***EXERCISE 3***🡪 <https://mygust.com/uploads/BOOK-Systems_analysis_and_design_in_a_changin.pdf> , <https://mygust.com/wp-content/uploads/2014/12/Solutions-Chap03.pdf>

**PROMPT:** The following should be textually analyzed and a use case diagram created containing several use cases. Identify the actors, use cases and associations. Please give me the PlantUML code for the use case diagram corresponding to the following text:

***Recall the On-the-Spot courier service introduced in Chapter 2. The details of the package pickup and delivery process are described here. When Bill got an order, at first, only on his phone, he recorded when he received the call and when the shipment would be ready for pickup. Sometimes, customers wanted immediate pickup; sometimes, they were calling to schedule a later time in the day for pickup. Once he arrived at the pickup location, Bill collected the packages. It was not uncommon for the customer to have several packages for delivery. In addition to the name and address of the delivery location, he also recorded the time of pickup. He noted the desired delivery time, the location of the delivery, and the weight of the package to determine the courier cost. When he picked up the package, he printed out a label with his portable printer that he kept in the delivery van. At first, Bill required customers to pay at the time of pickup, but he soon discovered that there were some regular customers who preferred to receive a monthly bill for all their shipments. He wanted to be able to accommodate those customers. Bills were due and payable upon receipt. To help keep track of all the packages, Bill decided that he needed to scan each package as it was sorted in the warehouse. This would enable him to keep good control of his packages and avoid loss or delays. The delivery of a package was fairly simple. Upon delivery, he would record information about when the delivery was made and who received it. Because some of the packages were valuable, it was necessary in those instances to have someone sign for the package.***

ChatGPT

**ChatGPT**

**Actors:**

1. Courier (e.g., Bill)
2. Customer
3. Warehouse Personnel
4. Signee (for valuable packages)

**Use Cases:**

1. Receive Order Call (by Courier)
2. Schedule Pickup Time (by Customer)
3. Perform Immediate Pickup (by Courier)
4. Perform Scheduled Pickup (by Courier)
5. Collect Packages (by Courier)
6. Record Pickup Details (by Courier)
7. Determine Courier Cost (by Courier)
8. Print Label (by Courier)
9. Receive Payment at Pickup (by Courier)
10. Send Monthly Bill (by Courier)
11. Receive Package at Warehouse (by Warehouse Personnel)
12. Scan Package for Sorting (by Warehouse Personnel)
13. Deliver Package (by Courier)
14. Record Delivery Details (by Courier)
15. Sign for Valuable Package (by Signee)

**Associations:**

1. Courier receives order calls and records pickup details.
2. Customers schedule pickup times (immediate or scheduled later).
3. Courier collects packages from customers.
4. Courier records pickup details including time, delivery location, and package weight.
5. Courier determines the courier cost based on package details.
6. Courier prints a label for the package using a portable printer.
7. Courier receives payment at the time of pickup or sends monthly bills.
8. Warehouse personnel receive packages, scan for sorting, and keep track.
9. Courier delivers packages and records delivery details.
10. For valuable packages, someone (Signee) signs upon delivery.

Now, let's create the PlantUML code for the use case diagram:

@startuml

left to right direction

actor "Courier" as Courier

actor "Customer" as Customer

actor "Warehouse Personnel" as WarehousePersonnel

actor "Signee" as Signee

rectangle "On the Spot Courier Service" {

usecase "Receive Order Call" as UC1

usecase "Schedule Pickup Time" as UC2

usecase "Perform Immediate Pickup" as UC3

usecase "Perform Scheduled Pickup" as UC4

usecase "Collect Packages" as UC5

usecase "Record Pickup Details" as UC6

usecase "Determine Courier Cost" as UC7

usecase "Print Label" as UC8

usecase "Receive Payment at Pickup" as UC9

usecase "Send Monthly Bill" as UC10

usecase "Receive Package at Warehouse" as UC11

usecase "Scan Package for Sorting" as UC12

usecase "Deliver Package" as UC13

usecase "Record Delivery Details" as UC14

usecase "Sign for Valuable Package" as UC15

}

Courier --> UC1

Courier --> UC2

Courier --> UC3

Courier --> UC4

Courier --> UC5

Courier --> UC6

Courier --> UC7

Courier --> UC8

Courier --> UC9

Courier --> UC10

WarehousePersonnel --> UC11

WarehousePersonnel --> UC12

Courier --> UC13

Courier --> UC14

Signee --> UC15

Customer --> UC2

Customer --> UC9

@enduml

**PROMPT:** I think that "receive order call" is not a goal of the courier and should not be included as a use case, and I think that "receive package at warehouse" is also not a goal for the warehouse personnel so it should not be included as a use case also

