

Mini Project Synopsis

On

ONLINE FOOD DELIVERY SYSTEM

Submitted as a part of course curriculum for

DATABASE MANAGEMENT SYSTEM



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Problem Statement : To create an efficient online food ordering and delivery system.

Introduction : Online food ordering and delivery system is a project that aims to provide an efficient and systematic way for restaurant owners to manage their online orders, customers, staff, restaurants, etc. via a completely computerized system. The whole system is sustained by the orders given by the customers and the Manager manages the customers' request, food orders, queries etc. The details of all the branches of the owner's restaurants, their customers, staff, orders and menus are stored in the database to also keep track of the day-to-day activities of the restaurants which may be used for future analysis.

Objectives :

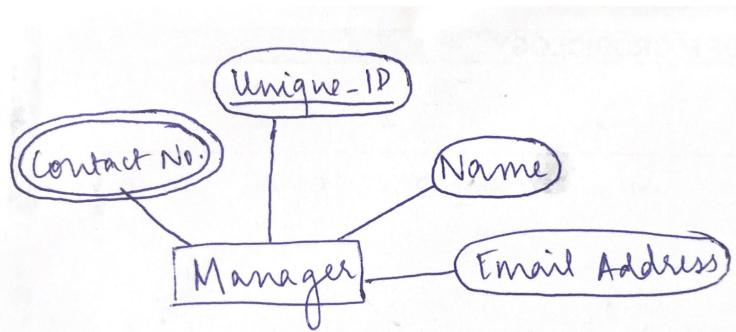
1. To manage an entire food business online
2. To store the data of each order and transaction online
3. To keep track of each restaurant's business over a period of time for future analysis and predictions

Entities and Attributes :

1. Manager:

The Manager entity represents an authoritative power which governs the whole system and provides information and data wherever needed in the system entities. He can control the various transactions of the system simultaneously. The respective attributes of the Manager are:

1. **Name:** This attribute holds the name of the Manager, who runs many different restaurant branches.
2. **Unique_ID (Primary Key):** The Manager has a unique ID and password to login into the system and save his data securely.
3. **Contact No.(Multivalued attribute):** The Manager may be required to be contacted for various queries and therefore his contact number is saved in this attribute.
4. **Email Address:** All official communication with the Manager regarding the restaurants is done through email and therefore his email ID is saved in this attribute.



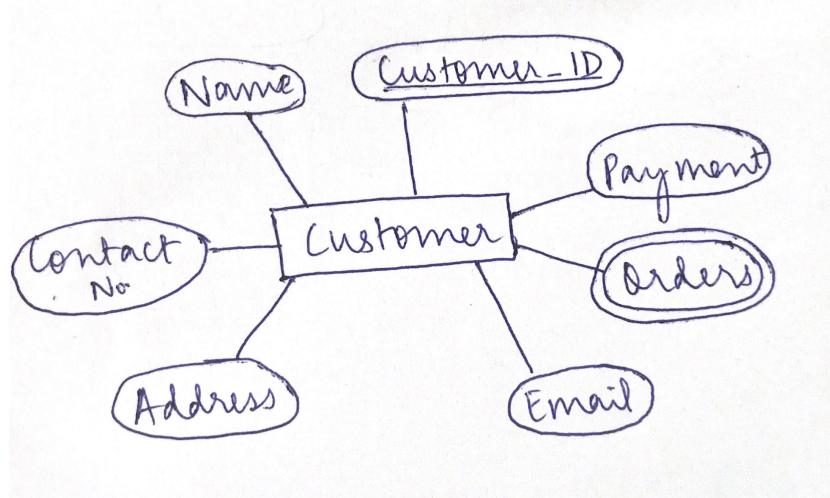
2. Customer:

This entity holds the daily data of the customer along with their personal data they entered in the system while placing their order. The required attributes are:

1. **Name:** The name of the customer is saved in this attribute. It may be used while generating the bill or even for personalized messages via email marketing.
2. **Customer_ID (Primary Key):** The customer logs in into the system through the distinct login credentials provided uniquely to every customer.
3. **Contact No.:** Realtime tracking of the food ordered and delivery details are provided to the customer on his contact number so his contact number is saved in this attribute.
4. **Address:** The food would be delivered to the address of the customer, which is written in this attribute.
5. **Email:** This attribute holds the email address of every customer to inform them about the current status of their order.
6. **Payment:** The customer is provided with two options to pay for the food - online through the system, or offline at the time of delivery.
7. **Orders (Multivalued attribute):** This attribute holds the current as well as the previous orders which are given by the customer.

