CS 457/CS 557 – Database Software Design

Restaurant Management System

1. Contribution of each member of your group

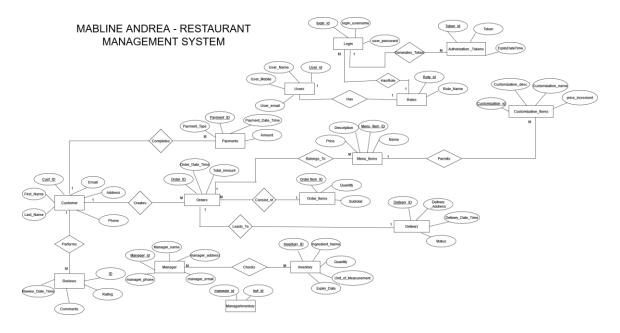| Full name	Contribution
MABLINE ANDREA 002351505	Completed the entire project along with the report.

2. Project description

Group Name: FPP M

The steps involved in this project will be:

- Creation of ER model
- Creation of the Relational Database Model
- Creation of SQL tables and to perform the necessary queries
- Create PHP code to connect to the database and execute the queries via web page.

The project I'm going to work on is the Restaurant Management System, where the project will revolve around how customers can place their orders and get them delivered to their houses.

3. Modeling Scheme

MABLINE ANDREA - RESTAURANT MANAGEMENT SYSTEM

4. SQL queries

- SQL queries for creation of table

CREATE TABLE Customer (

  Cust_ID SERIAL PRIMARY KEY,

  First_Name VARCHAR(50) NOT NULL,

  Last_Name VARCHAR(50) NOT NULL,

  Email VARCHAR(100),

  Address VARCHAR(255),

  Phone VARCHAR(20)

);

CREATE TABLE Orders (

  Order_ID SERIAL PRIMARY KEY,

  Order_Date_Time TIMESTAMP NOT NULL,

```sql
    Total_Amount DECIMAL(10, 2) NOT NULL,

    Cust_ID_Order INT REFERENCES Customer(Cust_ID)

Order_Item_Placed INT REFERENCES Order_Items (Order_ID)

);




CREATE TABLE Payments (

    Payment_ID SERIAL PRIMARY KEY,

    Payment_Type VARCHAR(50) NOT NULL,

    Payment_Date_Time TIMESTAMP NOT NULL,

    Amount DECIMAL(10, 2) NOT NULL,

    Cust_ID_Payment INT REFERENCES Customer(Cust_ID)

);




CREATE TABLE Reviews (

    ID SERIAL PRIMARY KEY,

    Rating INT NOT NULL,

    Review_Date_Time TIMESTAMP NOT NULL,

    Comments TEXT,

    Cust_ID_Review INT REFERENCES Customer(Cust_ID)

);
```

- SQL queries for insertion

```sql
INSERT INTO customers (cust_id,first_name,last_name,email,address,phone)

VALUES (4, 'Natasha','Ryan', 'natasharyan@gmail.com', '23 Rock Street Toronto Canada','6475589008'),

    (5, 'Reema', 'George', 'reemageorge@gmail.com','13 White Road London Canada', '6454321213'),
```

(6, 'Susan', 'Johnny', 'susanjohnny@gmail.com','26 Ken Street Toronto Canada','6754453231');

INSERT INTO Inventory (Ingredient_Name, Quantity, Unit_of_Measurement, Expiry_Date, manager_id)

VALUES

   ('Sausage', 10, 'kg', '2024-12-31', 3),

   ('Pancakes', 20, 'kg', '2024-06-30', 4),

   ('Cheese', 5, 'kg', '2025-06-30', 3);

INSERT INTO order_items (quantity, subtotal, name)

VALUES

   ('1','150', 'Pizza'),

   ('1', '120','Burger'),

   ('1', '99','Chicken nuggets');

INSERT INTO Menu_Items (Name, Description, Price, Order_ID_Menu)

VALUES

   ('Tomato Pizza', 'Pizza with tomato sauce','120', 1),

   ('French fries', 'Crispy french fries','80', 1),

   ('Veg roll', 'Mixed vegetables roll','70', 5);

