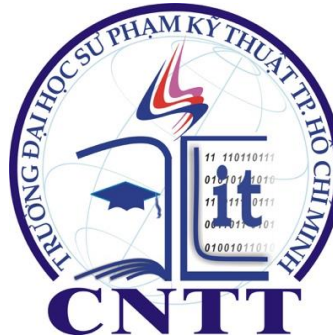**HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY AND EDUCATION**

FACULTY OF INFORMATION TECHNOLOGY

OBJECT-ORIENTED SOFTWARE DESIGN

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PHẠM HOÀNG PHƯỚC – 18110040

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PROJECT:

BUILDING A DELIVERY APP

LECTURER:

MASTER HUỲNH XUÂN PHỤNG

Object-oriented software analytic
TABLE OF CONTENT

Chapter 1: Preface

Nowadays, there are the multiple appearance of application that can transfer goods from a one place to an other place, very few apps show more detail about each time when goods transfer. Normally, most of apps just show the distance between an end user and deliverier, it dont give more detail about time that user can receive their goods, the status of their goods(where is locating), or the information of shipper. It is no problem if the cost of good is cheap. To image when you transfer the goods which is cost reach to 1000$, so the customer usually dont want to choose this service because it is risk or if the choose this service for transfering goods, maybe they will live in scare until they can get their goods. So our group give the solution for this problem. We combinate that we add more function that can exploit the information of deliverier as more as posssible(address, image, phone, license plates). And we also have a positioning function that can determine exactly where the delivier are in. So we belive some way above can feel more confidence and happy after they recive their goods.The schedule will also depend on assigned tasks, how long they will take to complete. The goal of the project is to develop and design an app that meets our users' requirements.

=> Our goal in choose and made that project is that we want to provide an application that can help deliver deliveries between customers to customers, or customers to companies or vice versa. Customers will no longer have to worry about their own goods when using this app because of the functionality we introduced above. Currently, we still improve the application day by day from interface, functionality, system error correction thanks to the feedback of users. For example, in this release we added the Voucher function. Shipping costs are not high, but in some types of customers it is not suitable for their economic conditions. So we have added this functionality with the desire to give some discount codes every week, we hope to be able to give some economic support. And the goal that we aim to in the future is that shipments can be easily transported without complicated operations, customers' trust in our application is absolute and most importantly, The delivery success rate after statistics should reach 100%.

Chapter 02: Introduction

2.1. Purpose

This application was created by us with the desire to solve the problem of transporting goods between provinces and regions in Vietnam.

Currently, the transfer of goods between regions is not a big problem if the distance between the sender and the receiver is not significant. But imagine that when the distance between the seller and the buyer is very long and the transportation cost can be 2 or even 3 times the cost of the item. This will affect people whose economy is not good.

But our application will automatically calculate and divide the delivery schedule so that the shipping fee is as low as possible. In addition, the customer's item will be guaranteed to be intact. If there is any problem with the product, the company will refund 100%.

2.2. Document Conventions

This document outlines the usage and implementation of the Delivery app.

2.3. Scope

It's often used for people wanting to ship from one location to another, they don't have time to do that so our app was born to help them achieve their delivery span expectations. and more we want this not only to be a convenient delivery app, but also to provide jobs for those who have difficulty making a living (delivier).

=> The reason for why our group decided to choose this application could be that app can help customer transfer their goods easily and securely.

2.4. Overview

Improving the application interface is one of the first areas we aim for because having a good interface means showing our deepest interest in user experience. We have added functions such as a view map (helping deliverier get an overview of his delivery journey, helping customers see the status of their items).

History delivery (can help users review their transaction history to ensure authenticity if there is any risk in the shipping process).

The Voucher function is a function that will be based on the income of the app when it meets the criteria to maintain the application, we will extract a discount for the user (we want this app to work because the user is the main) and finally comment. Function is the function that we want to mention the most because we cannot try all possible cases of the application to fix the error so if there is a problem with dissatisfaction in using the app. The customer will send us feedback through this function and we believe this is one of the most important functions for developing this application in the future.

Chapter 3: Glosary

Goods: to select the type of good that you want to transfer. It can be food, drink, phone, laptop,….

Voucher: the code that when user input that the prices for the next trip will be reduced
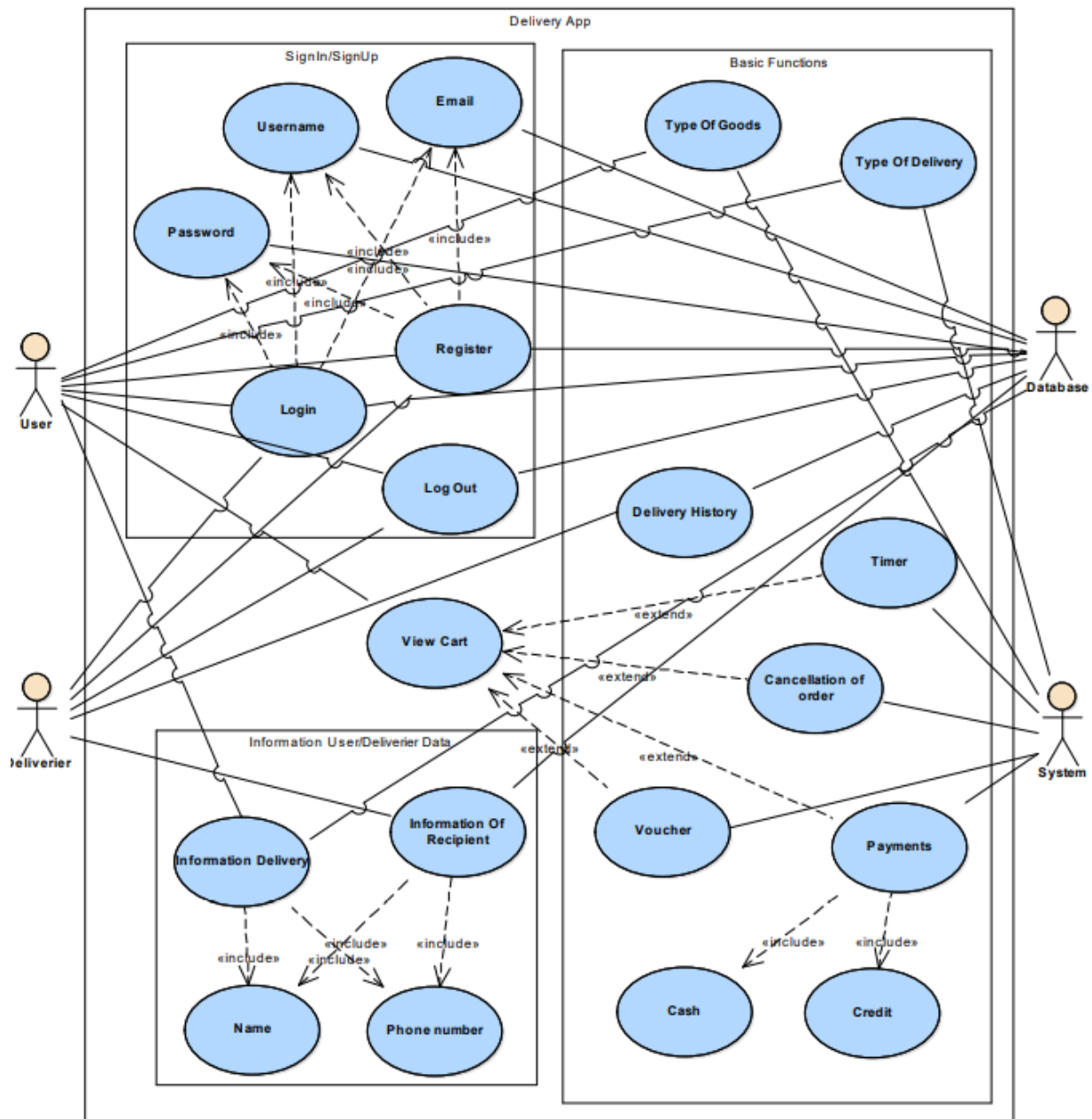
Timer: that function that user can set the time that they can receive their good.

