King Saud University College of Computer and Information Sciences Computer Science Department	
CSC380 Fundamentals Of Database Systems	First Semester 1443 - 2021

CSC 380 Project

Project Topic

Section# 41209
Team# 4

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1. Overview

Our database system is going to discuss theme park topic, and we took Six flags as an existing company, we will show the relationships between each entity and their attributes, and list some requirements gathered from Six flags (which is an entertainment place, featuring several picnic spots and over 20 rides) that could summarize the functionality of the theme park in real life, and represent it in an appropriate form.

2. Requirement Specification

- Each employee has a name, a unique ID, gender, salary, age, birth date, address (zip code, street number) there is an employee that will manage the branch, he/she can manage at most 3 branches of Six flags, one Employee will mange the payment method, check the damaged rides and decide the (type of damage, and the expected maintenance cost and the date of check), and organize the events for the visitors.

- Six flags visitors, has a unique ID, name, gender, phone, and birth date. visitors will top up the card from the payment, the visitors will play several Rounds, there are several events that the theme park organize and allow many visitors to visit it, and they are free for all Six flags visitors.

- Every ride has a distinct ride name, an allowed age, points needed, duration, capacity and a, each ride has several number of rounds. Each ride is worth points from the card, and every ride is run by several employees and can hold a maximum number of visitors equal to its capacity.

- The payment in six flags have a unique receipt number, payment date, and payment method (online, cash, credit card) and a total price.

- To have access to the rides you need a card, which has a unique serial number, several points, and an expiry date, the card will access the visitors to play several rounds.
- The clinic has records of medical cases in case of emergencies. Every medical case has a unique ID, Date, entrance time, case, treatment, and discharge time. The employee helps Several injured visitors.

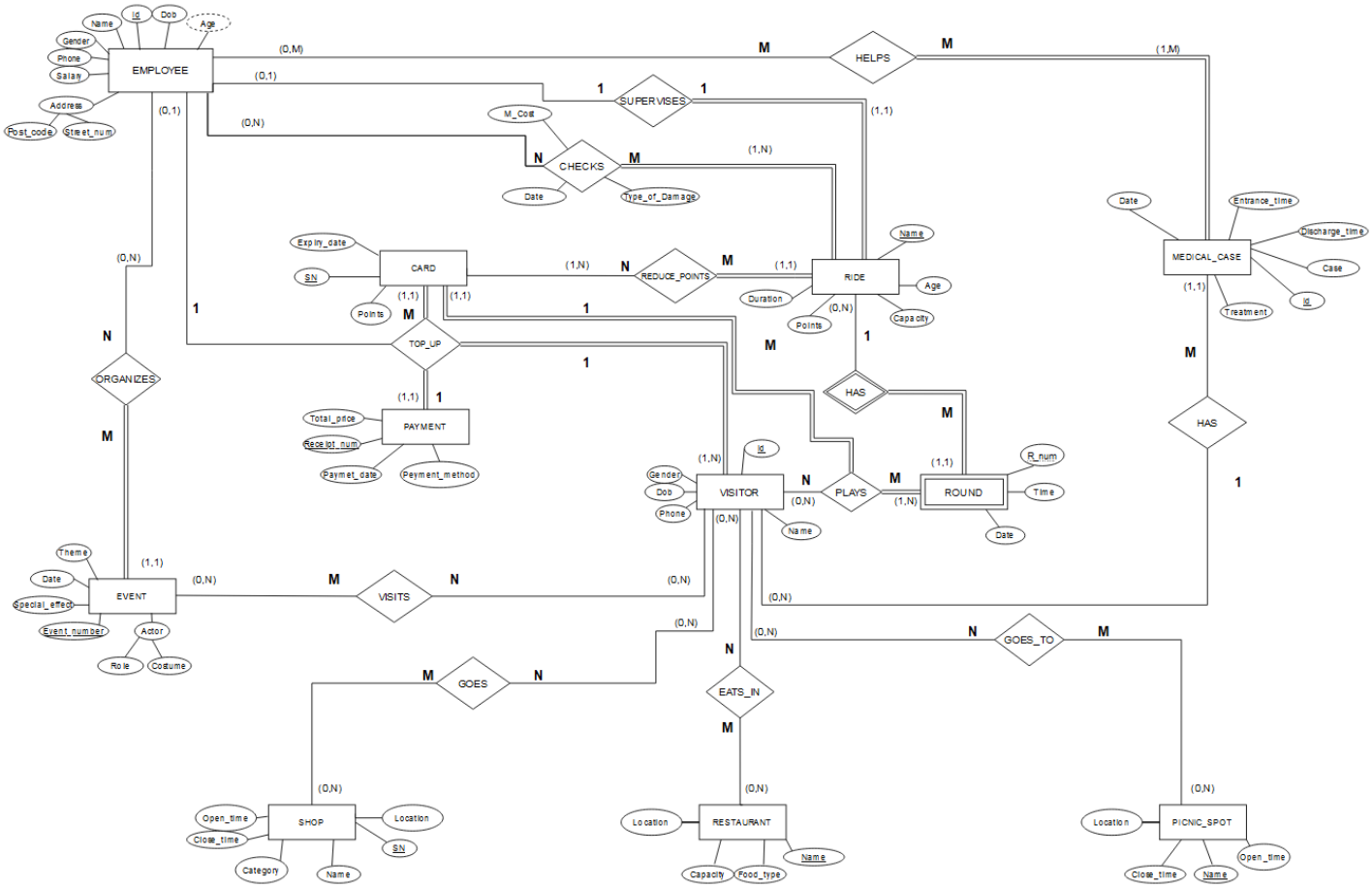
- Six flags will have an event schedule, date, actors (costumes, role), theme, Special effects, the event number will be a unique value for each event. Many employees will work to organize several events.

- Six flags restaurants have a unique brand (company), location, different types of food, a specific capacity, and number of staff working there that should be hired from the restaurant company. A visitor can eat in several restaurants while they are in the theme park.

- There are picnic spots in the theme park, which have unique name, location, open time, and close time. The visitors are welcome to visit any picnic spot.

- Six flags have shops that have unique serial number, location, name, open time, close time, number of staff working there who are hired from the shop company, and category of the shops. A visitor goes to several shops while they are in the theme park.

3. Entity Relationship Diagram



4. System Users

This system consists of 7 user groups as follow:

4.1 **view of manger**

In this user group the manger will manage the employees and have access to their info and the tasks that they are working on. since the branch is independent from the database the manger will accesses all the information in the database.
*Note: The operation that the manger can make restricted to be only in the Employee information. We don't want the manger to make that much operation but focus on making a regular reports on the data base. Then issue the report to the employees, to make the suitable operation on the database.

