

Salesman: **emp_id**, salesman.

Manager: **emp_id**, manager, phn_number.

Cleaner: **emp_id**, cleaner, c_add_home.

2NF:

Is not needed for this. Because it is same as 1NF.

3NF:

Employee: **emp_id**, emp_name.

Salesman: emp_name.

Manager: emp_name, phn_number.

Cleaner: emp_name, c_add_home.

Sells

UNF: salesman, **Car_id**, car_model, warrenty, car_price, car_price, car_color, engine_no, car_fueltype.

1NF:

Salesman: **emp_id**, emp_name, salesman.

Cars: **car_id**, car model, warrenty, car_price, car_color, engine_no, car_ fueltype.

2NF:

Salesman: **emp_id**, emp_name.

Cars: **cars_id**, cars_model, car_price, warrenty, car_color, engine_no, car_fueltype, emp_id.

3NF:

Salesman: emp_name.

Cars: **car_id**, car_model, warrenty, emp_id.

Cars1: car_model, car_price, car_color, engine_no, car_fueltype.

Bought_by

UNF: **car_id**, car_model, warrenty, car_price, car_price, car_color, engine_no, car_fueltype, **cust_id**, cust_name, cust_add, paid_amm, cust_phn, NID_no.

1NF:

Cars: **car_id**, car model, warrenty, car_price, car_color, engine_no, car_ fueltype.

Customers: **cust_id**, cust_name, cust_add, paid_amm, cust_phn, NID_no.

2NF:

Cars: **cars_id**, cars_model, car_price, warrenty, car_color, engine_no, car_fueltype, emp_id.

Customers: **cust_id**, cust_name, cust_add, paid_amm, cust_phn, NID_no, cars_id.

3NF:

Cars: **car_id**, car_model, warrenty, emp_id.

Cars1: car_model, car_price, car_color, engine_no, car_fueltype.

Customers: cust_id, Nid_no, paid_amm, car_id.

Customers1: Nid_no, cust_name, cust_name, cust_phn.

Screen Shots of Sample Data

Branch_off Table:

SELECT * FROM branch_off;

B_ID	B_ADD	B_PHN
1100110101	Banani,Dhaka	8322565
1100110110	Rampura,Dhaka	8322564
1100110011	Motijheel,Dhaka	8322563

3 rows returned in 0.00 seconds CSV Export

Employee Table:

SELECT * FROM employee1;

EMP_ID	EMP_NAME	EMP_SALARY	MANAGER_PHN	BRANCH_ID	CLEANER_ADD_HOME
13-10011-1	Shaown	10000	-	1100110110	17/A Banasree,Dhaka
14-10000-1	Sohel	15000	-	1100110011	-
14-10001-1	Rasel	25000	191747777	1100110011	-
12-10000-1	Shahin	15000	-	1100110101	-
12-10001-1	Rafik	25000	171747777	1100110101	-
12-10011-1	Shamim	10000	-	1100110101	17/A Mohakhali,Dhaka
13-10000-1	Shadhin	15000	-	1100110110	-
13-10001-1	Rashid	25000	181747777	1100110110	-
14-10011-1	Sattar	10000	-	1100110011	17/A Mouchak,Dhaka

9 rows returned in 0.08 seconds CSV Export

Cars Table:

SELECT * FROM cars;

CAR_ID	CAR_MODEL	CAR_PRICE	CAR_COLOR	ENGINE_NO	CAR_FUELTYPE	WARRENTY	EMPLOYEE1_ID
1000	Audi	30000000	Blue	4111444	Diesel	1	14-10000-1
2000	Lamborghini	35000000	White	5111555	Diesel	1	13-10000-1
3000	Ferrari	40000000	Black	6111666	Diesel	2	12-10000-1

3 rows returned in 0.16 seconds CSV Export

Customers Table:

SELECT * FROM customers;

CUST_ID	CUST_NAME	CUST_ADD	PAID_AMM	CUST_PHN	NID_NUM	CAR_ID
1	ARNAB	12/A,Nikunjo	30000000	1875009183	1960000003	1000
2	FARHAN	11/C,Agargaw	35000000	1676518531	1960000002	2000
3	PRANTO	Sec-7,Uttara	40000000	1720532282	1960000001	3000

3 rows returned in 0.15 seconds CSV Export

SQL command for creating Table

Branch Office

```
create table branch_off(
b_id number(10) primary key,
b_add varchar(200) not null,
b_phn number(12) not null
);
```

Employee

```
create table employee1
(
```

```
emp_id varchar(10) primary key,
emp_name varchar(100) not null,
emp_salary number(10) not null,
manager_phn number(10),
branch_id number(10),
cleaner_add_home varchar(100)
);
```

Cars

```
create table cars
(
car_id number(10) primary key,
car_model varchar(30) not null,
car_price number(10) not null,
car_color varchar(10) not null,
engine_no number(10) not null,
car_fueltype varchar(10) not null,
warrenty number(2),
employee1_id varchar(10) not null
);
```