Chapter 4: User requirement definition

ID	Requirement	Explain in details
1	Login	User can log in their account into the system based on database by inputing their username/email and password in login form
2	Register	User can create a new account into the system by inputing some basic information of them in sign up form
3	Type of Goods	User can choose a type of merchandise(fast food, drink, clothes, ..) to book and deliver for their purpose
4	Location	User input some information about the place that they receive their goods
5	Timer	User can set time for their goods that they books throught app
6	Payments	User can choose the way to pay money(ATM, visa, momo,…) for their goods
7	Calculate money for goods	The system will calculate the total amount of money that they have to pay for their good
8	Order Detail	User can have a overall view on the good that they choose before
9	Information of deliverier	User can view the personal information detail of deliverier who take responesibility to

		deliver their goods(phone, image, address)
10	Cancellation of order	User could cancel the delivery when user book within the allowed time
11	Evaluate	User can give point and comment for each time that they use our service
12	Delivery History	User can see all goods that they have bought(time, money, type, number of goods) before
13	Type of delivery	User can choose the quality of delivery (premium, silver, gold). And the time to delivery depend on the quality of delivery
14	Information of recipient	The deliverier can see the information of recipient(name, phone number, address,..)
15	Total weight	The system base on total weight and give overall price(1 kg = 2$)
16	Note to driver	After user check the status of goods they will give their evaluate, deliverier can not and improve for the next time
17	Voucher	Each time user book goods, they can get a code for sale up to 20% for the next time
18	Order	After choose goods, user can book goods and wait some time for delivery

Chapter 5: System Architecture

Delivery App

SignIn/SignUp — Username, Email, Password, Register, Login, Log Out

Basic Functions — Type Of Goods, Type Of Delivery, Delivery History, Timer, Cancellation of order, Voucher, Payments

Information User/Deliverier Data — Information Delivery, Information Of Recipient, Name, Phone number

View Cart, Cash, Credit

Actors: User, Deliverier, Database, System

«include» «extend»

Chapter 6: System Requirements Specification

6.1 Functional Requirements

ID	Requirement	Explain in details
1	Login	User can log in their account into the system based on database by inputing their username/email and password in login form
2	Register	User can create a new account into the system by inputing some basic information of them in sign up form
3	Type of Goods	User can choose a type of merchandise(fast food, drink, clothes, ..) to book and deliver for their purpose
4	Location	User input some information about the place that they receive their goods
5	Timer	User can set time for their goods that they books throught app
6	Payments	User can choose the way to pay money(ATM, visa, momo,…) for their goods
7	Calculate money for goods	The system will calculate the total amount of money that they have to pay for their good
8	Order Detail	User can have a overall view on the good that they choose before
9	Information of deliverier	User can view the personal information detail of deliverier who take responesibility to deliver their goods(phone, image, address)
10	Cancellation of order	User could cancel the delivery when user book within the allowed time
11	Evaluate	User can give point and comment for each time that they use our service
12	Delivery History	User can see all goods that they have bought(time, money, type, number of goods) before

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17	Voucher	Each time user book goods, they can get a code for sale up to 20% for the next time
18	Order	After choose goods, user can book goods and wait some time for delivery

6.2 Non-functional requirements:

❖ **User related:**

ID	Contents	Criteria	Description	Note
1	Software can be updated and modified to adapt the trend of customers as well as the requirements of managing of the owners.	Resilience		
2	Graphic User-Interface: - User-friendly. - Easy manipulation. - Feature buttons are laid out simple, convenient and visible. - Functional windows can interact with each other, provide users with efficiency.	Usability		
3	- Database is kept secure and easy to be accessed. - The system operates stable, reliable and instant response.	Efficiency		
4	- Computers in the network can share the resources though installed software. - Software can meet the requirements of users without making silo effect.	Compatibility		

❖ **Staff-related:**

ID	Contents	Criteria	Description	Note
1	- The module, source code and other proportion of the system can be reused for latter projects. - The source code can be recycled and applied for other programs without changing the cores.	Reusability		

❖ **Quality**

| ID	Contents	Criteria	Description	Note
1	The search goods, order function is convenient, natural, and visible.	Convenience	Support the keyword-like searching.	
2	Allow adding goods, edit goods based on Excel file (CSV) UI Design is unity.	Compatibility		
3	Processing time is acceptable	Effectiveness	Optimize for printing an order processing is less than 2 seconds. Support QR Code Scanner.	