4.1.1 The view of this group is presented below in the table :

Card SN	Card Expiry date	Ride Name	Maintenance Cost	Type of Damage
Medical Case ID	Medical case	Medical treatment	Medical case date	Medical case entrance time
Medical case discharge time	Card SN	Card Expiry Date	Card Points	Payment receipt number
Payment method	Payment total price	Event Number	Event Theme	Event actor costume
Event Date	Event special effect	Event actor role	Shop SN	Shop open time
Shop close time	Shop category	Shop Name	Shop Location	Picnic spot name
Picnic spot close time	Picnic spot open time	Picnic spot location	Restaurant Name	Restaurant capacity
Restaurant food type	Restaurant location	Visitor ID	Visitor Name	Visitor Date of birth
Visitor Gender	Visitor phone	Ride Name	Ride Duration	Ride capacity
Ride points	Ride allowed age	Ride round number	Ride round time	Ride round Date
Employee ID	Employee Name	Employee Gender	Employee Salary	Employee Post Code
Employee Street Number	Employee Date of Birth	Employee phone number		

4.1.2 This user group accesses the database using some different operations, below some of them:

- *Insert:*

```
INSERT INTO EMPLOYEE VALUES('122456785','1980-05-01','ahamad ali','M','0556643333',3000,'b4624','m3153');
INSERT INTO EMPLOYEE VALUES('123356784','1990-02-21','sara ahmad','F','0554443366',6000,'a2154','n5737');
INSERT INTO EMPLOYEE VALUES('124456783','1970-01-01','muhammad ibrahim','M','0554443311',2000,'a1244','nn2632');
INSERT INTO EMPLOYEE VALUES('125456782','1988-03-11','nora saad','F','0554411333',9000,'v3256','sn2311');
INSERT INTO EMPLOYEE VALUES('126456781','1993-02-02','ahamad saud','M','0557773333',6000,'n3524','nn752');
```

Emp_id	DoB	Name_	Gender	Phone	Salary	Post_code	Street_num
122456785	1980-05-01	ahamad ali	M	0556643333	3000.00	b4624	m3153
123356784	1990-02-21	sara ahmad	F	0554443366	6000.00	a2154	n5737
124456783	1970-01-01	muhammad ibrahim	M	0554443311	2000.00	a1244	nn2632
125456782	1988-03-11	nora saad	F	0554411333	9000.00	v3256	sn2311
126456781	1993-02-02	ahamad saud	M	0557773333	6000.00	n3524	nn752
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

*Note: The event organizer the one who is able to add the Events

```
INSERT INTO EVENT_(Event_No,E_id,Theme) VALUES(1,'125456782','Spring');
INSERT INTO EVENT_(Event_No,E_id,Theme) VALUES(2,'125456782','Summer');
```

Event_No	E_id	Theme
1	125456782	Spring
2	125456782	Summer
NULL	NULL	NULL

- *Update:*

```
UPDATE EMPLOYEE SET Salary=(1.2*Salary);
```

Name_	Gender	Phone	Salary	Post_code	Street_num
ahamad ali	M	0556643333	1584.00	b4624	m3153
sara ahmad	F	0554443366	3168.00	a2154	n5737
muhammad ibrahim	M	0554443311	1056.00	a1244	nn2632
nora saad	F	0554411333	4752.00	v3256	sn2311
ahamad saud	M	0557773333	3168.00	n3524	nn752
NULL	NULL	NULL	NULL	NULL	NULL

- *Delete:*

```
DELETE FROM EMPLOYEE WHERE Name_='sara ahmad';
```

Name_	Gender	Phone	Salary	Post_code	Street_num
ahamad ali	M	0556643333	1900.80	b4624	m3153
muhammad ibrahim	M	0554443311	1267.20	a1244	nn2632
nora saad	F	0554411333	5702.40	v3256	sn2311
ahamad saud	M	0557773333	3801.60	n3524	nn752
NULL	NULL	NULL	NULL	NULL	NULL

- *Retrieve from one table:*

```
SELECT Name_,MAX(Salary) FROM EMPLOYEE;
```

	Name_	MAX(Salary)
▶	ahamad ali	5702.40

- *Retrieve from more than two table (JOIN):*

```
SELECT Name_,Event_No,Theme FROM EVENT_,EMPLOYEE WHERE Emp_id=E_id;
```

	Name_	Event_No	Theme
▶	nora saad	1	Spring
	nora saad	2	Summer

4.2 **Cashier view**

In this user group the cashier will be responsible for adding the visitors in the system and managing their payment, he/she will not access other employee information. he/she will have access to all visitors information as well as the events and attraction tours. Additionally, compute payment, and card points and issue receipts, cards info to customers , quoting the price of card points and services. he/she will register reports with the manger about the database info. Also, knowing more about the theme park, such as season pass discounts as well as park events and attraction information.

*Note: the cashier will know about the theme park attraction to navigate the visitors if they need help

4.2.1 The view of this group is presented below in the table :

Visitor ID	Visitor Name	Visitor Date of birth	Visitor Gender	Visitor phone
Card SN	Card Expiry Date	Card Points	Payment receipt number	Payment method
Manger Name	Manger phone number	Event Theme	Event actor costume	Event Date
Event special effect	Event actor role	Ride allowed age	Ride Name	Ride Duration
Ride capacity	Ride points	Restaurant Name	Restaurant location	Picnic spot name
Picnic spot close time	Picnic spot open time	Picnic spot location	Shop open time	Shop close time
Shop category	Shop Name	Shop Location		

4.2.2 This user group accesses the database using some different operations, below some of them:

- *Insert:*

```
INSERT INTO payment VALUES(1,100,'2021-02-01','cash');
INSERT INTO payment VALUES(2,50,'2021-02-01','online');
INSERT INTO payment VALUES(3,50,'2021-02-03','card');
INSERT INTO payment VALUES(4,50,'2021-02-09','online');
```

Receipt_num	Total_price	Payment_date	Payment_method
1	100	2021-02-01	cash
2	50	2021-02-01	online
3	50	2021-02-03	card
4	50	2021-02-09	online
NULL	NULL	NULL	NULL

```
INSERT INTO CARD VALUES('9504388877127',1,'2021-03-01',100);
INSERT INTO CARD VALUES('1255067890137',2,'2021-04-01',200);
INSERT INTO CARD VALUES('1255067890337',2,'2021-04-01',200);
```

- *Update:*

```
UPDATE PAYMENT SET Payment_method='cash' WHERE Receipt_num=2;
```

Receipt_num	Total_price	Payment_date	Payment_method
1	100	2021-02-01	cash
2	50	2021-02-01	cash
3	50	2021-02-03	card
4	50	2021-02-09	online
NULL	NULL	NULL	NULL

- *Delete:*

Card_sn	Pay_Receipt_num	Expiry_date	Points
1255067890137	2	2021-04-01	200
1255067890337	2	2021-04-01	200
9504388877127	1	2021-03-01	100
NULL	NULL	NULL	NULL

```
DELETE FROM CARD WHERE Pay_Receipt_num=1 ;
```

Card_sn	Pay_Receipt_num	Expiry_date	Points
1255067890137	2	2021-04-01	200
1255067890337	2	2021-04-01	200
NULL	NULL	NULL	NULL

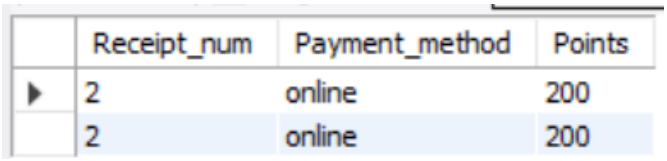
- *Retrieve from one table:*

```
SELECT Receipt_num,Payment_method
FROM PAYMENT
WHERE  Payment_date='2021-02-01'
ORDER BY Receipt_num DESC;
```

Receipt_num	Payment_method
2	online
1	cash
NULL	NULL

- *Retrieve from more than two table (JOIN):*

```
SELECT p.Receipt_num,p.Payment_method,c.Points
FROM PAYMENT AS  p
INNER JOIN  CARD AS c
WHERE  Receipt_num=2;
```



Receipt_num	Payment_method	Points
2	online	200
2	online	200

*Note we can make this operation with the select statement without the join but, we wanted to cover multiple possibilities.

