## Restaurant Database Management System

**Problem Statement:**

Many restaurants stores data either manually or using simple methods of computerized management of commercial data. Since they need to maintain large amounts of data, they do require some automation features so that they can record data and maintain the stores efficiently and reduce data redundancy. They need a software to maintain their day-to-day transaction, for keeping records of employees, records of raw materials, updation of menu & dishes, keeping record of customers (address for food delivery, favourite dishes),feedback from customers and so on.

In the existing manual system it takes lot of time and increases there are chances of data inconsistency and moreover it's difficult to retrieve and access the data in desired way as it is stored in discrete places in different forms.

This application helps the restaurants to do all functionalities more accurately and faster way.

**Details of Entities:**

1. Raw Materials **:**

A restaurant requires various kind of materials for various dishes and for maintaining the hygiene. Other things like cook wares and linens, plates, spoons etc are also required. One needs to maintain the records of these materials time to time like the quantities of food materials available, per day consumption, quantity purchased and the rates of individual materials are to be maintained and need to be updated on a daily basis. One need to have a record of daily expenditure on these materials.

1. Dish Details:

These details include the kind of raw materials and their quantities in various dishes. It includes recipes of various dishes, maximum time required for cooking and the total cost to cook one unit of dish.

1. Employees :

A restaurant requires huge crew of workforce. There are various departments that require various skilled persons. Chefs, Managers, Waiters, cleaners, plumbers are some of the designations in restaurants. All the personal details which include Name, Address & phone number, Skills and Experience are need to be recorded and updated if necessary. Even their Salaries and ratings are also recorded. Every Employee will be assigned with an unique ID.

1. Customers:

The details of the customers who have visited the restaurants like Name , Ph.NO, Address are to be stored. They will be assigned with a particular ID. Their preferences , ratings and number of visits are also stored. Based on their frequency of visits they will be awarded with credit point which can later be availed as discounts. Even their Date of Birth will be recorded to wish them and they can avail special discounts on that day.

1. Vendors:

This entity sets includes details of the vendors providing Raw materials to the restaurant. Every vendor entity will be assigned a unique Id (which will be the primary key of this set), their names and address. A relation named “Supplies” will relate vendors and Raw materials entity set.

1. Bills :

Bills will include detail of the Orders of the customers like the order number, the Dishes they ordered, their quantities, their Unit Price ,Total cost, Order Time and time taken for delivery in the customer copy (It also mentions the details of the waiter assigned to the table and chefs in salesman copy of the bill).

1. Feedback:

This Entity provides a platform for customers to give their valuable review which would help the restaurant management to improve the customers future experience. Every employee assigned to a particular customer will be mentioned in the feedback and will be rated by the customer. Further suggestions regarding the ambience will be recorded.

1. Branches:

This entity will include the details of various branches across the city. This will include Name(Captions), The Unique ID assigned to the branch, address of the Branch and their performances, reviews, Problems in each branch etc.

**Attributes Of the above entities:**

1. Raw Materials :
2. Material\_Name : Primary key
3. Quantity Available
4. Dish :
5. Dish\_Name : Primary Key
6. Time
7. Price
8. Recipe
9. Cooking\_Style
10. Employee:
11. Employee ID : Primary Key
12. Emp\_Name
13. Address
14. {Phone\_NO}
15. Salary
16. Rating
17. Experience
18. Customers:
19. Cust\_ID : Primary Key
20. Cust\_Name
21. Address
22. {Phone\_NO}
23. DOB
24. Credits
25. Vendor:
26. Vendor\_ID
27. Vendor\_Name
28. Address
29. {Phone\_NO}
30. Bills:
31. Bill ID : Primary Key
32. Date
33. Customer ID
34. Customer Name
35. tax
36. Total amount
37. Discount
38. Branches:
39. Branch\_ID : Primary Key
40. Branch\_Name
41. Address

Relational Schemas derived from the ER-Diagram:

1. Branch (Branch\_ID ,Branch\_Name, Address)
2. Employee (Emp\_ID, Emp\_Name, Address,Salary, Rating, Experience, Branch\_ID)
3. Dish (Dish\_Name, Time, Price, Recipe, Cooking\_Style)
4. Raw\_Material (Mat\_Name, Qty\_Avail, unit\_price)
5. Vendor (Vendor\_ID, Vendor\_Name, Address)
6. Vendor-Phone\_NO (Vendor\_ID, Phone\_NO)
7. Bill (Bill\_ID, Cust\_ID , Tax, Discount, Total)
8. Customer (Cust\_ID, Address, Cust\_Name, DOB, Credits)
9. Customer- Phone\_NO (Cust\_ID, Phone\_NO)
10. Used (Mat\_Name, Dish\_Name, Qty\_Required)
11. Orders (Bill\_ID, Dish\_Name, Dish\_Qty)
12. Cooks (Emp\_ID, Dish\_Name)
13. Works\_at(branch\_id, emp\_id)
14. Cost (cust\_id, bill\_id, chef\_rating, amb\_rating, service\_rating,suggestions)
15. Supplies(vendor\_id, mat\_name, quantity, date)