**Use Case “Place order”**

1. **Use case code: UC001**
2. **Brief Description**

This use case describes the interaction between Customer and Order System when Customer wishes to place order, Customer can add products to the cart, provide shipping information, select a payment method and complete the order

1. **Actor**
   1. Customer
   2. VnPay System (Payment System)
2. **Preconditions**

* Customer has at least 1 product in cart.
* The products are available in stock to fulfill the customer's order.

1. **Basic Flow of Events**

* The customer access the shopping cart to view selected products
* The system displays a list of products in the cart, including quantity, price(excluding VAT) and the total amount.
* The customer reviews the products in the cart, modifies quantities or removes items if needed.
* The system checks product availabilityin stock:
  + If sufficient, the flow continues.
  + If not, the system notifices the customer to update the cart
* The customer provides shipping information, including recippient name, phone number and delivery address.
* The system calculates the shipping fee based on delivery address and product weigh and then displays the total cost (including VAT and shipping fees)
* The customer confirms the order and selects a payment method (currently only credit card payment via VNPay).
* The system connects to VNPay to process the payment.
* After successful payment, the system creates the invoice and sends an order confirmation email to the customer.
* The shopping cart is cleared after successful payment.

1. **Alternative Flows:**

* Product Out of Stock: If stock is insufficient, the system notifies the customer and requests them to update the cart with available quantities.
* Invalid Shipping Information: If required shipping information is missing or incorrect, the system prompts the customer to update the details.
* Payment Failure: If the payment fails, the system notifies the customer and requests them to try again.

1. **Input Data**:

* Selected product information (name, quantity).
* Shipping information (recipient name, phone number, address).
* Payment information (credit card details, VNPay information).

1. **Output Data**:

* Order confirmation, including product details, total cost (including VAT), shipping fee, and total amount due.
* Invoice and transaction information sent to the customer's email.

1. **Postconditions**:

* The order has been created and successfully paid for.
* The invoice and shipping details are sent to the customer via email.
* The shopping cart is emptied after payment.