4.3 **Maintenance workers view**

In this user group the maintenance workers in the theme park will work in building new rides by the instruction from the manger they also they keep a regular maintenance on rides in the closed days in the theme park, they don't have that much access on the database. since there is a regular maintenance, they need to have access to the database. They will ensure that the rides work correctly. they might perform simple maintenance tasks on the restaurant, shops, and picnic spots such as (fixing a broken fountain)

4.3.1 The view of this group is presented below in the table:

Shop open time	Shop close time	Shop category	Shop Name	Shop Location
Ride allowed age	Ride Name	Ride Duration	Ride capacity	Ride points
Restaurant Name	Restaurant location	Picnic spot name	Picnic spot close time	Picnic spot open time
Picnic spot location	Maintenance Worker ID	Maintenance cost	Maintenance Type of damage	Maintenance Date
Maintenance Worker Name	Maintenance Worker Phone		Maintenance Worker Date of birth	Maintenance Worker salary
Maintenance Worker post code	Maintenance Worker street number			

4.3.2 This user group accesses the database using some different operations, below some of them:

- *Insert:*

```
INSERT INTO RIDE VALUES('Roller coster','122456785','5 min',50,15,10);
INSERT INTO RIDE VALUES('Water ride','126456781','10 min',30,10,10);
INSERT INTO RIDE VALUES('Bumbers cars','125456782','8 min',20,10,8);
```

	Ride_name	E_id	Duration	Points	Capacity	Age
▶	Bumbers cars	125456782	8 min	20	10	8
	Roller coster	122456785	5 min	50	15	10
	Water ride	126456781	10 min	30	10	10
*	NULL	NULL	NULL	NULL	NULL	NULL

Insert into checks

```
INSERT INTO CHECK_ VALUES('122456785','Water ride',3000,'Rusty','2021-06-01');
INSERT INTO CHECK_ VALUES('122456785','Bumbers cars',2000,'weird noises','2021-02-09');
```

	E_id	Ride_name	M_Cost	Type_of_Damage	Date_
▶	122456785	Bumbers cars	2000	weird noises	2021-02-09
	122456785	Water ride	3000	Rusty	2021-06-01
*	NULL	NULL	NULL	NULL	NULL

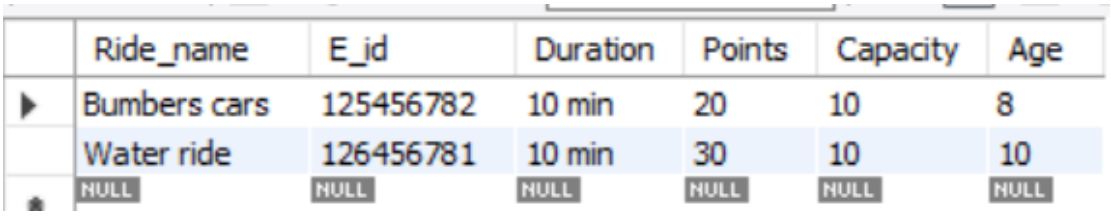
- *Delete:*

```
DELETE FROM RIDE WHERE E_id='122456785';
```

	Ride_name	E_id	Duration	Points	Capacity	Age
▶	Bumbers cars	125456782	8 min	20	10	8
	Water ride	126456781	10 min	30	10	10
*	NULL	NULL	NULL	NULL	NULL	NULL

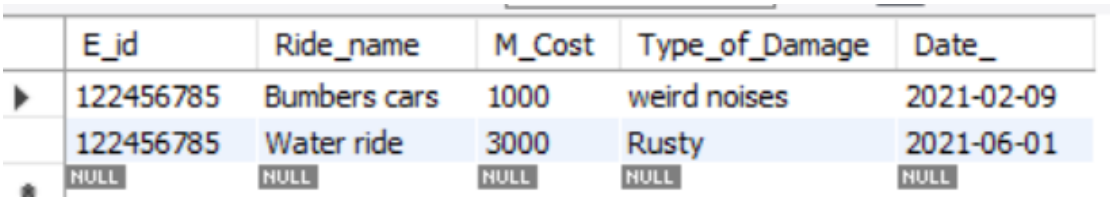
- *Update:*

```
UPDATE RIDE SET Duration='10 min' WHERE Ride_name='Bumbers cars';
```



Ride_name	E_id	Duration	Points	Capacity	Age
Bumbers cars	125456782	10 min	20	10	8
Water ride	126456781	10 min	30	10	10
NULL	NULL	NULL	NULL	NULL	NULL

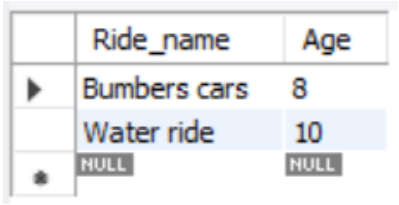
```
UPDATE CHECK_ SET M_Cost=1000 WHERE Ride_name='Bumbers cars';
```



E_id	Ride_name	M_Cost	Type_of_Damage	Date_
122456785	Bumbers cars	1000	weird noises	2021-02-09
122456785	Water ride	3000	Rusty	2021-06-01
NULL	NULL	NULL	NULL	NULL

- *Retrieve from one table:*

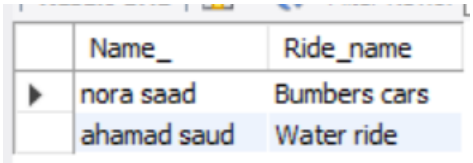
```
SELECT Ride_name,Age FROM RIDE;
```



Ride_name	Age
Bumbers cars	8
Water ride	10
NULL	NULL

- *Retrieve from more than two table (JOIN):*

```
SELECT Name_,Ride_name FROM EMPLOYEE,RIDE WHERE Emp_id=E_id;
```



Name_	Ride_name
nora saad	Bumbers cars
ahamad saud	Water ride

4.4 **The visitors view**

In this user group the visitors will have access to the information that is given on the website and it's about the theme park entertainment such as events, restaurants, shops, picnic spots. They also have contact with the cashier to register their information, payment and card information in the system, they might need help with their medical cases, so the theme park provide view for its info.
*Note: the cashier's name and id for visitors' safety will be in the receipt

4.4.1 The view of this group is presented below in the table:

Shop open time	Shop close time	Shop category	Shop Name	Shop Location
Ride allowed age	Ride Name	Ride Duration	Ride capacity	Ride points
Restaurant Name	Restaurant location	Picnic spot name	Picnic spot close time	Picnic spot open time
Picnic spot location	Visitor ID	Visitor Name	Visitor Date of birth	Visitor Gender
Visitor phone	Cashier Name	Card Expiry Date	Card Points	Payment receipt number
Payment method	Medical Case ID	Medical case	Medical treatment	Medical case date
Medical case entrance time	Medical case discharge time			