The customer entity books orders after choosing the food online through the menu available online of different restaurants along with the price so that the

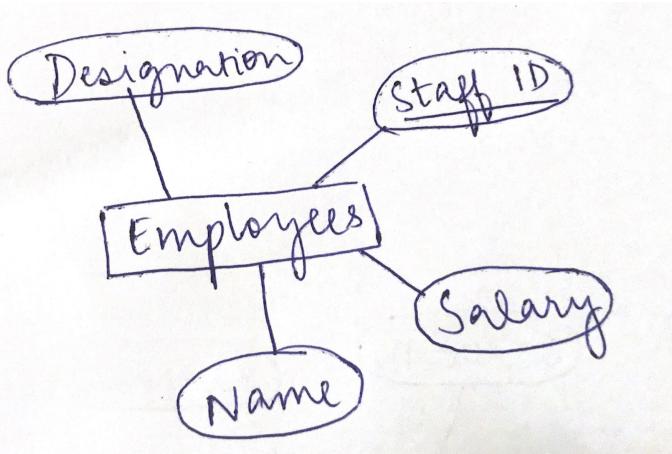
customer can pay the price online. The order entity holds the details of every order given by customers.



3. Employees

The staff employees check the routine work and update the data of the customers in the system whereas the chefs take the order of daily customers and prepare the dishes for delivery as per the food ordered by the customer. This entity sustains the employees' details and daily report of the work. The attributes are:

1. **Name:** The account of every staff and chef is secured with their name, therefore their name is saved in this attribute.
2. **Staff ID (Primary Key):** The system provides a unique system generated ID which is helpful at the time of login.
3. **Designation:** Every staff member is designated to a particular post as per their skills which are saved in this attribute.
4. **Salary:** The staff gets salary as per their designation and skills which is mentioned in this attribute.

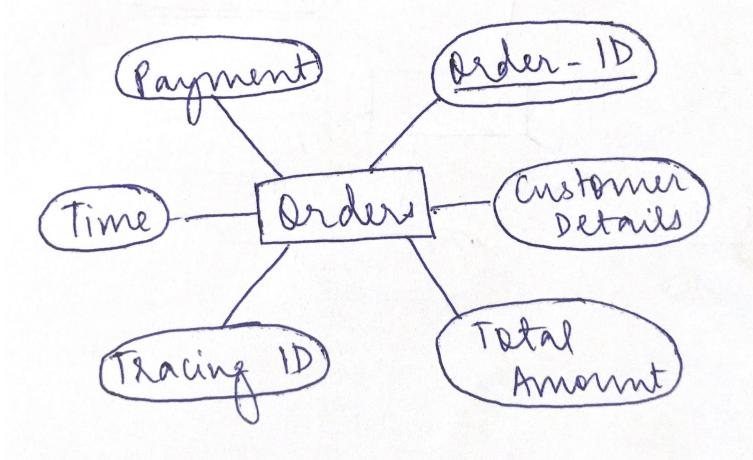


4. Orders:

The customer chooses the food from the menu and adds it to the online cart then proceeds to choose if he wants to pay online or at the time of delivery. He also mentions the location details along with any suggestion he wants to give to the chef. So this entity holds the details of every order booked by the customer through the system. The attributes are:

1. ***Order_ID (Primary Key)***: The system generates a unique number which is the order ID mentioned on the order receipt to track and provide information of that order.
2. ***Customer Details***: The order is given by the customer, so his details are attached with the order to safeguard the delivery details.
3. ***Total Amount***: This attribute holds the total amount which the customer needs to pay for the food he has ordered.
4. ***Tracking ID***: The customer can track the food he ordered through the system by the tracking ID which is stuck in this attribute.
5. ***Time***: This attribute holds the estimated time for food preparation and delivery to the customer.
6. ***Payment***: The ordered food entity also contains the payment status whether done by customer online or he'll give at the time of delivery.

