Andrew Shahini and Danat Ali Muradov

Delivery 1: Food Delivery System

Scenario

Our project is a food delivery system that allows the users to sign in as a client or an employee, order food from multiple locations of a restaurant, track orders, or view location statistics. The interface will allow the client to place orders, and the system will determine which location will fulfill the order the fastest based on the number of orders the restaurant already has to complete and its distance. The client can also go through a menu and pick what to order, and it will show the estimated time of arrival. The system handles multiple orders at a time, showing order progress from placement to delivery. Order and restaurant information will be stored in a database. If the user signs in as an employee, he will be able to select a location and view general statistics about that location such as the total revenue, the total orders, and the average order completion time.

Design Paradigm (functionalities)

- Optimize the order completion time (cooking and delivery times) by assigning the order received to the restaurant location that can fulfill it the fastest.
- Store and retrieve orders, client, employee, and restaurant information.
- Calculate a restaurant location's total revenue, total orders, and average order completion time.

Design Patterns

1. Abstract factory pattern to create the menu items.
2. MVC architecture to update the UI when the delivery system model changes and to change the model from the UI when the user places orders.

User Actions

- The user can switch between English and French.
- The user can sign in as a client or an employee.
- Clients can see the menu of the restaurant.
- Clients can place an order.
- Clients can track their order status (In progress, on its way, and delivered).
- Employees can select a location.

- Employees can view statistics such as total revenue, total orders and average order completion time about a restaurant location.

Expected Output

- The interface should be displayed in English or in French based on the user's choice.
- The food delivery system should assign orders to the restaurant location that will fulfill it the fastest.
- The interface should calculate a restaurant location's statistics: total revenue, total orders and average order completion time.
- The interface should allow a user to order food based on a virtual menu.
- The food delivery system should keep track of order statuses.