



# Restaurant Order & Payment Automation System

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# Contents

<b>1</b>	<b>Brief Description</b>	<b>3</b>
1.1	End Users . . . . .	3
1.2	Functional Requirements . . . . .	3
1.3	Non-Functional Requirements . . . . .	3
<b>2</b>	<b>Diagrams</b>	<b>3</b>
2.1	Entity Relationship Diagram (ERD) . . . . .	3
2.2	Use-Case Diagram . . . . .	4
2.3	Class Diagram . . . . .	4
2.4	Sequence Diagram . . . . .	4
<b>3</b>	<b>Github Link</b>	<b>4</b>

# 1 Brief Description

The **Restaurant Order & Payment Automation System** aims to streamline the process of taking orders, managing payments, and notifying customers and staff in real-time. The system will automate restaurant operations, making them more efficient and user-friendly.

## 1.1 End Users

- **Customers:** Place orders, make payments, and receive real-time updates.
- **Staff:** Manage orders, track payments, and update order statuses.
- **Admin:** Oversee the system, manage menus, and integrate third-party services.

## 1.2 Functional Requirements

- Customers can place orders (Dine-in, Takeaway, Delivery).
- Staff can update order statuses (e.g., Preparing, Ready, Delivered).
- Customers can choose payment methods (Credit Card, Cash, Online).
- Real-time notifications for order updates.
- Integration with third-party payment gateways.
- Dynamic addition of features like discounts or special requests.

## 1.3 Non-Functional Requirements

- Scalability to handle multiple orders simultaneously.
- Maintainability for easy updates and modifications.
- Security for payment processing and customer data.
- Flexibility to adapt to future changes (e.g., new payment methods).

# 2 Diagrams

## 2.1 Entity Relationship Diagram (ERD)

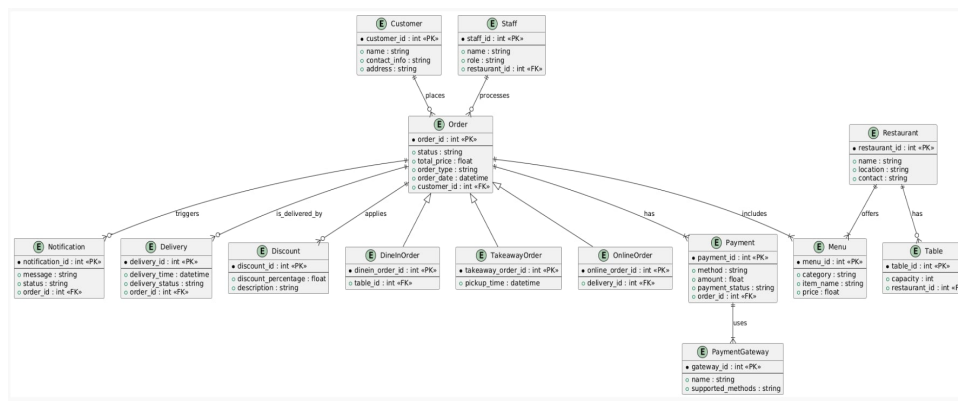


Figure 1: Entity Relationship Diagram

## 2.2 Use-Case Diagram

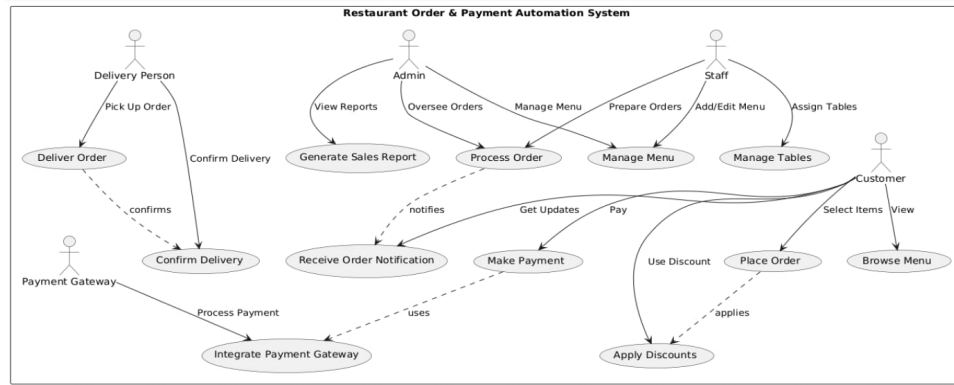


Figure 2: Use-Case Diagram

### 2.3 Class Diagram

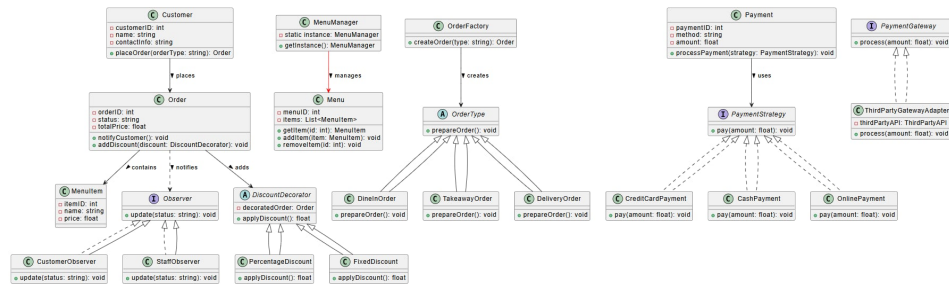


Figure 3: Class Diagram

## 2.4 Sequence Diagram

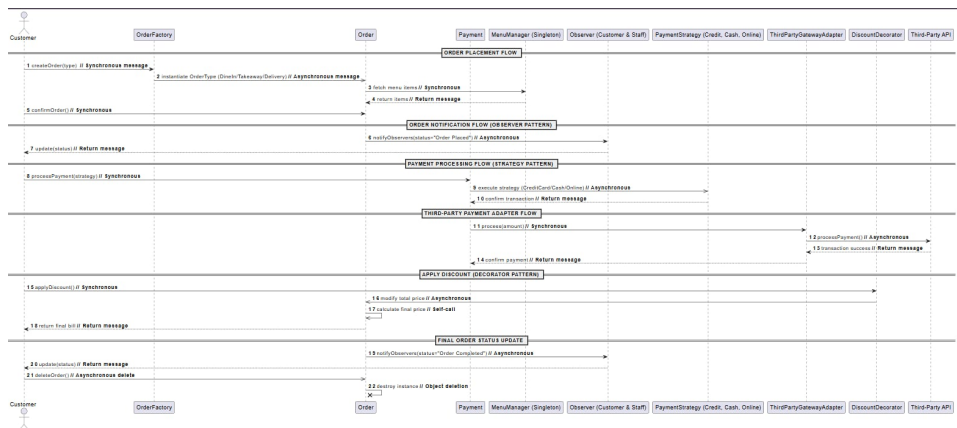


Figure 4: Sequence Diagram

### 3 Github Link

This project automates restaurant operations using design patterns like Singleton, Factory, Observer, Strategy, Adapter, and Decorator for scalability and flexibility. You can access the project on GitHub: [GitHub Repository: Restaurant Order and Payment Automation System](#).