4.4.2 This user group accesses the database using some different operations, below some of them:

- *Insert:*

```
INSERT INTO VISITORS VALUES ('111155555','F','2001-08-09',0555444322,'Maha');
INSERT INTO VISITORS VALUES ('222299999','M','1999-11-25',0556677722,'Abdullah');
INSERT INTO VISITORS VALUES ('333344444','F','1997-10-02',0555523309,'Sara');
```

	Vis_id	Gender	DoB	Phone	Name_
▶	111155555	F	2001-08-09	555444322	Maha
	222299999	M	1999-11-25	556677722	Abdullah
	333344444	F	1997-10-02	555523309	Sara
*	NULL	NULL	NULL	NULL	NULL

- *Delete:* this operation is not valid for this user group.
- *Update:*

```
UPDATE VISITORS
SET phone= '055599888'
WHERE Vis_id= '333344444';
```

Vis_id	Gender	DoB	Phone	Name_
111155555	F	2001-08-09	555444322	Maha
222299999	M	1999-11-25	556677722	Abdullah
333344444	F	1997-10-02	055599888	Sara
NULL	NULL	NULL	NULL	NULL

- *Retrieve from one table:*

  Retrieve the female visitors.

```
SELECT Vis_id , Name_ FROM visitors WHERE Gender= 'F';
```

Vis_id	Name_
111155555	Maha
333344444	Sara
NULL	NULL

- *Retrieve from more than two table (JOIN):*

  Retrieve the normal case of visitors and their name.

```
INSERT INTO MEDICAL_CASE VALUES('098765432','111155555','2021-05-01','01:30:01','04:34:01','Normal','Panadol');
INSERT INTO MEDICAL_CASE VALUES('098788831','222299999','2021-05-02','02:30:01','04:34:01','Headic','Panadol');

SELECT v.Name_,c.Case_ From MEDICAL_CASE C JOIN  VISITORS V ON C.Vis_id=V.vis_id AND Case_='Normal';
```

Name_	Case_
Maha	Normal

4.5 **Ride controller view**

In this user group each person responsible for controlling a ride is able to view their personal information (ID, name, date of birth, gender, salary, phone number, and address) all which can be modified later except for the ID and salary (can not be modified by the employee himself). They can also view the ride's information (Name, duration, points, age limit, capacity) and the checkup details (cost, date, type of damage) which they have the ability to modify. The operations that can be done on this view are insert, update, and retrieve.

4.5.1 The view of this group is presented below in the table:

Ride's name	Ride's duration	Ride's points	Ride allowed age	Ride's capacity	Ride round Date
Ride round time	Ride round number				

4.5.2 This user group accesses the database using some different operations, below some of them:

- *Insert:*

```
INSERT INTO ROUND VALUES(1,'Bumbers cars','01:40:01','2021-01-01');
INSERT INTO ROUND VALUES(2,'Water ride','01:40:01','2021-01-01');
```

- *Update:*

```
UPDATE ROUND SET Time_= '03:40:01' WHERE Ride_name='Water ride';
```

R_num	Ride_name	Time_	Date_
1	Bumbers cars	01:40:01	2021-01-01
2	Water ride	03:40:01	2021-01-01
NULL	NULL	NULL	NULL

- *Delete:*

```
DELETE FROM ROUND WHERE Ride_name='Water ride';
```

	R_num	Ride_name	Time_	Date_
▶	1	Bumbers cars	01:40:01	2021-01-01
*	NULL	NULL	NULL	NULL

- *Retrieve from one table:*

```
SELECT Ride_name FROM ROUND ;
```

Ride_name
Bumbers cars

- *Retrieve from more than two table (JOIN):*

```
SELECT r.R_num,ra.Capacity FROM ROUND  r join Ride ra ;
```

	R_num	Capacity
▶	1	10
	1	15
	1	10

4.6 **Organizer view**

In this user group the organizer view is a view that shows the data that an organizer of an event can see, which are the event number and the id of them current employee that organizes the event , the theme of the event, the date of the event, the Special effects in the event, what is the role of the actor, and the costume of the actor and can see the id of the employees that have organized the events, and their names ,gender and phone numbers. The organizer can do operation on this information.

4.6.1 The view of this group is presented below in the table :

Event_number	ID	Theme
Date_	Special_effect	Act_Role
Act_Costume	E_id	Name_
Gender	Phone	

4.6.2 This user group accesses the database using some different operations, below some of them:

- *Insert:*

```
insert into EVENT_
value(876,'145','Dance Star','2021-06-23','Fireworks', 'Dancer', 'Funny Maskes');
insert into EVENT_
 value (543,'123','Black and White','2021-07-16', 'Fountain','performers','Black and White outfits');
insert into EVENT_
value(210,'789', 'Neon Lightes', '2021-08-10', 'Lights Show', 'Dancer', 'Neon outfits');
```

Event_number	E_id	Theme	Date_	Special_effect	Act_Role	Act_Cost...
543	123	Black and White	2021-07-16	Fountain	perform...	Black and W...
876	145	Dance With Star	2021-06-23	Fireworks	Dancer	Funny Maskes
210	789	Neon Lightes	2021-08-10	Lights Show	Dancer	Neon outfits
NULL	NULL	NULL	NULL	NULL	NULL	NULL

- *Retrieve from one table:*

  Retrieve the date of the event with Neon Lightes as a theme and the act Costume is Black and White outfits.

```
SELECT Date_
FROM EVENT_
where Theme='Neon Lightes' or Act_Costume='Black and White outfits';
```

Date_
2021-08-10
2021-07-16

- *Update:*
  Update the event whose theme is Neon Lightes to change the act role of it to presenter.

```
update EVENT_
set Act_Role='presenter'
where Theme='Neon Lightes' ;
```

Event_number	E_id	Theme	Date_	Special_effect	Act_Role	Act_Cost...
210	789	Neon Lightes	2021-08-10	Lights Show	presenter	Neon outfits
543	123	Black and White	2021-07-16	Fountain	perform...	Black and W...
876	145	Dance With Star	2021-06-23	Fireworks	Dancer	Funny Maskes
NULL	NULL	NULL	NULL	NULL	NULL	NULL

- *Delete:*

```
delete from EVENT_
where Event_number=876;
```

Event_number	E_id	Theme	Date_	Special_effect	Act_Role	Act_Cost...
210	789	Neon Lightes	2021-08-10	Lights Show	presenter	Neon outfits
543	123	Black and White	2021-07-16	Fountain	perform...	Black and W...
NULL	NULL	NULL	NULL	NULL	NULL	NULL

- *Retrieve from more than two table (JOIN):*
  Retrieve the theme and gender of the tables event and employee.

```
select Theme,Gender
from EVENT_
join EMPLOYEE as e on E_id=e.id;
```

Theme	Gender
Neon Lightes	M
Black and White	F

4.7 **Help provider view**

In this user group the view show the help provider of the medical case information and the visitors information that need help.it can insert medical case from the visitors information the help provider's ID and the visitors' id , the current date, entrance time, discharge time, case, and the treatment, and also its id, if a visitors need help, and the visitors' other information that is important when making diagnosis and can see the other employees id that have provide help. The help provider can do multiple operation on this information.