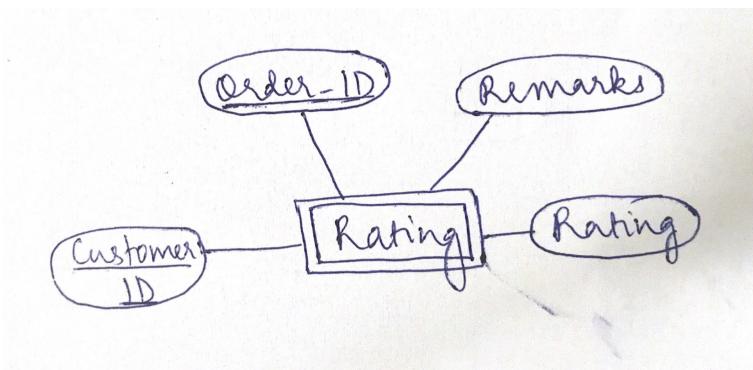
The orders are transferred to the respective restaurants to prepare the dishes on a stipulated time interval. The system shows an estimated time frame at which the food will be prepared and delivered to his address.



5. Rating (Weak entity):

The customers can provide valuable feedback and ratings for their orders upon delivery. This will help restaurants improve their services. The attributes of this entity are:

1. ***Customer ID (foreign key)***: The customer ID of the customer submitting the ID is recorded.
2. ***Rating***: This attribute holds the rating given to the restaurant by the customer upon receiving his order.
3. ***Remarks***: The customer can give remarks on his order, which will be communicated to the respective restaurant for their improvement.
4. ***Order_ID (foreign key)***: This attribute holds the order ID mentioned on the order receipt to provide information of that order.

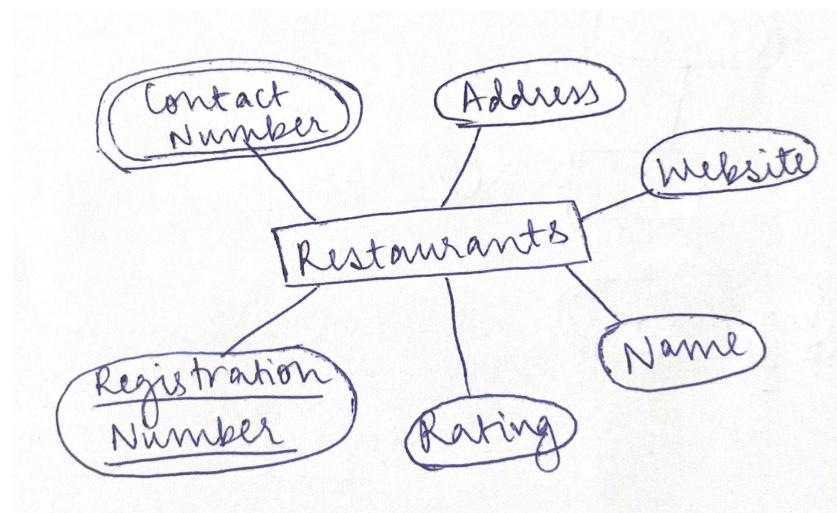


6. Restaurants:

There are many restaurants which are assigned with the online food delivery management system to provide their services to the customer. This entity holds the data of every restaurant and saves it distinctively in the database. The respective attributes are:

1. **Name:** This attribute saves the name of every restaurant attached with the system along with other details.
2. **Website:** This attribute holds the website of the restaurant, where customers can place their orders.
3. **Registration Number (Primary Key):** Every restaurant has provided a registration number through the food council of state to see their genuine and hygiene guidelines.
4. **Address:** The addresses of all restaurants are saved in this attribute to show the exact time of delivery to the customer.
5. **Contact Number (Multivalued attribute):** Every restaurant provides their contact number while delivery for any connection being needed by the customer.
6. **Rating:** Ratings are given by the customer who has taken the service through which it attracts more customers for particular restaurants.

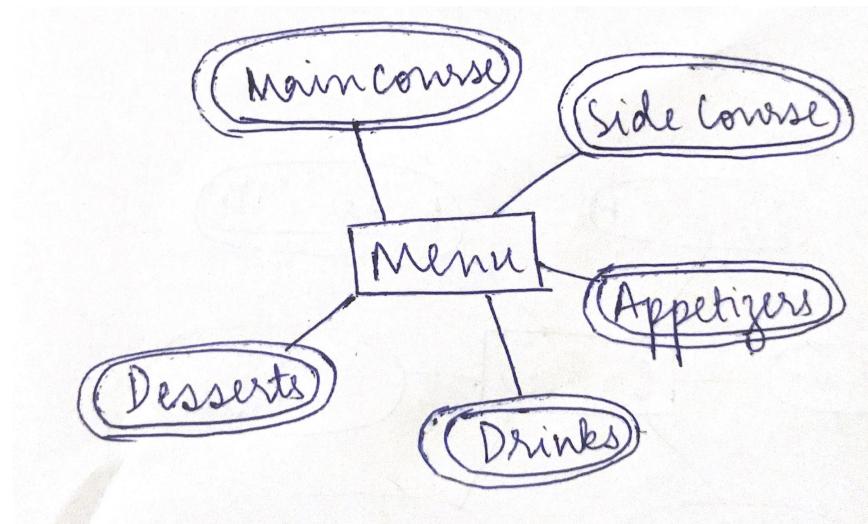
The restaurants are of different types and serve food as per their choice and budget, they write every dish on the menu which is available on the system and the customer can look at it before giving the order along with the price he has to pay for the dishes.