ChatGPT

**ChatGPT**

You are correct, and I appreciate your clarification. Let's refine the use case diagram by removing "Receive Order Call" and "Receive Package at Warehouse" as separate use cases. Instead, we can integrate these actions into existing use cases. Here is the updated PlantUML code:

@startuml

left to right direction

actor "Courier" as Courier

actor "Customer" as Customer

actor "Warehouse Personnel" as WarehousePersonnel

actor "Signee" as Signee

rectangle "On the Spot Courier Service" {

usecase "Schedule Pickup Time" as UC2

usecase "Perform Immediate Pickup" as UC3

usecase "Perform Scheduled Pickup" as UC4

usecase "Collect Packages" as UC5

usecase "Record Pickup Details" as UC6

usecase "Determine Courier Cost" as UC7

usecase "Print Label" as UC8

usecase "Receive Payment at Pickup" as UC9

usecase "Send Monthly Bill" as UC10

usecase "Scan Package for Sorting" as UC12

usecase "Deliver Package" as UC13

usecase "Record Delivery Details" as UC14

usecase "Sign for Valuable Package" as UC15

}

Courier --> UC2

Courier --> UC3

Courier --> UC4

Courier --> UC5

Courier --> UC6

Courier --> UC7

Courier --> UC8

Courier --> UC9

Courier --> UC10

WarehousePersonnel --> UC12

Courier --> UC13

Courier --> UC14

Signee --> UC15

Customer --> UC2

Customer --> UC9

@enduml

**Analysis:**

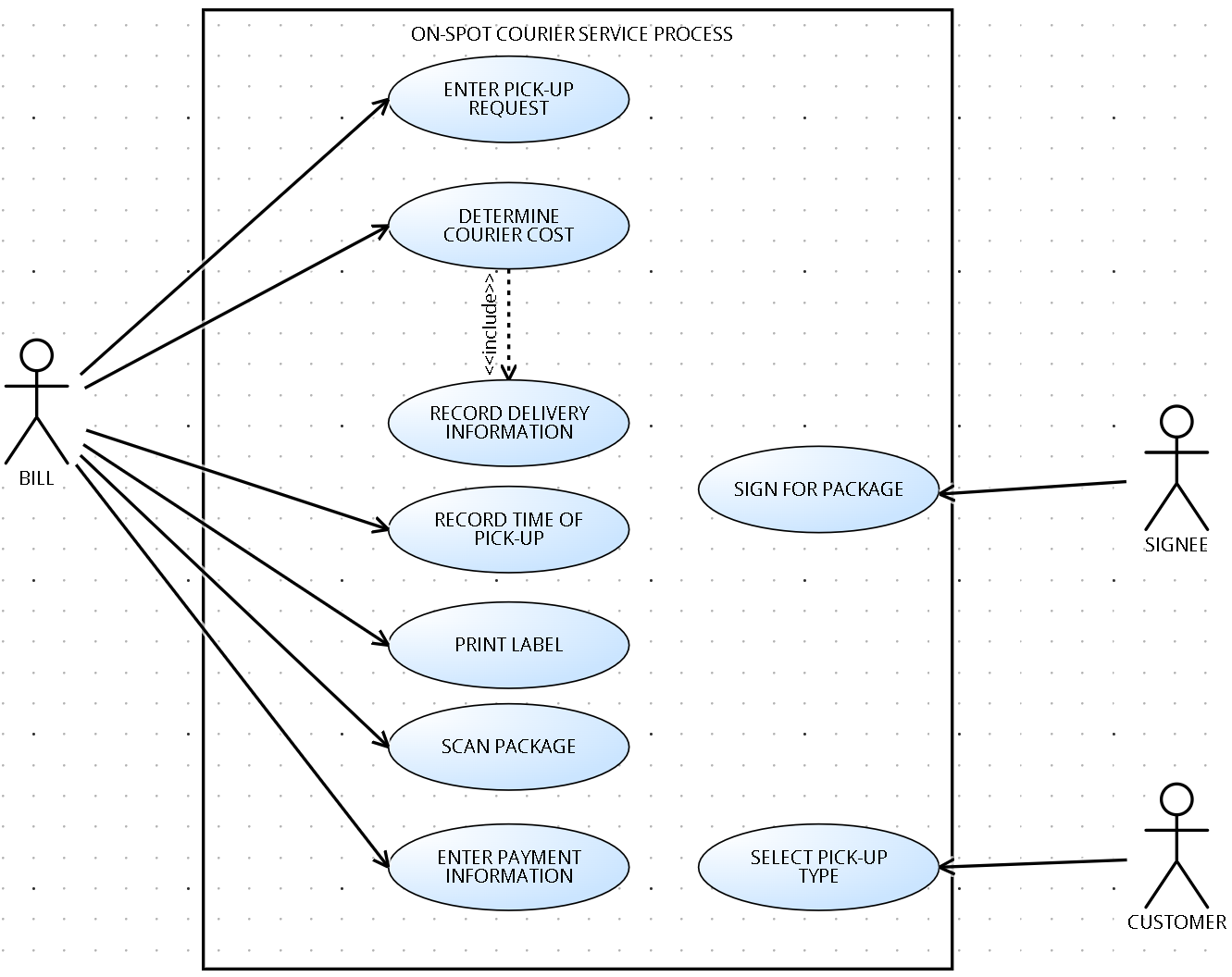
In this exercise, ChatGPT did not produce the anticipated outcome in terms of the generated PlantUML code. The lengthy and data-rich text description posed challenges for the AI, resulting in significant semantic issues that impacted the correctness of the Use Case Diagram (UCD). It appears that the AI struggled to accurately identify actors, associations, and included an excessive number of unnecessary use cases for the actor "courier."