Customers

```
create table customers
(
cust_id number(10) primary key,
cust_name varchar(100) not null,
cust_add varchar(100),
paid_amm number(10),
```

cust_phn number(15),

nid_num number(16) not null,

car_id number(10) not null

)

SQL command for data entries

Branch info :

insert into branch_off values (1100110101, 'Banani,Dhaka', 8322565);

insert into branch_off values (1100110110, 'Rampura,Dhaka', 8322564);

insert into branch_off values (1100110011, 'Motijheel,Dhaka', 8322563);

Employee1 Info :

insert into employee1 values ('12-10000-1', 'Shahin', '15000',null,1100110101,null);

insert into employee1 values ('12-10001-1','Rafik','25000',0171747777,1100110101,null);

insert into employee1 values ('12-10011-1', 'Shamim', '10000',null,1100110101,'17/A Mohakhali,Dhaka');

insert into employee1 values ('13-10000-1', 'Shadhin', '15000',null,1100110110,null);

insert into employee1 values ('13-10001-1','Rashid','25000',0181747777,1100110110,null);

insert into employee1 values ('13-10011-1', 'Shaown', '10000',null,1100110110,'17/A Banasree, Dhaka');

insert into employee1 values ('14-10000-1', 'Sohel', '15000',null,1100110011,null);

insert into employee1 values ('14-10001-1','Rasel','25000',0191747777,1100110011,null);

insert into employee1 values ('14-10011-1', 'Sattar', '10000',null,1100110011,'17/A Mouchak, Dhaka');

Cars Info :

insert into cars values (1000,'Audi', 30000000, 'Blue', 4111444, 'Diesel', 1, '14-10000-1')

insert into cars values (2000,'Lamborghini', 35000000, 'White', 5111555, 'Diesel', 1, '13-10000-1')

insert into cars values (3000,'Ferrari', 40000000, 'Black', 6111666, 'Diesel', 2, '12-10000-1')

Customer Info :

insert into customers values (1, 'ARNAB', '12/A,Nikunjo', 30000000, 01875009183, 1960000003, '1000')

insert into customers values (2, 'FARHAN', '11/C, Agargaw', 35000000, 01676518531, 1960000002, '2000')

insert into customers values (3, 'PRANTO', 'Sec-7,Uttara', 40000000, 01720532282, 1960000001, '3000')

SQL command for creating view:

```
create view Bills1

as(select
b.b_add,b.b_phn,e.emp_name,c.car_model,c.car_color,c.car_fueltype,c.warrenty,c.car_price,cs.cust_name,cs.cust_add,cs.nid_num

from branch_off b,employee1 e,cars c, customers cs

where b.b_id=e.branch_id and e.emp_id=c.employee1_id and c.car_id=cs.c_id);


select *

from Bills1;
```

B_ADD	B_PHN	EMP_NAME	CAR_MODEL	CAR_COLOR	CAR_FUELTYPE	WARRENTY	CAR_PRICE	CUST_NAME	CUST_ADD	NID_NUM
Motijheel,Dhaka	8322563	Sohel	Audi	Blue	Diesel	1	30000000	ARNAB	12/A,Nikunjo	1960000003
Rampura,Dhaka	8322564	Shadhin	Lamborghini	White	Diesel	1	35000000	FARHAN	11/C,Agargaw	1960000002
Banani,Dhaka	8322565	Shahin	Ferrari	Black	Diesel	2	40000000	PRANTO	Sec-7,Uttara	1960000001

3 rows returned in 0.09 seconds CSV Export

Sample Questions :

1.Show all the customers informations.

Ans: select *

from customers;

2.Show all the employee name from Branch number 1100110011.

Ans: select emp_name

from employee1

Where branch_id=1100110011;

3. Show the employee name & branch number for all employees whose name contains the letter s.

Ans: select e.emp_name,e.branch_id

from employee1 e

join employee1 n

on e.branch_id=n.branch_id

and n.emp_name like '%s%' ;

4. Show the employee name, salary and branch number for all employees who work in the branch as employee number 13-10001-1.

Ans: select emp_name,emp_salary,branch_id

from employee1

where branch_id=(select branch_id

from employee1

where emp_id='13-10001-1')

5. Display the car number, model and price for the customer whose name is PRANTO.

Ans: select car_id, car_model, car_price

from cars

where car_id=(select car_id

from customers

where cust_name='PRANTO');

Conclusion:

The purpose of this car dealer company database management system is to store all the information about the company's car and the information of the employer of this company.

PART B

Learning Experience:

This project has been a rewarding experience in more than one way. The entire project work has enlightened us in the following areas.

- Digital car dealership solutions for Sales and Service .
- Customer information available on every terminal device, securely from the Cloud.
- Data synchronization with the Dealer-Management-System.
- Efficient processes for a digital customer experience.

Problems Faced :

- Increasing Competitive Pressures.
- Service Pressures.
- Finding more qualified leads.
- Competing with a lower-priced competitor whose promises won't hold up over time.

Despite our best effort there might be some faults in our developed database. We hope to learn from our mistakes and apply the knowledge that we gained from this project in the future to craete more professional level database.