Design Document for
Restaurant Automation System

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Data Dictionary:

- Search Keyword: String that contain details of the dishes or restaurants
- Menu: Object containing a list of all food items and their prices.
- Order Details: Object containing name and quantity of order item
- Info: object containing card details
- Response message: string displaying success, error or failure message
- Compiled list: comprehensible database that has the attributes according to the parameters and filters given by the manager/admin
- Parameters/filters- object that has data according to which analysis report has to be generated

Module Specification:

1. Verify Login Details:
    a. Input- ID, Password
    b. Output- it directs to one of next modules according to the authentication message
    c. Processing-it calls the searching algorithm to generate the message
2. Search in Database:
    a. Input- ID, Password
    b. Output- Authentication message that contain parameters to tell what type of user it is, success/ failure status
    c. Processing-It search the database using a suitable algo and generate the message accordingly

3. Generate Menu:
    a. Input- Restaurant name
    b. Output- Menu of the given restaurant
    c. Processing- Search and generate the menu from the dishes and restaurants database

4. Search Dishes and Restaurant Database:
    a. Input-Search keyword
    b. Output- Output according to search results
    c. Processing- it implements a pattern searching and returns the matching items
5. Placing Order:
    a. Input-Order details
    b. Output- Response Message according to status of order approval
    c. Processing- It displays details to the cook and on the manager dashboard and it also check the inventory for ingredients and updates it
6. Place Inventory Order:
    a. Input-An approval message from the Manager in-charge
    b. Output- Response Message according to status of order approval also including pricing and delivery details
    c. Processing- This module run regularly to check when any item reaches a minimum threshold value and then display the status on the manager dashboard. It generates the order and places it after approval message from manager
7. Generate Analysis Report:
    a. Input-Certain parameters and filter value to search, sort or find
    b. Output- Compiled list that is easily comprehensible
    c. Processing- It perform search and sort operation on the Feedback database, orders database, dishes database
8. Manager Allotment:
    a. Input-Preference string or integer for managers

   b. Output- Response Message that specify which managers have which privileges
   c. Processing- It modifies the Managers database and provide appropriate access to the managers
9. Generate Report/ View Feedback:
   a. Input-Certain parameters and filter value to search, sort or find
   b. Output- Compiled list that is easily comprehensible
   c. Processing- It perform search and sort operation on the Feedback database, orders database, dishes and restaurant database, managers database

Requirements Tracing

1. Modules 1 and 2 meet the requirement of adding a new item and updating it.
2. Modules "Payment" meet the requirement of adding a new sale and generating a bill.
3. Modules 6 meet the requirement of maintaining stock of the ingredients.
4. Module 9 and 7 makes up the report generation for sales and expenses.
5. Module 3 makes the menu

Restaurant Automation System- Structure Chart

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