Cairo University Faculty of Computers and Artificial Intelligence



**Software design specification document**

**2022**

**Project Team**

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# Class diagram design

# Class diagram Explanation

**composite design pattern in the compoundOrder and order classes,**

**MVC as the structure of the whole software system**

**Singleton design pattern in the databases**

**Strategy in the Ichanel and template**

# Requirements Exposure as Web Service API

**Part 1: Exposed Postman Collection**

**https://restless-capsule-810153.postman.co/workspace/New-Team-Workspace~86c6b4b8-97a4-4cc4-9374-b6e5f0a7eec2/collection/28978224-21c4c3e8-7d7d-4f7c-9401-ed2198d26121?action=share&creator=28978224**

**Part 2:**

**Explain here the exact mapping between every single requirement and its corresponding web service API operation. A sample example is provided to better explain the concept.**

|  |  |  |
| --- | --- | --- |
| Requirement |  | Exposed API |
| A list of all the products currently available for purchase should be displayed. Products are defined by a serial number, a name, a vendor, a category, and a price. Furthermore re |  | GET /product/geta service that lists all products details |
| Add product |  | POST product/add **A service used to add an order.**  {  "name": "pepsi",  "price": 5,  "quantity": 10,  "vendor": "pepsi",  } |
| a count of the remaining parts from each category should be available. |  | GET /product/CountProductsPerCategorya service that lists all categories and the number of products per each |
| A customer should be able to create an account and put a specific balance using that account. Such balance would be utilized during future purchasing operations. |  | POST /customer/adda service used to sign up a user and add the information to the database (in-memory) {  "email": "example@example.com",  "phone": "123-456-7890",  "name": "John Doe",  "password": "your\_password\_here",  "balance": 1000.0  } |
| **A customer can place a simple order, where such an order would include a single product or several products.** |  | POST /order/simpleOrder/add **a service used to create a simple order contain products and edit balance of the user if the order is created successfully.**  **{**  **"products": [**  **{**  **"serialNumber": 0,**  **"quantity": 2**  **},**  **{**  **"serialNumber": 2,**  **"quantity": 5**  **}**  **]**  **}** |
| **a customer can make a compound order, where that order can include various orders headed to near-by locations, in addition to his own products, to lessen the shipping fees.** |  | POST /order/compoundOrder/add **a service used to create a compound order that contains many orders to many users and edit balance of all the users if the order is created successfully.**  **{**  **"customerId" : 0,**  **"orders": [**  **{**  **"customerId" : 0,**  **"products": [**  **{"quantity" : 1,**  **"serialNumber" : 0**  **}**  **]**  **} ,**  **{ "customerId" : 1,**  **"products": [**  **{"quantity" : 2,**  **"serialNumber" : 0**  **}**  **]**  **}**  **]**  **}** |
| **You should be able to list all the details of both simple and compound orders.** |  | GET /order/get **A service that lists all the order either compound or simple** |
| **After placing the order, the user can ship the order. For simple orders, when an order is shipped, its shipping fees are deducted from its customer’s account. For compound orders, when an order is shipped, its shipping fees are deducted from all the customers who participated in the compound order.** |  | POST /ship/order **A service used to ship the order and edit the user balance after taking the shipping fees if it’s simple and takes fees from all the users if it’s a compound order.**  **{**  **"orderId": 0,**  **"status":"waiting",**  **"address":"address",**  **"shippingFees":15**  **}** |
| **For created notifications, you should implement a "notifications Queue", where you insert "notifications" that ARE TO BE SENT. You should be able to list the current content of that Queue.** |  | GET /Notification/messageQueueA service used to list all notifications in the queue. |
| **cancel shipping within a pre-configured automated duration.** |  | **GET /ship/cancel/{shippingId}**  **A service used to cancel a shipping** |
| **Customers can cancel an order placement,**  **within a pre-configured automated duration.** |  | GET /order/cancel/{orderId} **A service used to cancel an order and its shipment** |
| **After a configured time, messages are removed from the queue automatically to simulate that they were sent.** |  | Done automatically |
| * 1. **The most notified email-address** |  | GET /Notification/mostNotifiedEmail **A service used to return the most notified email address.** |
| * 1. **The most notified phone-number.** |  | GET /Notification/mostNotifiedPhone **A service used to return the most notified phone number.** |
| * 1. **The most sent notification template.** |  | GET /Notification/mostTemplateUsed **A service used to return the most notification template used.** |