Despite introducing additional information in the second prompt to address the unnecessary use cases for the courier (which were not actual goals), ChatGPT only addressed the specific use cases I had signaled. Unfortunately, it failed to discern the broader distinction between real goals of the actors and actions that were not genuine goals.

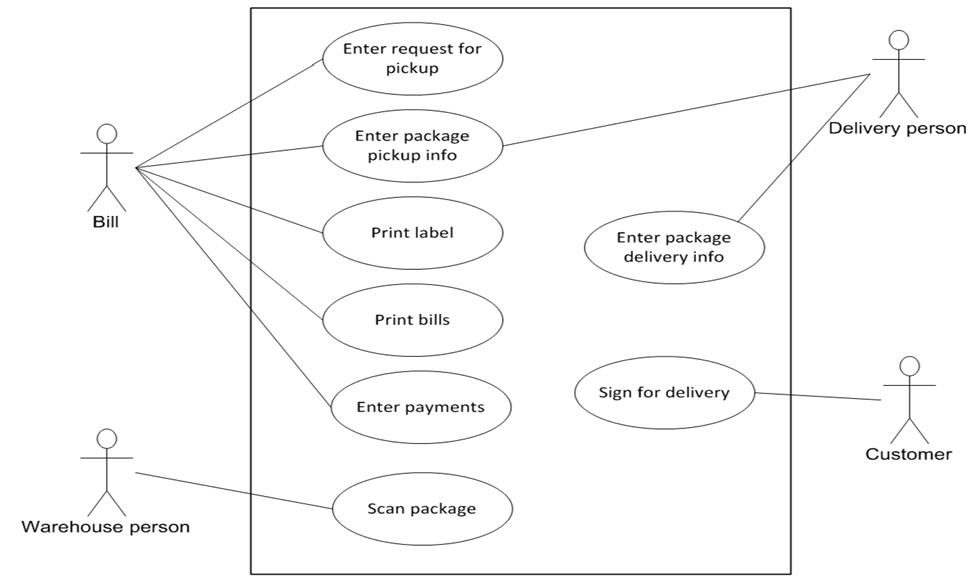
Furthermore, an additional error arose when ChatGPT incorrectly associated some use cases related to the delivery person with the character "Bill," who was not the actual delivery person. Additionally, a new actor named the "signee" was identified when it should have been recognized as the customer, leading to a misunderstanding about who actually signs. This suggests that if the person prompting ChatGPT lacks a deep understanding of use cases, it could potentially lead to further confusion.

Conversely, if the person providing the prompts possesses some basic knowledge of use cases, they may be able to re-inquire, correcting certain aspects and providing additional feedback to obtain a more refined code, although not entirely correct.

**MY SOLUTION:**

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**REFERENCE SOLUTION:**

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**LLM SLUTION:**

