

# Restaurant Management System Documentation

## 1. User Interface:

### Command-Line Interface (CLI):

- Users interact with the system through a CLI.
- The interface provides clear instructions and prompts to guide users through various operations.
- Implement menus for different functionalities (e.g., Order Management, Menu Management, Staff Management).

## 2. User Authentication:

### Registration:

- Users can register by providing a username and password.
- Passwords should be stored securely using hashing techniques.

### Login:

- Users log in using their registered credentials.
- Implement a session mechanism to maintain user login status during the session.

### Roles:

- Define roles such as **Admin**, **Chef**, **Waiter**, and **Customer**.
  - **Admins** have full access to all features.
  - **Chefs** can view and update order statuses.
  - **Waiters** can take and manage customer orders.
  - **Customers** can place and track their orders.

## 3. Menu Management:

### Add New Dishes:

- Admins can add new dishes to the restaurant menu.

- Required details: dish name, category (e.g., appetizer, main course, dessert), price, availability status.

### **Update Dish Details:**

- Admins can update details of existing dishes (e.g., change price, availability status, description).

### **Delete Dishes:**

- Admins can remove dishes that are no longer available.

### **Search and View Menu:**

- Customers and staff can search for dishes by name, category, or price range.
- Display relevant dish details in search results.

## **4. Order Management:**

### **Placing Orders:**

- Customers can place orders from the available menu.
- Orders should include customer ID, dish IDs, quantity, total price, and order status.
- Generate a unique order ID for each order.

### **Updating Orders:**

- Waiters can update the status of orders (e.g., "In Progress", "Ready", "Served").
- Chefs can view and mark orders as "Prepared" when ready.

### **Viewing Order History:**

- Customers can view their previous orders.
- Admins and waiters can track ongoing and past orders.

## **5. Staff Management:**

### **Add New Staff Members:**

- Admins can register new staff members.
- Required details: name, contact information, role, employee ID.

### **Update Staff Information:**

- Admins can update staff details (e.g., change role, update contact information).

### **Remove Staff Members:**

- Admins can remove staff from the system if they leave the restaurant.

## **6. Table Reservation:**

### **Booking Tables:**

- Customers can book tables in advance.
- Required details: customer ID, number of seats, date, time slot.

### **Updating Reservations:**

- Customers can modify or cancel their reservations.
- Admins can manage and update reservations.

### **Viewing Reservations:**

- Staff can view all reservations for better seating arrangements.

## **7. Billing and Payments:**

### **Generating Bills:**

- The system calculates the total bill based on ordered dishes and applicable taxes.
- Generate an invoice with order details and payment status.

### **Payment Processing:**

- Customers can pay via cash, credit/debit cards, or online payment methods.
- Update the system once payment is completed.

### **Applying Discounts:**

- Admins can apply special discounts or promotional offers.

## **8. Reporting and Analytics:**

### **Sales Reports:**

- Admins can generate reports on daily, weekly, or monthly sales.

### **Order Trends:**

- Analyze most popular dishes and peak order times.

### **Customer Insights:**

- Track frequent customers and their preferred dishes.

### **Conclusion:**

This **Restaurant Management System** efficiently handles orders, menu, staff, reservations, and billing to streamline restaurant operations. It ensures a smooth experience for both customers and staff members while maintaining effective business management.