- <u>SQL queries for updation</u>

UPDATE Manager

SET Manager_email = 'johnwork@gmail.com'

WHERE Manager_id = 1;

UPDATE inventory

SET Quantity = 150

WHERE Ingredient_Name = 'Flour';

UPDATE customers

SET

   Phone = '5734567890'

WHERE

   Cust_ID = 1;

UPDATE menu_items

SET

   Price = 120

WHERE

   Menu_Item_ID = 1;

- <u>SQL queries for deletion</u>

DELETE FROM customers

WHERE cust_id = 6;

DELETE FROM Payments

WHERE payment_type = 'Credit Card';

DELETE FROM menu_items WHERE name='Veg roll';

DELETE FROM delivery WHERE delivery_address = '21 Right St Toronto Canada';

- <u>SQL queries that involves join between two or more several tables</u>

SELECT *

FROM customers

INNER JOIN menu_items ON customers.Cust_ID = menu_items.Order_ID_Menu;

```
1  SELECT *
2
3  FROM customers
4
5  INNER JOIN menu_items ON customers.Cust_ID = menu_items.Order_ID_Menu;
```

Data Output   Messages   Notifications

cust_id integer	first_name character varying (50)	last_name character varying (50)	email character varying (100)	address character varying (255)	phone character varying (20)	menu_item_id integer	name character varying (100)	description text	price numeric (10,2)
1	1 Maria	Steven	mariasteven@gmail.com	23 River St London Canada	5734567890	4	Pizza	Yummy cheese pizza	150.00

Total rows: 1 of 1   Query complete 00:00:00.145   Ln 5, Col 72

Data Output   Messages   Notifications

t_name racter varying (50)	last_name character varying (50)	email character varying (100)	address character varying (255)	phone character varying (20)	menu_item_id integer	name character varying (100)	description text	price numeric (10,2)	order_id_menu integer
1 ria	Steven	mariasteven@gmail.com	23 River St London Canada	5734567890	4	Pizza	Yummy cheese pizza	150.00	1

Total rows: 1 of 1   Query complete 00:00:00.054   Ln 7, Col 2

SELECT *

FROM customers

LEFT JOIN menu_items ON customers.Cust_ID = menu_items.Order_ID_Menu;

SELECT *

FROM customers

RIGHT JOIN menu_items ON customers.Cust_ID = menu_items.Order_ID_Menu;

```
1  SELECT *
2
3  FROM customers
4
5  RIGHT JOIN menu_items ON customers.Cust_ID = menu_items.Order_ID_Menu;
6
7
8
```

Data Output Messages Notifications

	cust_id integer	first_name character varying (50)	last_name character varying (50)	email character varying (100)	address character varying (255)	phone character varying (20)	menu_item_id integer	name character varying (100)	description text	price numeric (10,2)
1	[null]	[null]	[null]	[null]	[null]	[null]	6	Chicken nuggets	Fried chicken nuggets	99.00
2	1	Maria	Steven	mariasteven@gmail.com	23 River St London Canada	5734567890	4	Pizza	Yummy cheese pizza	150.00
3	[null]	[null]	[null]	[null]	[null]	[null]	5	Burger	Yummy chicken burg...	120.00

Total rows: 3 of 3   Query complete 00:00:00.078   Ln 5, Col 72

Data Output Messages Notifications

	_name acter varying (50)	last_name character varying (50)	email character varying (100)	address character varying (255)	phone character varying (20)	menu_item_id integer	name character varying (100)	description text	price numeric (10,2)	order_id_menu integer
1	[]	[null]	[null]	[null]	[null]	6	Chicken nuggets	Fried chicken nuggets	99.00	[null]
2	ia	Steven	mariasteven@gmail.com	23 River St London Canada	5734567890	4	Pizza	Yummy cheese pizza	150.00	1
3	[]	[null]	[null]	[null]	[null]	5	Burger	Yummy chicken burg...	120.00	5

Total rows: 3 of 3   Query complete 00:00:00.078   Ln 5, Col 72

SELECT *

FROM Orders

RIGHT JOIN customers ON orders.Cust_ID_Order = customers.Cust_ID;

5. Implementation

The tools that I have used are draw.io to create the ER model. Sublime text to execute the PHP code and pgAdmin 4 to execute the SQL queries.