4.7.1 The view of this group is presented below in the table :

ID	vis_id	Date_
Entrance_time	Discharge_time	Case_
Treatment	E_id	Med_id
Gender	DoB	Phone
Name		

4.7.2 This user group accesses the database using some different operations, below some of them:

- *Insert:*

```
Insert into MEDICAL_CASE
Value(10,1233,'2021-02-09',15,16,'Falling down','Panadol');

Insert into MEDICAL_CASE
Value(11,1234,'2021-02-10',14,16,'headache','Panadol');

insert into MEDICAL_CASE
value(12,1223,'2021-02-10',18,19,'nausea','Motilium');
```

ID	Vis_id	Date_	Entrance_time	Discharge_time	Case_	Treatment
10	1233	2021-02-09	15:00:00	16:00:00	Falling down	Panadol
11	1234	2021-02-10	14:00:00	16:00:00	headache	Panadol
12	1223	2021-02-10	18:00:00	19:00:00	nausea	Motilium
NULL	NULL	NULL	NULL	NULL	NULL	NULL

- *Retrieve from one table:*

Retrieve the entrance time and discharge time of a visitor with id =1234.

```
Select Entrance_time,Discharge_time
From MEDICAL_CASE
Where vis_id=1234;
```

Entrance_time	Discharge_time
14:00:00	16:00:00

- *Update:*

```
UPDATE MEDICAL_CASE
SET  Entrance_time='15:30'
WHERE vis_id=1233;
```

ID	Vis_id	Date_	Entrance_time	Discharge_time	Case_	Treatment
10	1233	2021-02-09	15:30:00	16:00:00	Falling down	Panadol
11	1234	2021-02-10	14:00:00	16:00:00	headache	Panadol
12	1223	2021-02-10	18:00:00	19:00:00	nausea	Motilium
NULL	NULL	NULL	NULL	NULL	NULL	NULL

- *Delete:*

```
1  DELETE FROM MEDICAL_CASE
2  WHERE vis_id = 1223;
```

ID	Vis_id	Date_	Entrance_time	Discharge_time	Case_	Treatment
10	1233	2021-02-09	15:30:00	16:00:00	Falling down	Panadol
11	1234	2021-02-10	14:00:00	16:00:00	headache	Panadol
NULL	NULL	NULL	NULL	NULL	NULL	NULL

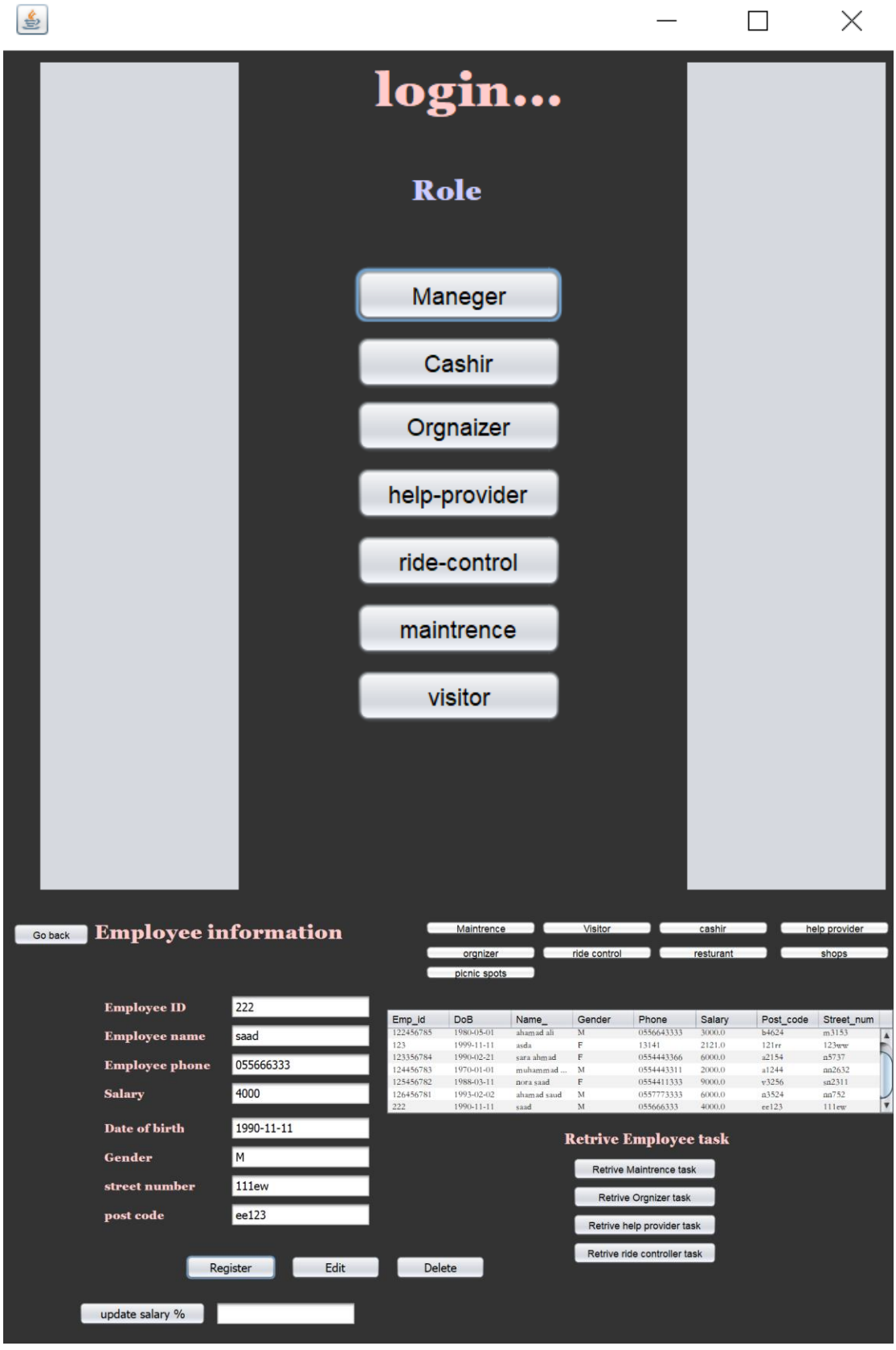
- *Retrieve from more than two table (JOIN):*
  Retrieve the case and the visitor id and the visitor's name for the visitors in both visitors and medical_case tables, if the treatment of them is Panadol.

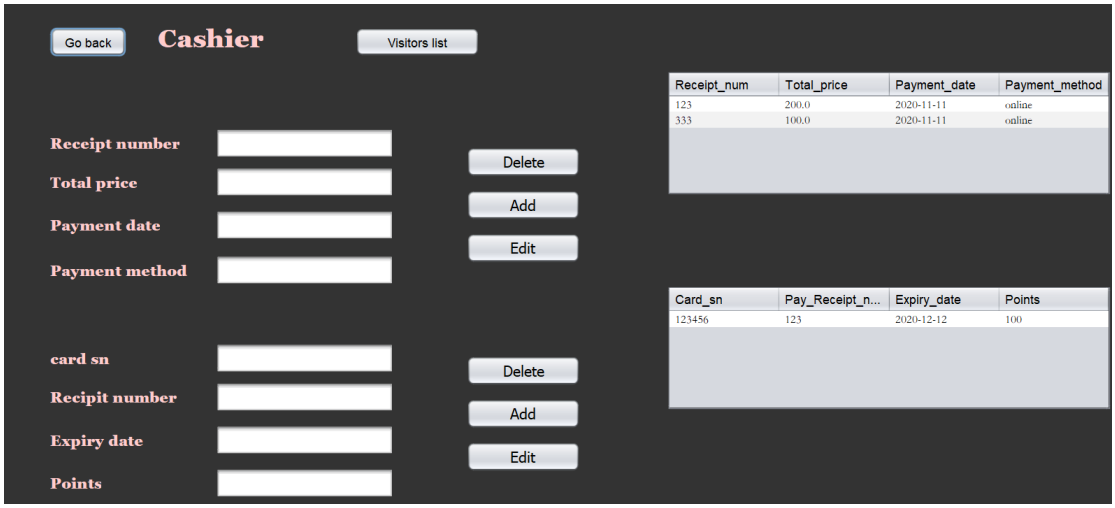
```
select Case_,v.ID,v.Name_
from MEDICAL_CASE
join VISITORS as v on vis_id=v.ID
where Treatment='Panadol';
```