Chapter 7: System Model

❖ Data Flow
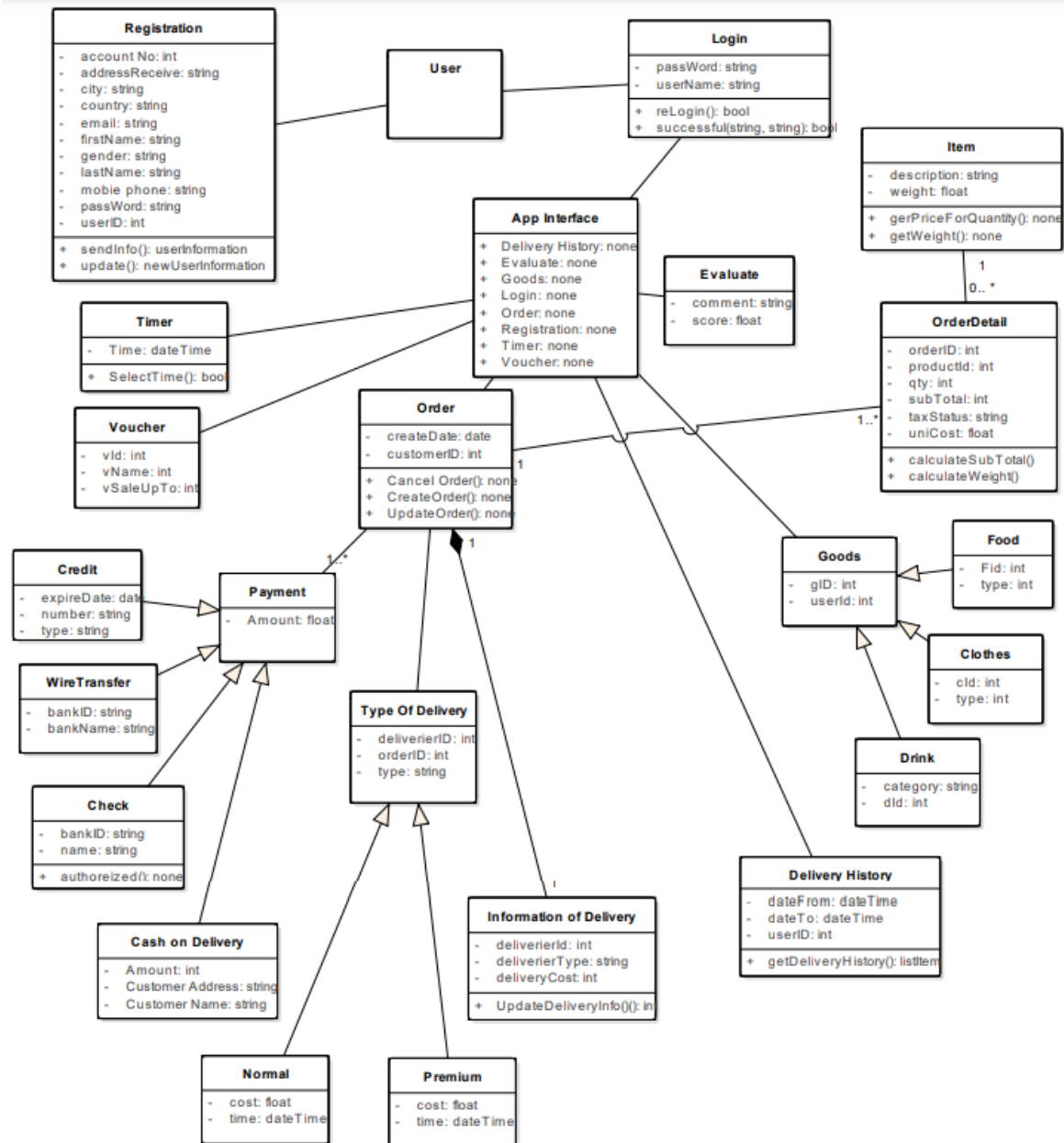
Hình 1: Class diagram

❖ State Diagram
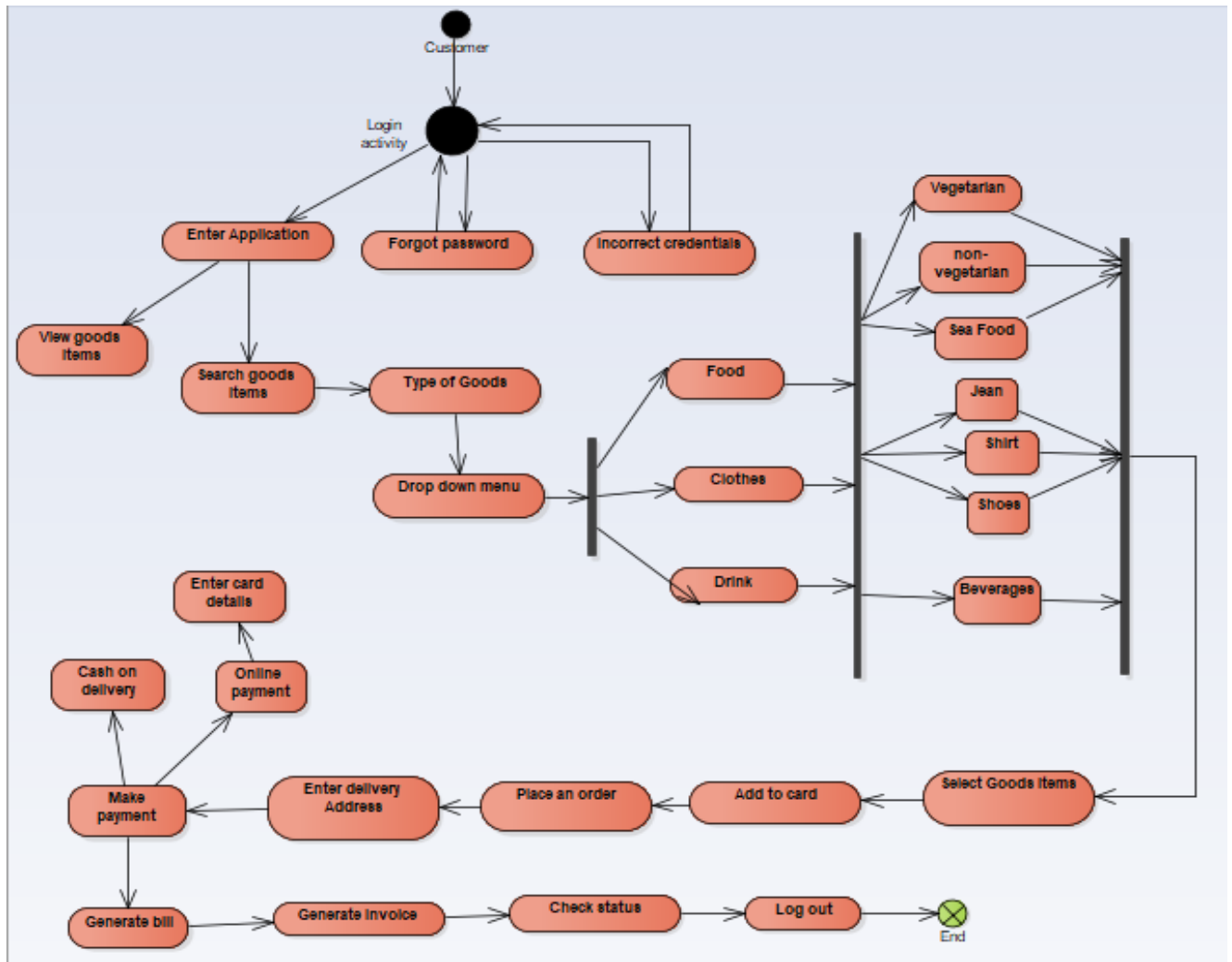