6. Screenshots of the user interface of your final project

Below are the screenshots from pgAdmin 4

Query | Query History

```
1  SELECT * FROM public.authorization_tokens
2  ORDER BY token_id ASC
```

Data Output   Messages   Notifications

	token_id [PK] integer	token character varying (255)	expiry_date_time timestamp without time zone	login_id_authorize integer
1	1	tokenvalue1	2024-06-12 07:00:00	1
2	2	tokenvalue2	2024-06-13 09:00:00	2
3	3	tokenvalue3	2024-06-14 12:00:00	3
4	4	tokenvalue4	2024-06-18 10:00:00	4
5	5	tokenvalue5	2024-06-12 10:00:00	5
6	6	tokenvalue6	2024-06-13 11:00:00	6

Total rows: 6 of 6   Query complete 00:00:01.314

Query   Query History

```sql
1  SELECT * FROM public.customers
2  ORDER BY cust_id ASC
```

Data Output   Messages   Notifications

cust_id [PK] integer	first_name character varying (50)	last_name character varying (50)	email character varying (100)	address character varying (255)	phone character varying (20)
1	Maria	Steven	mariasteven@gmail.com	23 River St London Canada	5734567890
2	Rebecca	John	rjohn@gmail.com	21 Right St Toronto Canada	5463743880

Total rows: 2 of 2   Query complete 00:00:02.147   Ln 1, Col 1

Query   Query History

```sql
1  SELECT * FROM public.customization_items
2  ORDER BY customization_id ASC
```

Data Output   Messages   Notifications

customization_id [PK] integer	customization_desc text	customization_name character varying (100)	price_increment numeric (10,2)	menu_itm_id integer
1	Include Pizza without cheese	Pizza order	50.00	4
2	Include extra onions with pizza	Pizza order	20.00	4
3	Chicken burger with extra cheese	Burger order	30.00	5

Total rows: 3 of 3   Query complete 00:00:02.623   Ln 1, Col 1

```
1   SELECT * FROM public.delivery
2   ORDER BY delivery_id ASC
```

Data Output   Messages   Notifications

delivery_id [PK] integer	delivery_address character varying (255)	delivery_date_time timestamp without time zone	status character varying (50)	delivery_order_id integer
1	1	23 River St London Canada	2024-06-12 11:00:00	Delivered	1
2	2	21 Right St Toronto Canada	2024-06-13 12:00:00	Delivered	5

Total rows: 2 of 2   Query complete 00:00:01.330   Ln 1, Col 1

```
1  SELECT * FROM public.inventory
2  ORDER BY inventory_id ASC
```

Data Output   Messages   Notifications

	inventory_id [PK] integer	ingredient_name character varying (100)	quantity integer	unit_of_measurement character varying (50)	expiry_date date	manager_id integer
1	4	Flour	150	kg	2024-12-31	3
2	5	Sugar	50	kg	2025-06-30	4
3	7	Sauce	10	kg	2025-06-15	6
4	8	Lettuce	20	kg	2025-03-20	7

Total rows: 4 of 4   Query complete 00:00:02.850   Ln 1, Col 1

Query   Query History

```
1  SELECT * FROM public.login
2  ORDER BY login_id ASC
```

Data Output   Messages   Notifications

	login_id [PK] integer	login_username character varying (100)	user_password character varying (100)	login_role_id integer
1	1	username1_M	password1	1
2	2	username2_M	password2	2
3	3	username3_M	password3	3
4	4	username4_M	password4	4
5	5	username1_Cust	passwordc	5
6	6	username2_Cust	passwordC	6

Total rows: 6 of 6   Query complete 00:00:01.353   Ln 1, Col 1

```
1  SELECT * FROM public.manager
2  ORDER BY manager_id ASC
```