Case_	ID	Name_
Falling down	1233	RAGHAD
headache	1234	Ahmad

5. Implementation

```
import java.sql.*;
public class Main {
public static final String URL="jdbc:mysql://localhost:3306/THEME_PARK";
public static final String USER="root";
public static final String PASSWORD= "ghaidaa1956284730";

public static void main(String[] args) {
try {
Connection
connection=DriverManager.getConnection("jdbc:mysql://localhost:3306/THEME_PARK
","root",PASSWORD);
Statement steatement =connection.createStatement();
ResultSet rs=steatement.executeQuery("select * from EAT_IN" );

while(rs.next()) {
System.out.println(rs.getString("Vis_id")+" " + rs.getString("Res_name"));
}
//"DELETE FROM RIDE WHERE E_id='xxx'";
//"INSERT INTO RIDE(E_id,Duration,Points,Capacity,Age) VALUES
('0113',4,10,25,15),('8654',5,15,20,16) ";
//"UPDATE RIDE SET Points=12 WHERE E_id='0113' ";
//"INSERT INTO EAT_IN (Vis_id,Res_name)
VALUES('123','KFC'),('322','McDonalds'),('887','Burger King')";
String q="DELETE from EAT_IN  where Vis_id='887' ";
System.out.println(steatement.executeUpdate(q));
}
catch (Exception ex) {
ex.printStackTrace();
}
}


}
```

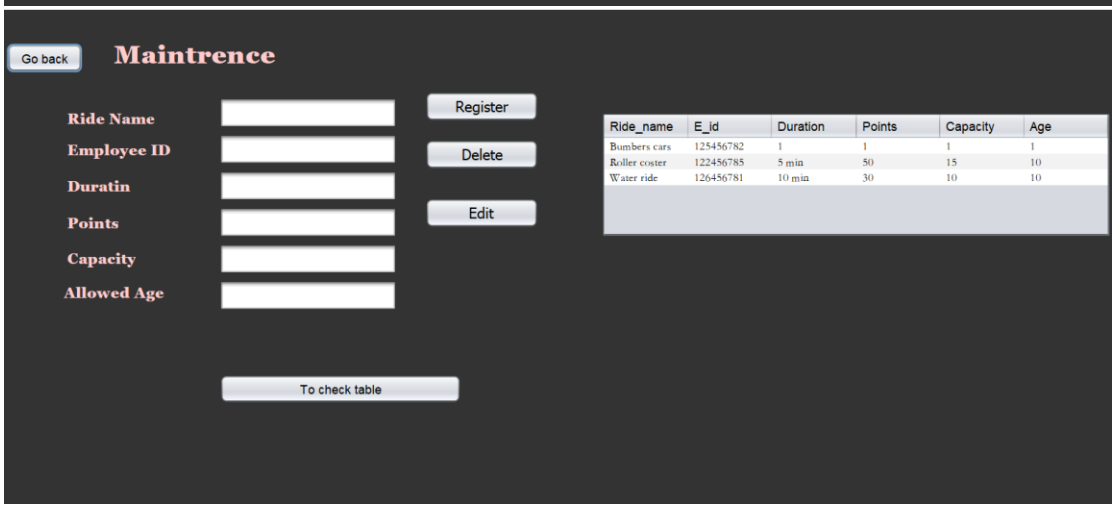

login...
Role
Maneger
Cashir
Orgnaizer
help-provider
ride-control
maintrence
visitor
Go back
Employee information
Maintrence
Visitor
cashir
help provider
orgnizer
ride control
resturant
shops
picnic spots
Employee ID
222
Employee name
saad
Employee phone
055666333
Salary
4000
Date of birth
1990-11-11
Gender
M
street number
111ew
post code
ee123
Register
Edit
Delete
update salary %
Emp_id DoB Name_ Gender Phone Salary Post_code Street_num
122456785 1980-05-01 ahamad ali M 0556643333 3000.0 b4624 m3153
123 1999-11-11 asda F 13141 2121.0 121rr 123ww
123356784 1990-02-21 sara ahmad F 0554443366 6000.0 a2154 n5737
124456783 1970-01-01 muhammad ... M 0554443311 2000.0 a1244 nn2632
125456782 1988-03-11 nora saad F 0554411333 9000.0 v3256 sn2311
126456781 1993-02-02 ahamad saud M 0557773333 6000.0 n3524 nn752
222 1990-11-11 saad M 055666333 4000.0 ee123 111ew
Retrive Employee task
Retrive Maintrence task
Retrive Orgnizer task
Retrive help provider task
Retrive ride controller task

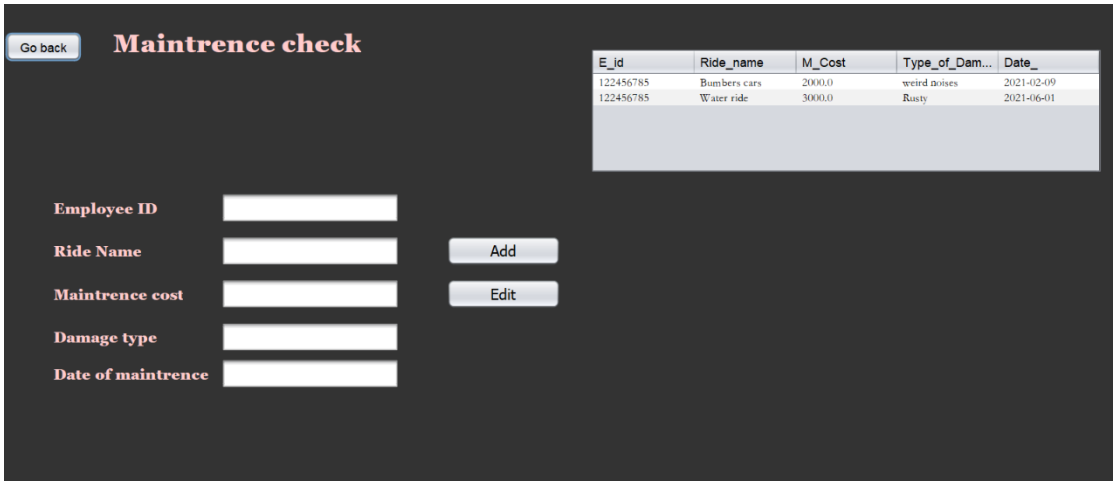

Go back
Cashier
Visitors list
Receipt_num
Total_price
Payment_date
Payment_method
123
200.0
2020-11-11
online
333
100.0
2020-11-11
online
Receipt number
Total price
Payment date
Payment method
Delete
Add
Edit
Card_sn
Pay_Receipt_n...
Expiry_date
Points
123456
123
2020-12-12
100
card sn
Recipit number
Expiry date
Points
Delete
Add
Edit