❖ Object Models
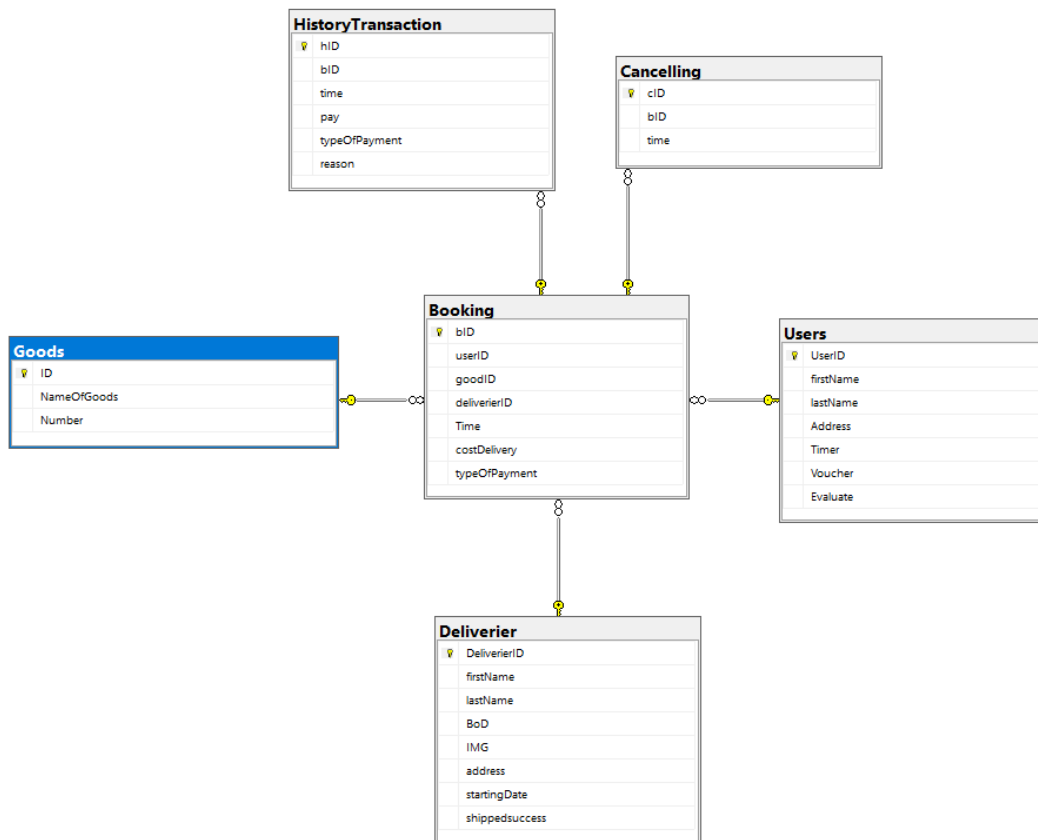
❖ Model Usecase Function
User, Deliverer Usecase Login
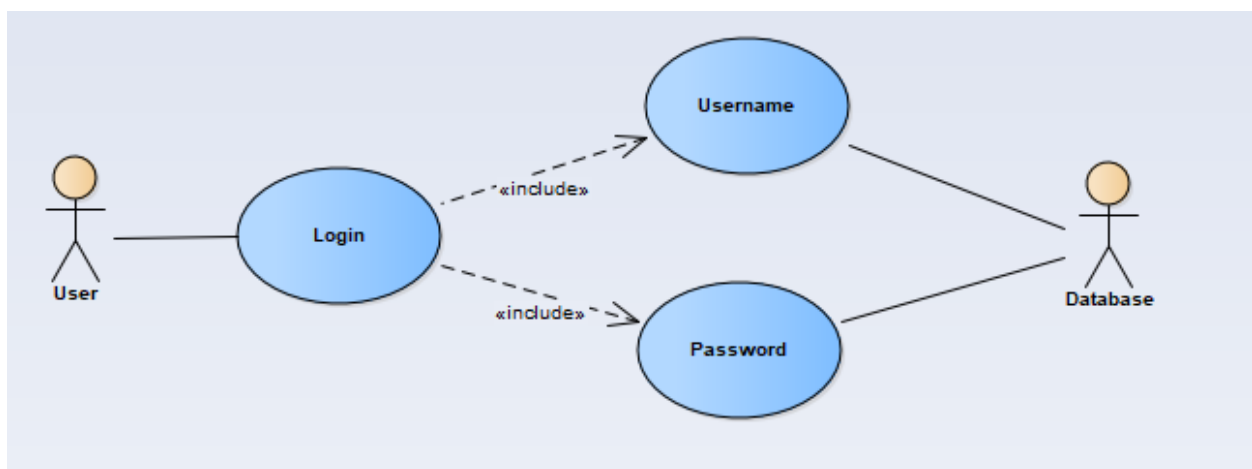
Hình 2: Login