Data Output   Messages   Notifications

	manager_id [PK] integer	manager_name character varying (100)	manager_address character varying (255)	manager_email character varying (100)
1	3	John Steve	123 Main St, Cityville	john.steve@gmail.com
2	4	Jane Ruth	456 Elm St, Townsville	jane.ruth@gmail.com
3	6	Rachel Ryan	34 Queen Road Toronto Canada	rachelryan@gmail.com
4	7	Alice Samuel	63 Crown Street Sherbrooke	alicesamuel@gmail.com

Total rows: 4 of 4   Query complete 00:00:00.773   Ln 1, Col 1

Query   Query History

```
1  SELECT * FROM public.managerinventory
2  ORDER BY manager_id ASC, invt_id ASC
```

Data Output   Messages   Notifications

	manager_id [PK] integer	invt_id [PK] integer
1	3	4
2	4	5
3	6	7
4	7	8

```
1  SELECT * FROM public.menu_items
2  ORDER BY menu_item_id ASC
```

Data Output   Messages   Notifications

	menu_item_id [PK] integer	name character varying (100)	description text	price numeric (10,2)	order_id_menu integer
1	4	Pizza	Yummy cheese pizza	150.00	1
2	5	Burger	Yummy chicken burg…	120.00	5
3	6	Chicken nuggets	Fried chicken nuggets	99.00	[null]

Total rows: 3 of 3   Query complete 00:00:02.779   Ln 1, Col 1

Query   Query History

```
1  SELECT * FROM public.order_items
2  ORDER BY order_item_id ASC
```

Data Output   Messages   Notifications

	order_item_id [PK] integer	quantity integer	subtotal numeric (12,2)	name character varying (100)
1	1	1	150.00	Pizza
2	2	1	150.00	Pizza
3	3	2	150.00	Pizza

Total rows: 3 of 3   Query complete 00:00:01.783   Ln 1, Col 1

```
1  SELECT * FROM public.orders
2  ORDER BY order_id ASC
```

Data Output   Messages   Notifications

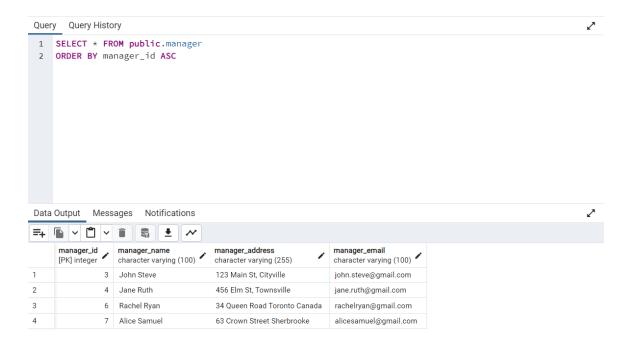|	order_id [PK] integer	order_date_time timestamp without time zone	total_amount numeric (10,2)	cust_id_order integer	order_item_placed integer
1	1	2024-06-12 10:00:00	200.00	1	1
2	5	2024-06-13 11:00:00	170.00	2	2

Total rows: 2 of 2   Query complete 00:00:03.091   Ln 1, Col 1

Query   Query History

```
1  SELECT * FROM public.payments
2  ORDER BY payment_id ASC
```

Data Output   Messages   Notifications

	payment_id [PK] integer	payment_type character varying (50)	payment_date_time timestamp without time zone	amount numeric (10,2)	cust_id_payment integer
1	1	Credit Card	2024-06-12 11:00:00	200.00	1
2	2	Credit Card	2024-06-13 12:00:00	170.00	2

```
1  SELECT * FROM public.reviews
2  ORDER BY id ASC
```

Data Output   Messages   Notifications

id [PK] integer	rating integer	review_date_time timestamp without time zone	comments text	cust_id_review integer
1	1	5	2024-06-12 01:00:00	Excellent food. Loved every bit of it.	1
2	2	5	2024-06-13 02:00:00	Yummy food. Definitely planning to order from this place aga…	2

