

用例图

ai的结果

问题:

Consider the following problem description: A mail-order company wants to automate its order processing. The initial version of the order processing system should be accessible to customers via the web. Customers can also call the company by phone and interact with the system via a customer representative. It is highly likely that the company will enhance this system in upcoming years with new features. The system allows customers to place orders, check the status of their orders, cancel an existing order and request a catalog. Customers may also return a product but this is only possible through the phone, not available on the web. When placing an order, the customer identifies himself by means of customer number (only for existing registered customers) or by means of his name and address. He then selects a number of products by giving the product number or by selecting products from the online catalogue. For each product, information such as price, a description and a picture (only on demand as they are usually high-resolution images of large size) are presented to the customer. Also, the availability of the product is obtained from the inventory. The customer indicates whether he wants to buy the product and in what quantity. When all desired products have been selected, the customer provides a shipping address and a credit card number and a billing address (if different from the shipping address). Then an overview of the ordered products and the total cost are presented. If the customer approves, the order is submitted. Credit card number, billing address and a specification of the cost of the order are used on the invoice, which is forwarded to the accounting system (an existing software module). Orders are forwarded to the shipping company, where they are filled and shipped. Customers who spent over a certain amount within the past year are promoted to be gold customers. Gold customers have additional rights such as being able to return products in an extended time period as well as earning more bonus points with each purchase. In addition, in cases where a product is on back order, gold customers have the option to sign up for an email notification for when the particular product becomes available.

(1). Identify actors and use cases for the system described above and show them on a UML Use Case Diagram.

chatgpt的回答:

Actors:

Web User: Customers who interact with the system through the web interface.

Phone Customer: Customers who interact with the system by calling the company and speaking to a customer representative.

Customer Representative: Company staff who handle interactions with phone customers.

Use Cases:

Place Order: Allows the Web User or Phone Customer to place a new order.

Check Order Status: Allows the web User to check the status of their placed orders.

Cancel Order: Allows the web User to cancel an existing order.

Request Catalog: Allows the web User to request a catalog.

Return Product (Phone): Allows the Phone Customer to return a product.

View Product Catalog: Allows the web User to browse the online catalog.

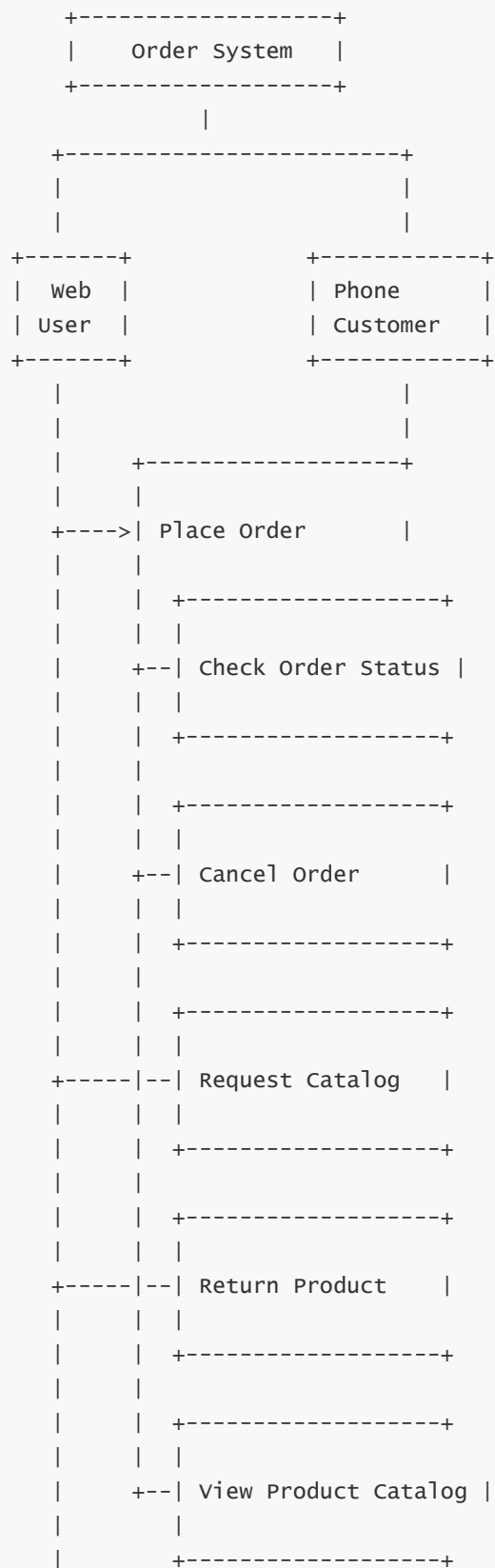
Register Customer: Allows a new customer to register in the system.