User, Deliverer usecase Login	
Actors	User, Database
Description	An user can log in their account into the system based on database by inputing their username/email and password in login form
Data	Users (database)
Stimulus	Interface including form and button
Response	User's home page
Comments	The user must have a vaid account and correctly input it into the form. In some system, the user may have to confirm their account by using email/phone verification
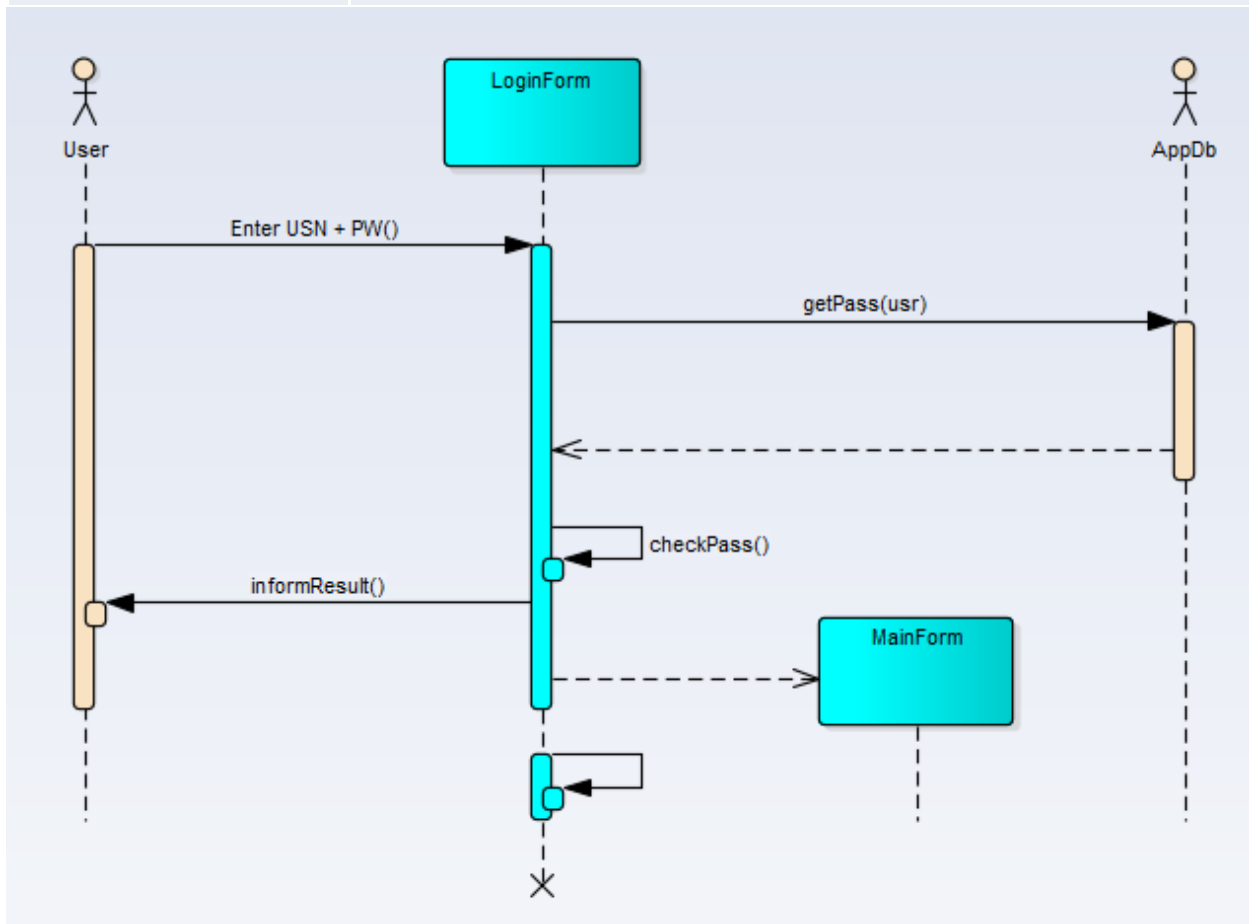
Hình 3: Sequence Diagram Login