Go back
Event Orgnaizer
Event_No
E_id
Theme
Date_
Special_e...
Act_Role
Act_Costu...
1
125456782
Spring
2
125456782
Summer
22
222
rain
2020-11-11
fireworks
singer
traditional
Event number
22
Employee ID
222
Theme
rain
Date
2020-11-11
Special_effect
fireworks
Actor role
singer
Actor costume
traditional
retrive event visitors
Register
Delete
Edit

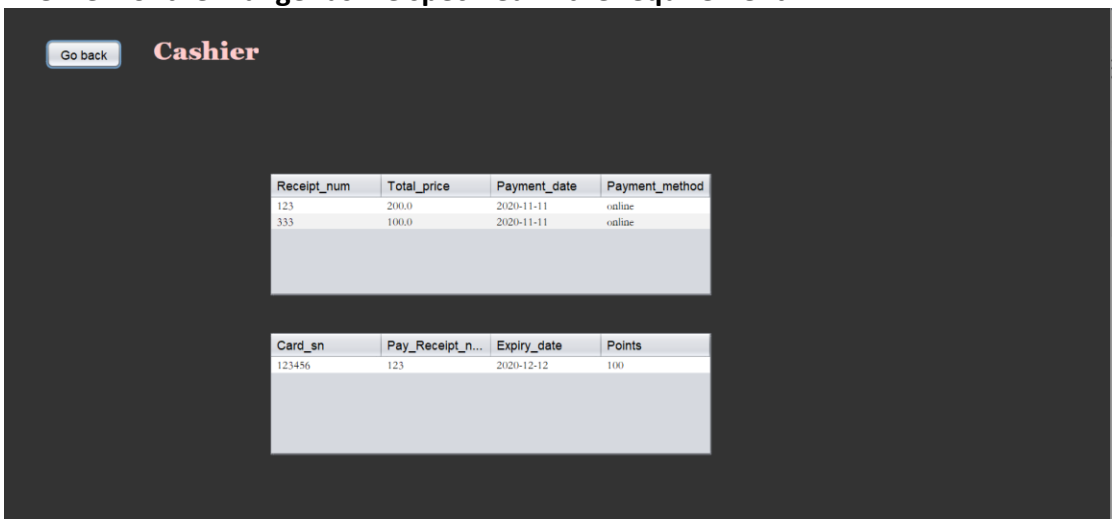
Go back
Help provider
Med_id
Vis_id
Date_
Entrance_time
Discharge_ti...
Case_
Treatment
098765432
111155555
2021-05-01
01:30:01
04:34:01
Normal
Panadol
098788831
222299999
2021-05-02
02:30:01
04:34:01
Headic
Panadol
Medical case id
Visitor ID
Date
Entrance time
Discharge time
Case
Treatement
Visitors names
Register
Delete
Edit

Go back
Ride control
R_num
Ride_name
Time
Date
1
Bumbers cars
01:40:01
2021-01-01
2
Water ride
01:40:01
2021-01-01
Round number
Ride name
Time
Date
retrive round play card
Register
Delete
Edit

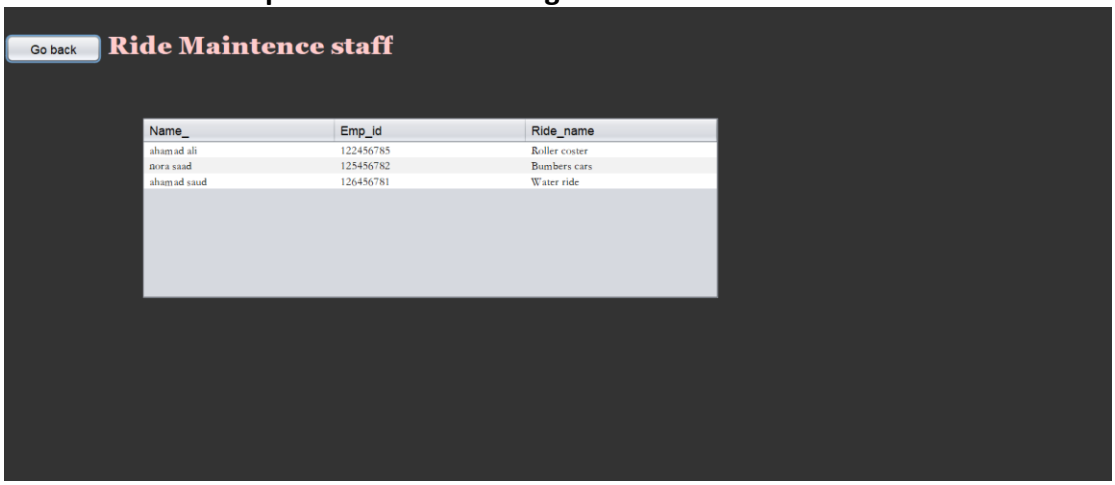

Go back
Maintrence
Ride Name
Employee ID
Duratin
Points
Capacity
Allowed Age
Register
Delete
Edit
Ride_name
E_id
Duration
Points
Capacity
Age
Bumbers cars
125456782
1
1
1
1
Roller coster
122456785
5 min
50
15
10
Water ride
126456781
10 min
30
10
10
To check table


Go back
Maintrence check
E_id
Ride_name
M_Cost
Type_of_Dam...
Date_
122456785
Bumbers cars
2000.0
weird noises
2021-02-09
122456785
Water ride
3000.0
Rusty
2021-06-01
Employee ID
Ride Name
Maintrence cost
Damage type
Date of maintrence
Add
Edit

The view of the manger as we specified in the requirement



Retrieve from multiple tables in the manger view



6. Difficulties

Difficulties in phase 1:

1- Since it was the biggening of the semester and we were not familiar the Data base concept, so it took a long time to write the Requirement.

Difficulties in phase 2:

1. It was hard for us to relate to each entity with other entity.
2. Determining the cardinalities and participation constrains and max and min for each entity and make it like the real world.
3. The draw io program was complicated and it takes so much effort and long time for editing.

Difficulties in phase 3:

1- It was hard to utilize SQL in limited time, and how to implement the tables and how to do operations.
2- At the biggening of the phase we spent days to add the views tables in the SQL, because the specifications were unclear, and we implement the views tables although we did not need it, and we faced so many errors that made us worried that we couldn't do the job at a perfect way.

Difficulties in phase 4:

1- At the begging of the phase we didn't know what to do specifically, because the specifications were unclear, so we applied the same code for the connection at LMS and it show so many errors, so we looked for another way to connect in YouTube that is can suit our IDE which is eclipse, when we succussed the connection between java and SQL , we couldn't find any way to do the GUI in eclipse, so we decided to use NetBeans, also the NetBeans does not work in some students' Laptops, so the student who have it in their laptops did the connection again in different way than eclipse, so they spent more time on it trying to connect with the new way, and so many errors appeared while connection.