7. Menu:

The restaurants upload their menu online and update it from time to time. This entity holds the details of the menu provided by the restaurants in the system. The details of every dish are also present here along with their rate details. The attributes of this entity are:

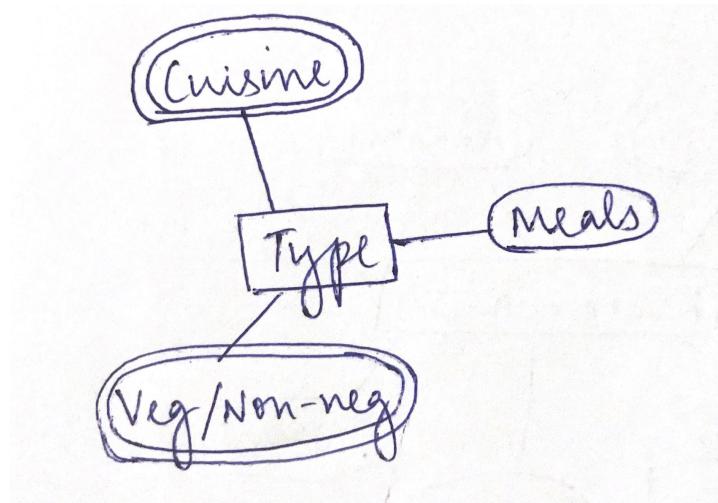
1. **Drinks (Multivalued attribute):** This attribute holds the data of the beverages a restaurant provides like juice, shakes, cold drinks, etc.
2. **Main Course (Multivalued attribute):** This includes the main dishes offered at the restaurant.
3. **Side Course (Multivalued attribute):** This attribute contains the side dishes offered, continental food, etc.
4. **Appetizers (Multivalued attribute):** This attribute holds the details of the starters offered by the restaurant.
5. **Desserts (Multivalued attribute):** The various sweet dishes offered by the restaurant are stored in this attribute.



8. Type

1. **Cuisine:** This attribute holds the data regarding the cuisine of the food served by the restaurant.

2. **Meals:** This includes the type of meal - breakfast, lunch, brunch, dinner, etc.
3. **Veg / Non-veg** - This attribute specifies whether the restaurant menu has veg food, non-veg food or both.



Relationships:

1. **Manage (Manager manages Customer):**
It has a Cardinality Ratio of 1:N because one Manager can manage many (N) customers but one customer can be managed by one Manager only.
2. **Controls (Manager controls Restaurants):**
It has a Cardinality Ratio of 1:N because one Manager can control many (N) restaurant branches but one restaurant can be controlled by one Manager only.
3. **Govern (Manager governs Employees):**
It has a Cardinality Ratio of 1:N because one Manager can govern many (N) employees (chefs/staff) but one employee can be governed by one Manager only.

4. Work (Employees work at Restaurants):

It has a Cardinality Ratio of N:1 because one employee can work at only one restaurant but one restaurant can have many (N) employees.

5. Include (Restaurants include Menu):

It has a Cardinality Ratio of N:1 because one restaurant can have only one menu but one menu can belong to many (N) same restaurant branches.

6. Forward (Orders forwarded to Restaurants):

It has a Cardinality Ratio of N:1 because one order will be forwarded to one restaurant but one restaurant can receive many (N) orders.

7. Book (Customers book Orders):

It has a Cardinality Ratio of 1:N because one customer can book many (N) orders but one order can be booked by one customer only.