User, Deliverer Usecase Register
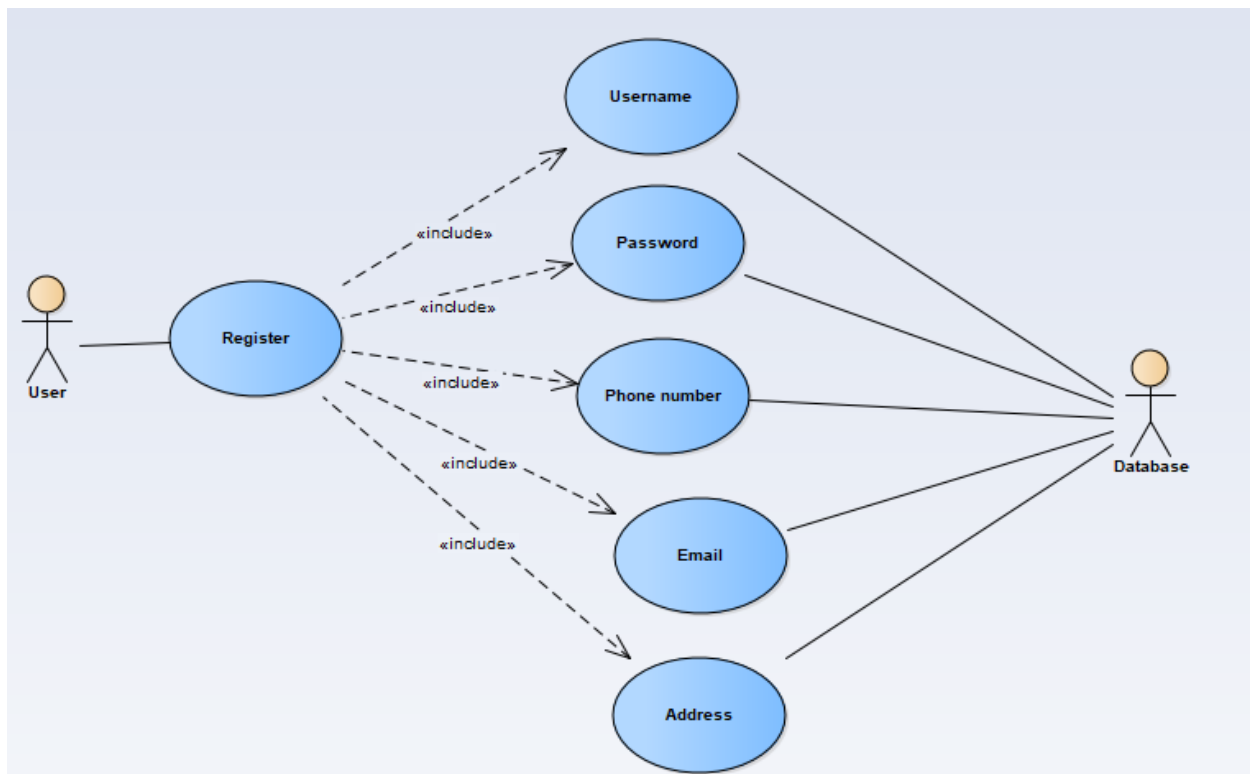
Hình 4: Use case Register

User, Deliverer usecase Register	
Actors	User, Database
Description	An user can create a new account into the system by inputting some basic information of them in sign up form
Data	Users (database)
Stimulus	Interface of app including form and button
Response	Message: Account has been created successfully
Comments	The user must input some basic and valid information (username is unique) into the form. Some system, the user may have to verify by using email/phone or to wait for accepting by admin.
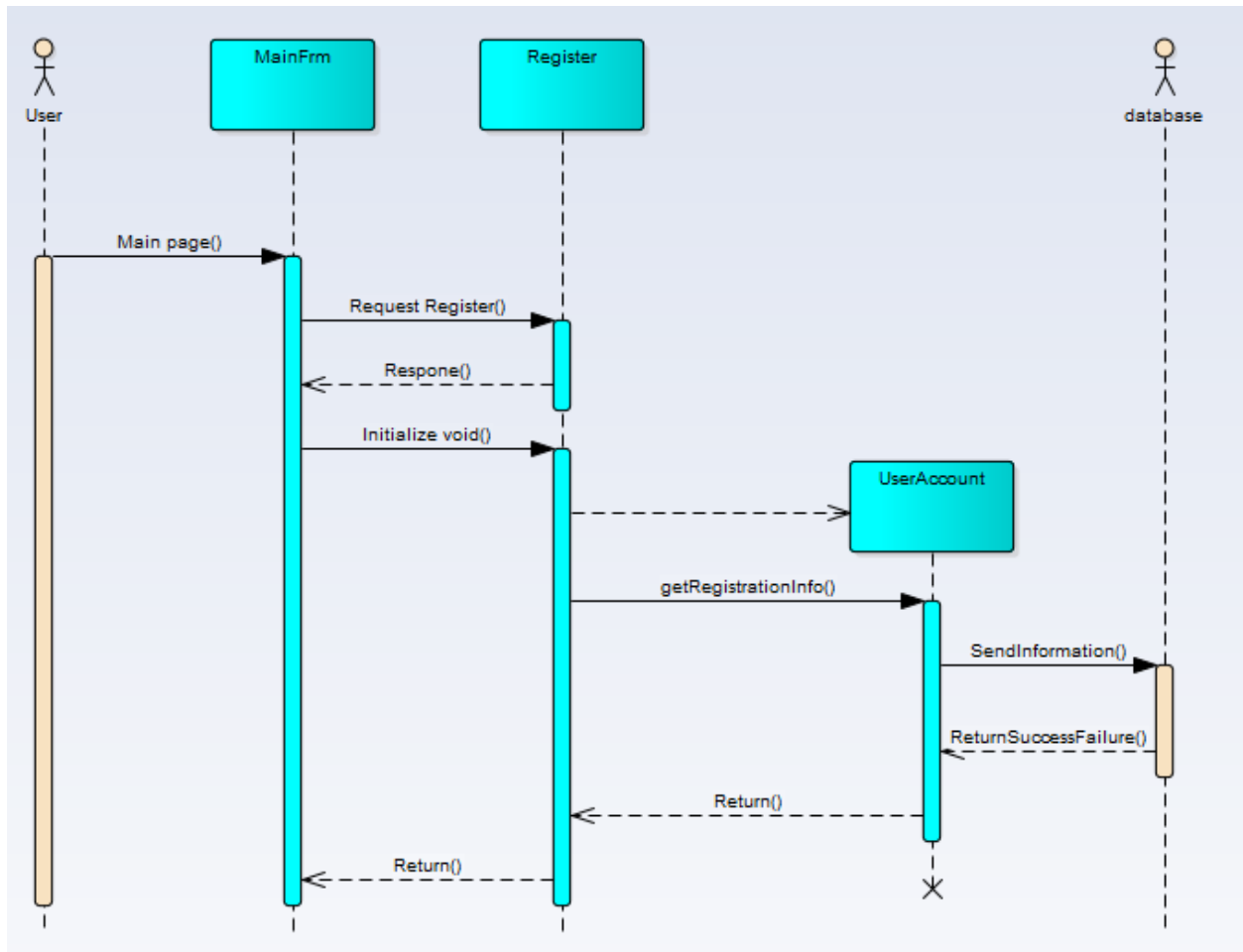
Hình 5: Sequence Diagram Register