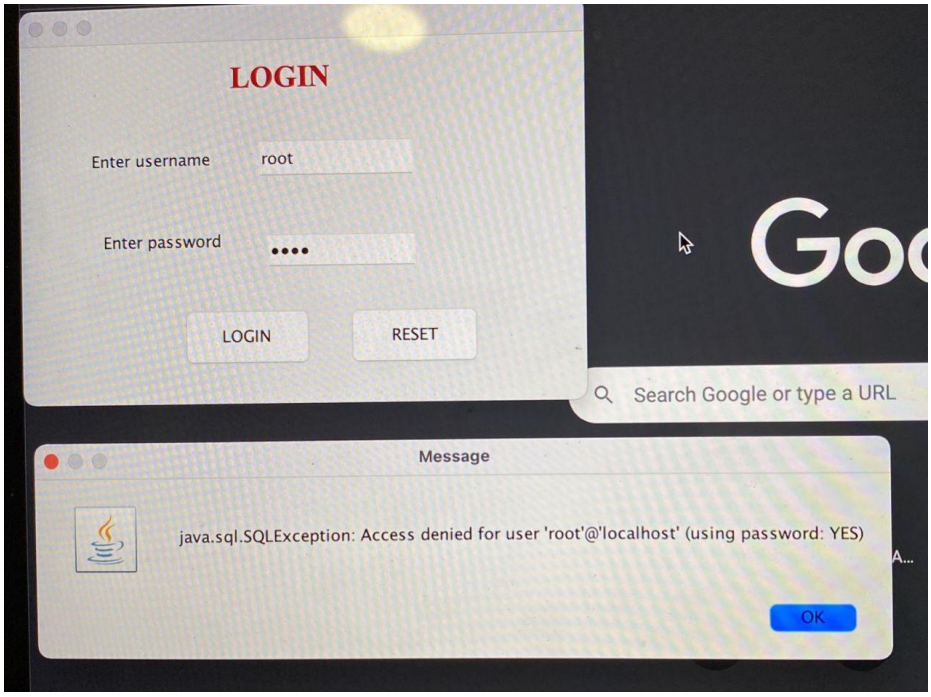
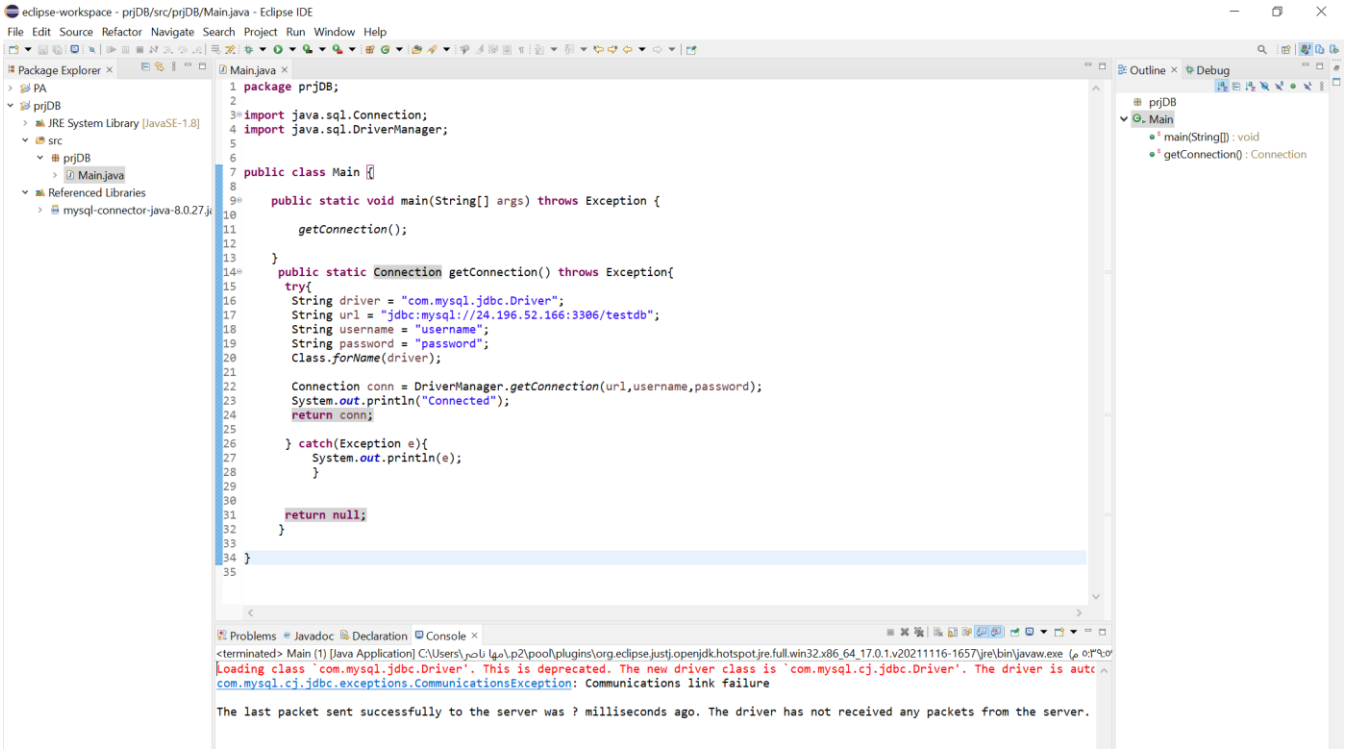
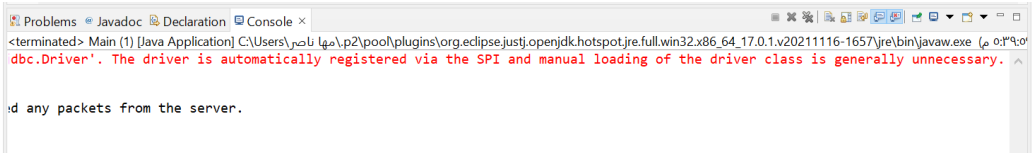
2- The question in the project is simple and did not specify what we should do.

3- In phase 4 the library in net beans did not appear to me so I searched in the internet multiple times until I found a solution from someone who had the same issue ,the library is needed to get the connection after I connected the rest of the project became interesting and easy to do I followed multiple tutorials about the gui interface since we did not take it java 2 (the semester ended early for Ramadan).

Here is picture of an error, when we try to do the log in button

```
    private void btnLoginActionPerformed(java.awt.event.ActionEvent evt) {

  String sql = "select * from login where username = ? and password = ?";

try{
  Class.forName("com.mysql.jdbc.Driver");
  Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/Casheir","root", "root");
  PreparedStatement pstmt = con.prepareStatement(sql);

  pstmt.setString(1, edtUsername.getText());
  pstmt.setString(2, edtPassword.getText());

    ResultSet rs = pstmt.executeQuery(sql);

    if(rs.next()){
        JOptionPane.showMessageDialog(null, "welcome"+edtUsername.getText(),"successful Login",JOptionPane.PLAIN_MESSAGE );


    }else{

        JOptionPane.showMessageDialog(null, "invalid username or password", "unSuccessful Login ", JOptionPane.ERROR_MESSAGE);

    }

con.close();
    }
catch(Exception e ){
    JOptionPane.showMessageDialog(null, e);
}
}
    /**
```

This is a picture of the error that appeared when we ruining the GUI



Connection code wasn`t working