Upgrade Customer (Gold): Automatically promotes customers to Gold status based on their spending history.

Receive Back Order Notification: Sends an email notification to Gold customers when a back-ordered product becomes available.

Here is a UML Use Case Diagram representing the identified actors and use cases:

Here's the UML Use Case Diagram illustrating the identified actors and use cases:



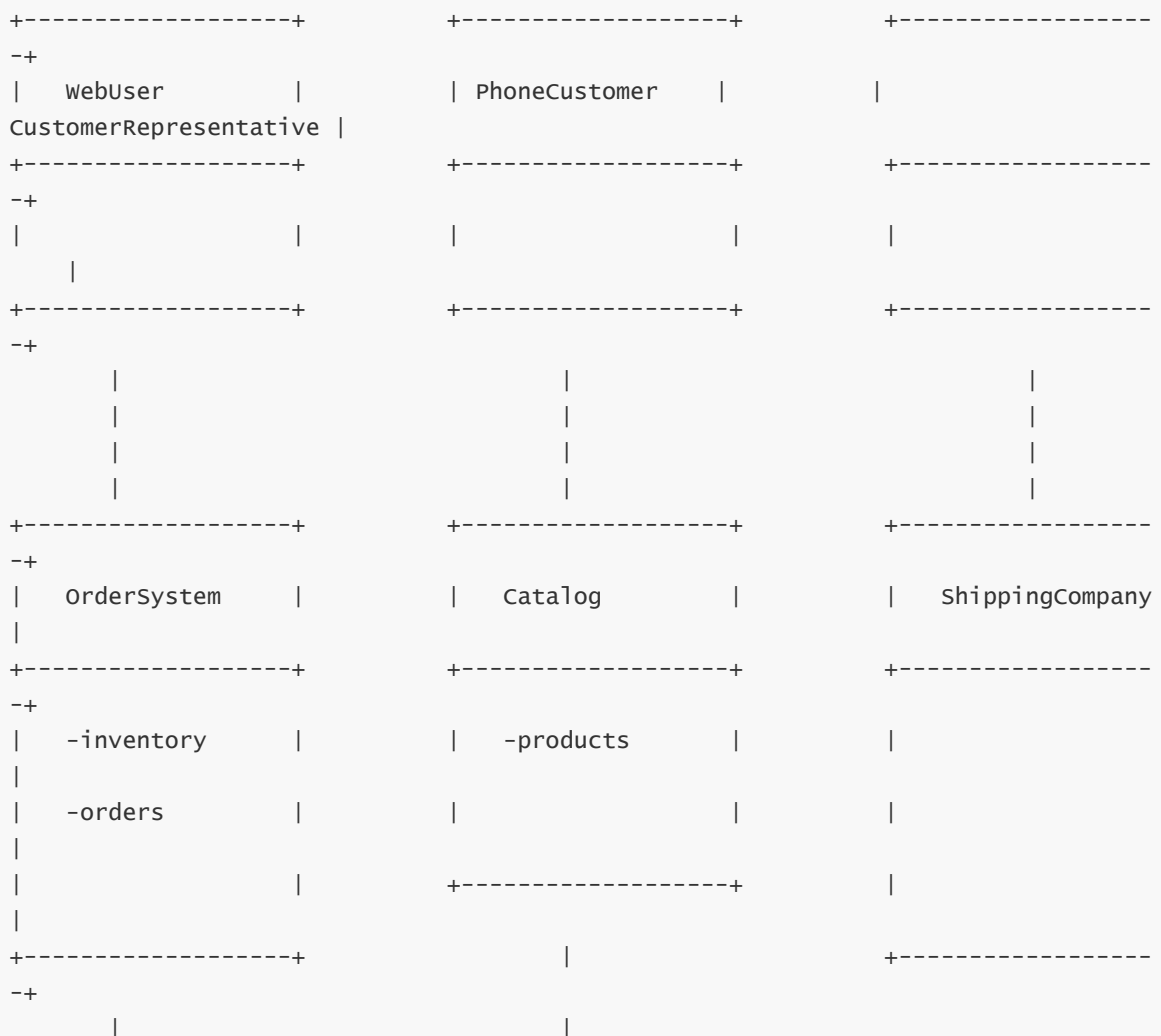


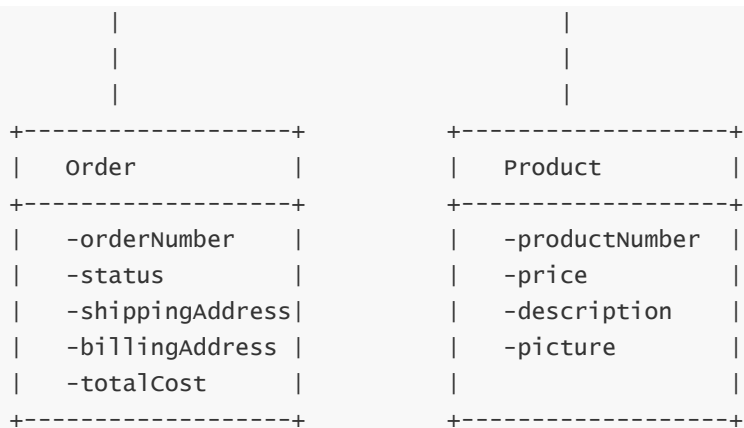
问题：

请根据用例图给出对应的类图

回答：

基于上面给出的用例图，我们可以推导出相应的类图来表示系统的类和它们之间的关系。下面是一个基本的类图示例：