Total rows: 2 of 2   Query complete 00:00:02.978   Ln 1, Col 1

Query   Query History

```
1  SELECT * FROM public.roles
2  ORDER BY role_id ASC
```

Data Output   Messages   Notifications

role_id [PK] integer	role_name character varying (100)	user_role_id integer
1	1	Manager	1
2	2	Manager	2
3	3	Manager	3
4	4	Manager	4
5	5	Customer	5
6	6	Customer	6

Total rows: 6 of 6   Query complete 00:00:04.249   Ln 1, Col 1

```
1  SELECT * FROM public.users
2  ORDER BY user_id ASC
```

Data Output   Messages   Notifications

	user_id [PK] integer	user_name character varying (100)	user_mobile character varying (15)
1	1	John Steve	6432213432
2	2	Jane Ruth	6413322879
3	3	Rachel Ryan	6123346371
4	4	Alice Samuel	6554312781
5	5	Maria Steve	6352216720
6	6	Rebecca John	6134352280

Total rows: 6 of 6   Query complete 00:00:02.433   Ln 1, Col 1

Below are the screenshots obtained by making use of PHP

Enter Authorization Token Details

Token:

Expiry Date and Time:
dd-mm-yyyy --:--

Login ID:

Submit
Authorization token details submitted successfully

Create Customer

First Name:

Last Name:

Email:

Address:

Phone:

Create Customer

Enter Customization Item Details

Customization Name:

Customization Description:

Price Increment:

Menu Item ID:

Submit
Customization item details submitted successfully

Enter Delivery Details

Delivery Address:

Delivery Date and Time:
12-06-2024 11:00

Status:

Order ID:

Submit
Delivery details submitted successfully

Customization Items

customization_id	customization_desc	customization_name	price_increment	menu_itm_id
1	Include Pizza without cheese	Pizza order	50.00	4
2	Include extra onions with pizza	Pizza order	20.00	4
3	Chicken burger with extra cheese	Burger order	30.00	5

Menu Items

menu_item_id	name	description	price	order_id_menu
6	Chicken nuggets	Fried chicken nuggets	99.00	
4	Pizza	Yummy cheese pizza	150.00	1
5	Burger	Yummy chicken burger	120.00	5

Order Items

order_item_id	quantity	subtotal	name
1	1	150.00	Pizza
2	1	150.00	Pizza
3	2	150.00	Pizza

Enter Review Details

Rating (1-5):

Review Date and Time:
dd - mm - yyyy -- : --

Comments:

Customer ID:

Submit

Enter Inventory Details

Ingredient Name:

Quantity:

Unit of Measurement:

Expiry Date:
dd - mm - yyyy

Manager ID:

Submit

Enter Login Details

Username:

Password:

Role ID:

Submit
Login details submitted successfully

Enter Manager Details

Manager Name:

Manager Address:

Manager Email:

Submit
Manager details submitted successfully

Assign Inventory to Manager

Manager ID:

Inventory ID:

Assign

Add Menu Item

Name:

Description:

Price:

Add Menu Item

Enter Order Item Details

Item Name:

Quantity:

Subtotal:

Submit

Enter Order Details

Order Date and Time:
dd-mm-yyyy --:--

Total Amount:

Customer ID:

Order Item ID:

Submit

Enter Payment Details

Payment Type:

Payment Date and Time:
dd-mm-yyyy --:--

Amount:

Customer ID:

Submit
Payment details submitted successfully

Enter Review Details

Rating (1-5):

Review Date and Time:
dd-mm-yyyy --:--

Comments:

Customer ID:

Submit
Review details submitted successfully

Enter Role Details

Role Name:

User ID:

Submit
Role details submitted successfully

Enter User Details

User Name:

Mobile Number:

Submit
User details submitted successfully

7. Conclusions and future works

This project has given me a valuable learning experience. Be it planning, giving importance to detail and obtaining the required outcomes for the queries, every single challenge has been a learning lesson for me, thereby giving me the confidence and knowledge to complete such a wonderful and valuable project.