User Usecase Type of Goods
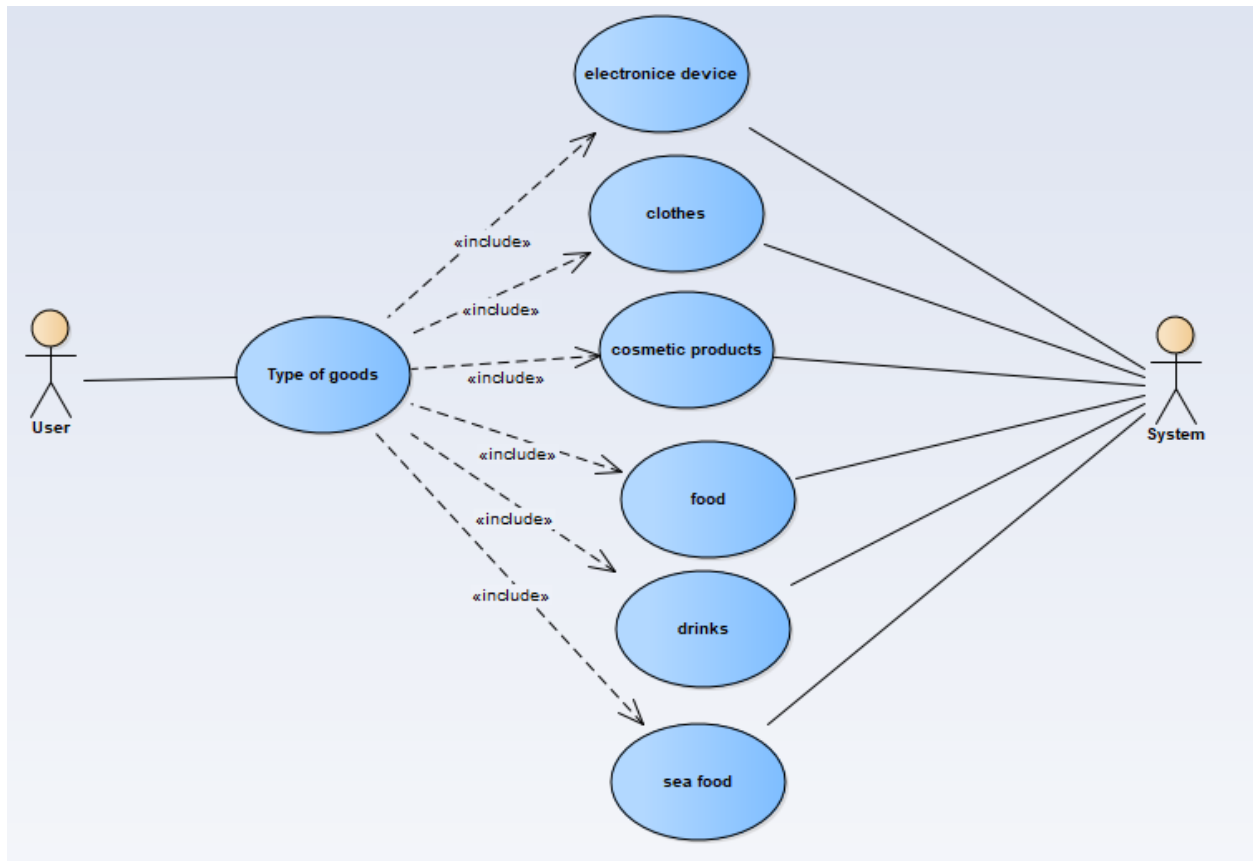
Hình 6: Use case Select type of goods

User usecase Type of goods	
Actors	User, System
Description	An user can choose a type of goods (electronic, cosmetic, food,…) to add into view cart in system
Data	Products that have chosen in view cart (system)
Stimulus	Interface including the list of goods, food
Response	Message: Add to cart successfully
Comments	The user may choose goods based on their purpose, types of goods and food in order to purchase
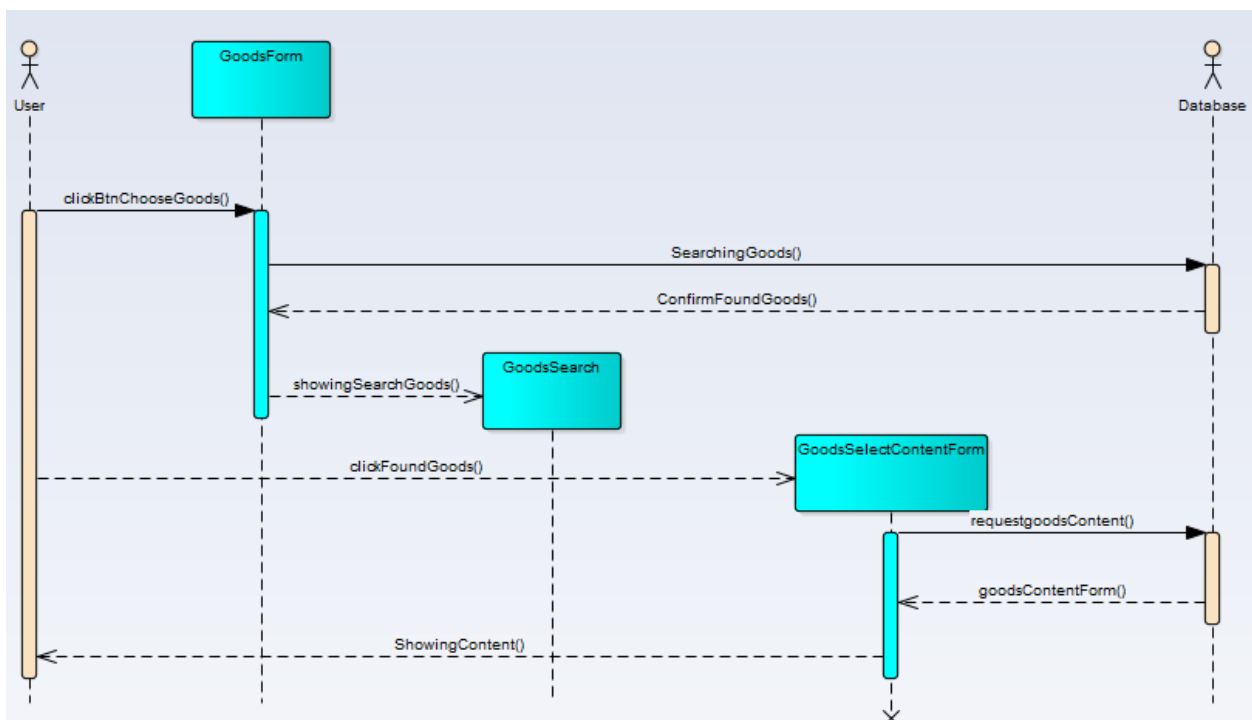
Hình 7: Sequence diagram Select type of goods