"OrdersSystem"（订单系统）类包含了"inventory"（库存）和"orders"（订单）的私有属性，表示订单系统管理了库存和订单的信息。"Catalog"（产品目录）类包含了"products"（产品）的私有属性，表示产品目录中包含了不同的产品信息。"ShippingCompany"（物流公司）类表示物流公司的角色，暂未显示其具体属性和方法。

"Order"（订单）类包含了订单相关的私有属性，如"orderNumber"（订单号）、"status"（状态）、"shippingAddress"（运输地址）、"billingAddress"（账单地址）和"totalCost"（总费用）。"Product"（产品）类包含了产品相关的私有属性，如"productNumber"（产品编号）、"price"（价格）、"description"（描述）和"picture"（图片）。

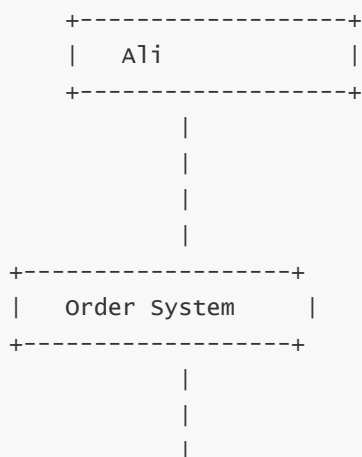
此外，类之间还存在关联关系，如"OrdersSystem"与"WebUser"和"PhoneCustomer"之间的关联，以及"Order"与"Product"之间的关联。这些关联关系表示类之间的依赖和交互。

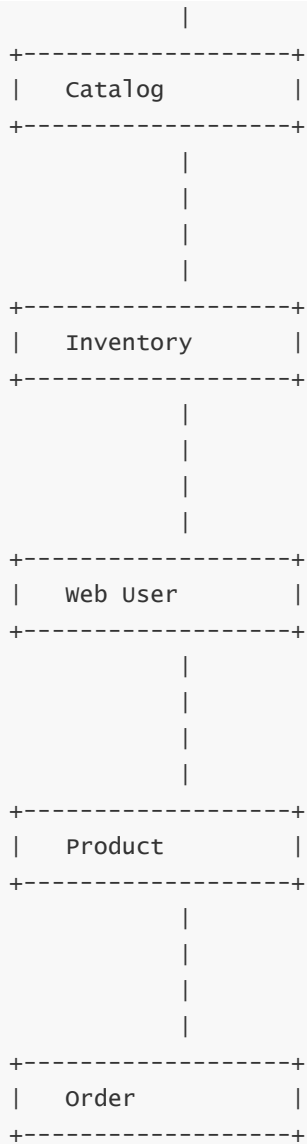
需要注意的是，这只是一个基本的类图示例，还可以根据具体需求和系统设计进行更详细和完整的类图设计。