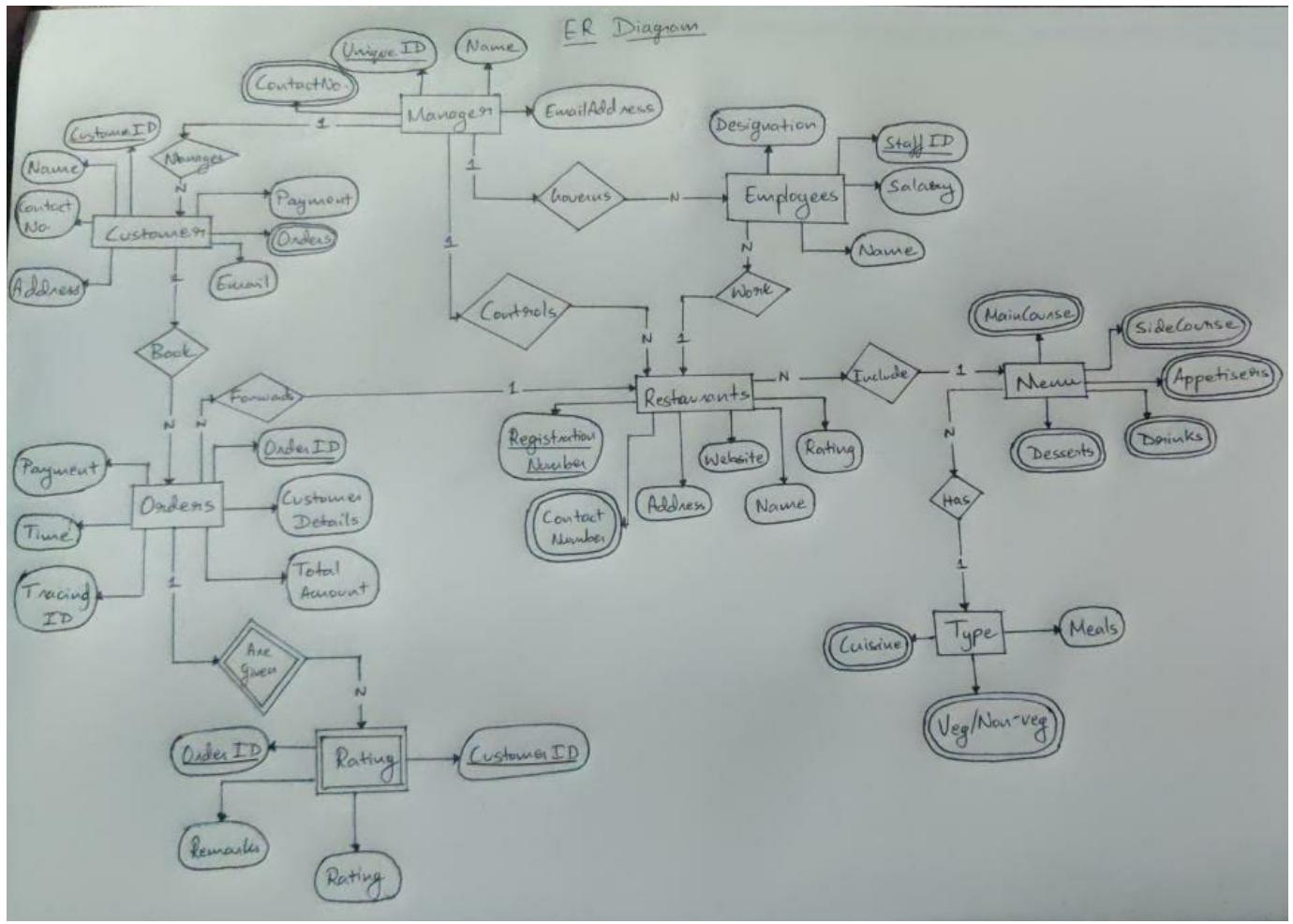
8. Are given(Orders are given Rating) - Weak relation :

It has a Cardinality Ratio of 1:N because one order can be given many ratings but only one rating can be given to one order.

9. Has (Menu has Type):

It has a Cardinality Ratio of N:1 because one menu can be of only one type and one particular type can exist for many (N) menus.

ER DIAGRAM:



ER DIAGRAM USING LUCID CHART:

Lucidchart provides collaborative online diagramming to make it easy to draw flowcharts, org charts, wireframes, UML, mind maps and more. Lucidchart lets us easily create ER diagrams, with smooth placement of shapes, lines and labels. We chose it to create our ER diagram as with all editing taking place in the cloud, it's easy to collaborate with other members of the team and work together on one project. It also requires no installation, and can be directly used after signing up on their website <https://www.lucidchart.com>.