问题：

考虑这个场景: Ali is an existing customer of the order processing company described earlier, registered with their web site. Also assume that having browsed the printed catalogue he has, he already identified the two items (including their prices) he likes to buy from the company's website using their product numbers (i.e. #2 and #9). First, he tries to buy one of product #2, but it is listed as unavailable in the inventory. Then, he adds two quantities of product #9, which turns out to be available, to his basket. He is then asked to confirm his registered shipping and billing addresses and credit card information from the customer database. He completes the order by clicking the Submit button. You may ignore processing of customer authentication. 为这个场景绘制一张顺序图

回答：





在这个顺序图中，主要的参与者是"Ali"（用户）和"Order System"（订单系统）。其他类如"Catalog"（产品目录）、"Inventory"（库存）、"Web User"（web用户）、"Product"（产品）和"Order"（订单）也在图中表示。

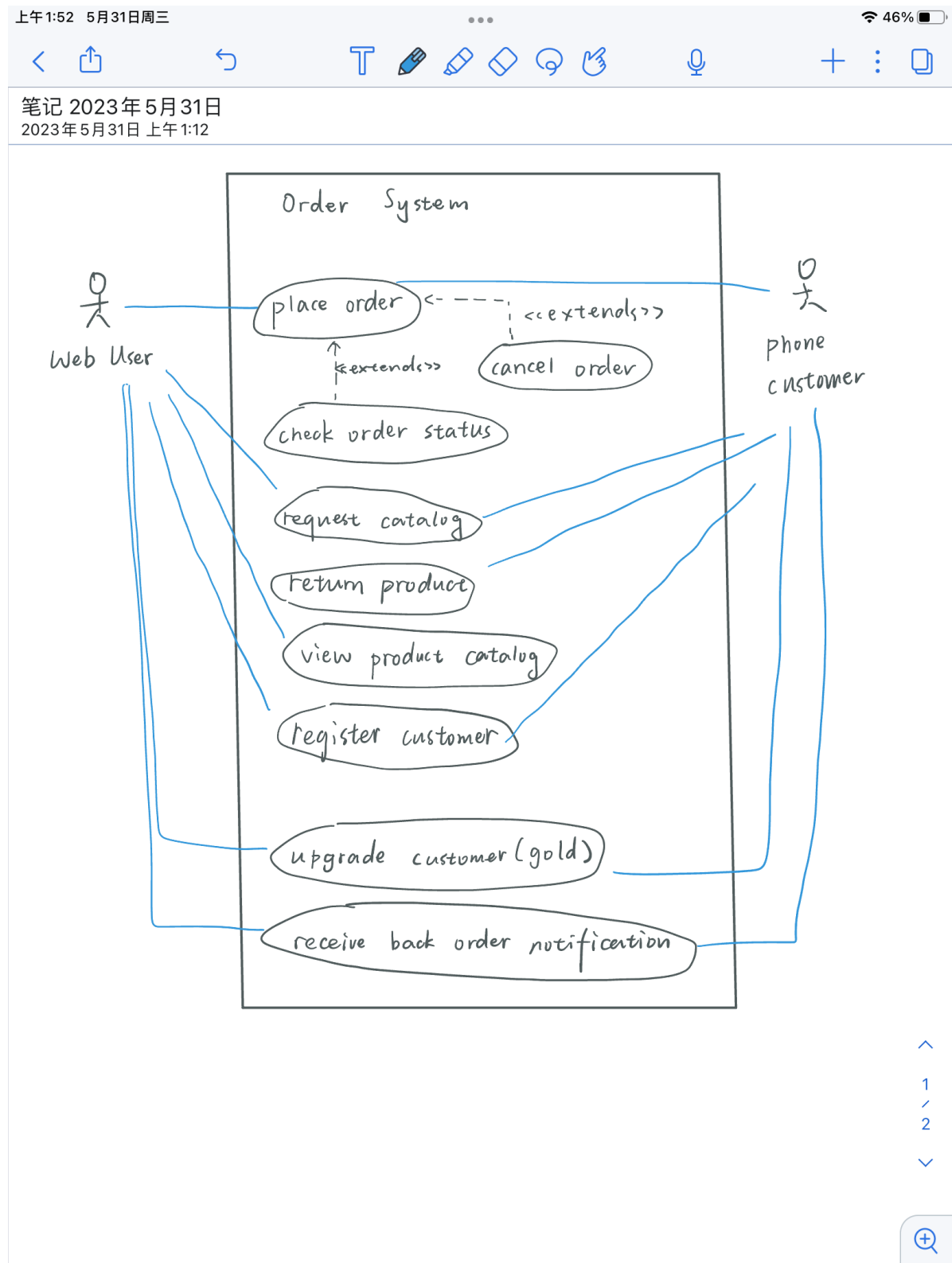
按照场景的顺序，以下是顺序图中的交互步骤：

- Ali与Order System进行交互，向系统提交购买产品的请求。
- Order System与Catalog交互，获取产品的详细信息，包括价格。
- Order System与Inventory交互，检查产品的库存情况。
- Order System向Ali返回产品#2不可用的消息。
- Order System将产品#9添加到购物篮中，数量为2。
- Order System与Web User交互，获取Ali的注册的运输和账单地址以及信用卡信息。
- Order System创建一个新的订单，并将产品#9的相关信息（包括价格和数量）添加到订单中。
- Order System将订单的详细信息返回给Ali确认。
- Ali点击提交按钮，完成订单。
- Order System创建订单并更新库存信息。
- Order System向Ali返回订单提交的确认消息。

请注意，这个顺序图只展示了基本的交互步骤，并可能忽略了一些细节。根据您的系统设计和需求，您可以进一步扩展和细化这个顺序图。

修改

用例图修改后：



修改的地方：

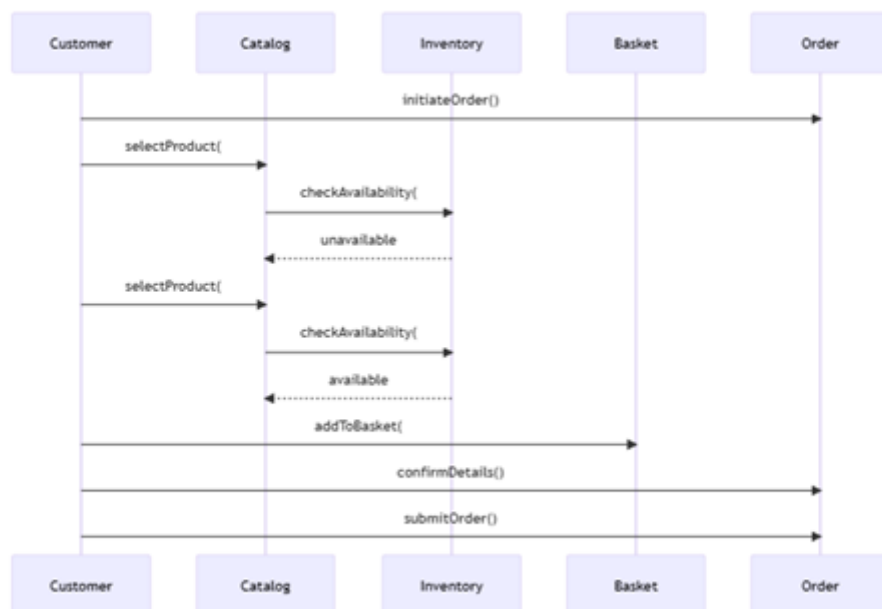
1. 把cancel order和check order status与place order的关系改为扩展
2. return product改为只有phone customer有关联
3. view product catalog改为只有web user有关联

类图修改后：



修改了几个依赖关系

顺序图修改后：



chatgpt的我没看懂，自己画了