User Usecase Information Of Deliverier
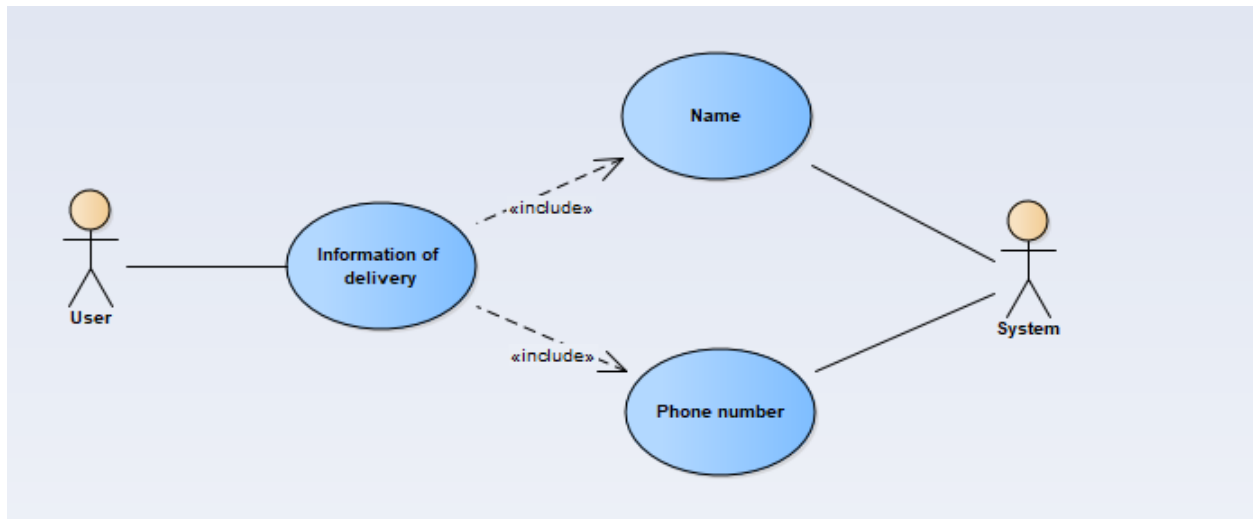
Hình 8: use case information of deliverier

| User usecase Information of delivery	
Actors	User, System
Description	User can view the information of deliverier
Data	Including name, phone number
Stimulus	Interface include a form to represent information
Response	Message: Information of deliverier
Comments	The user must watch information of deliverier that their products have purchased

User Usecase Timer
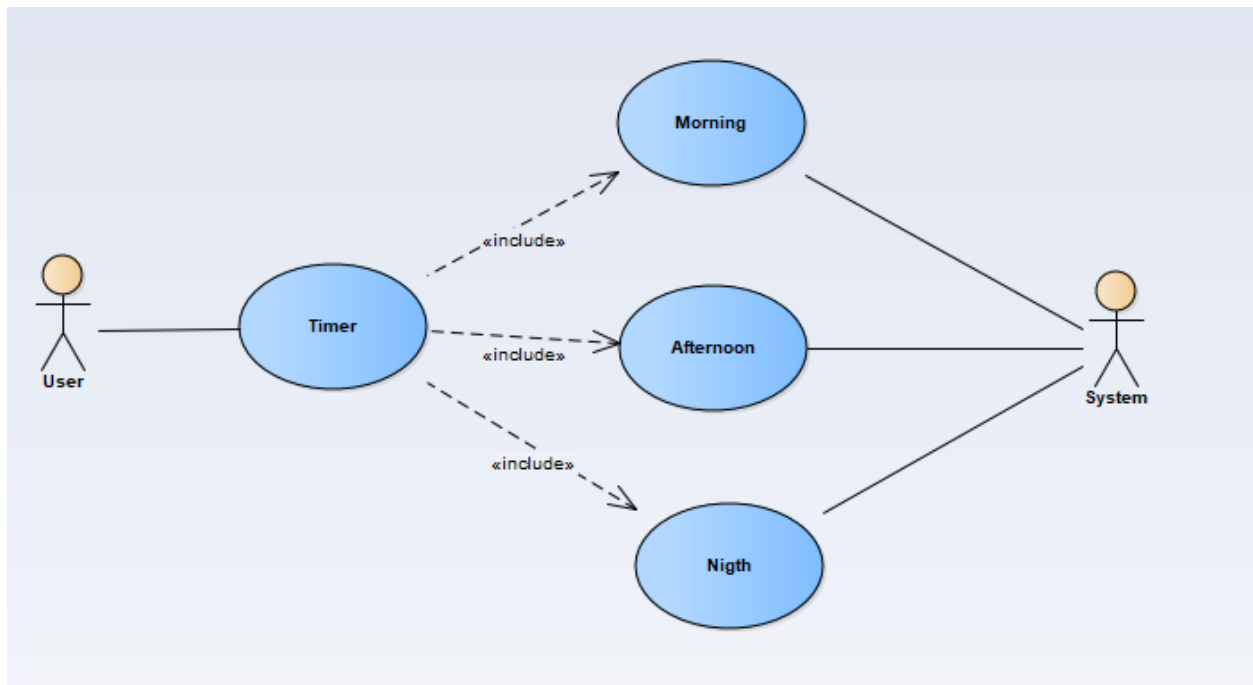
Hình 9: Use case of Timer

User usecase timer	
Actors	User, System
Description	An user can set delivery time
Data	User's input
Stimulus	Interface include input form (morning, afternoon, evening)
Response	time form
Comments	The user must set time so that the delivery can take place smoothly
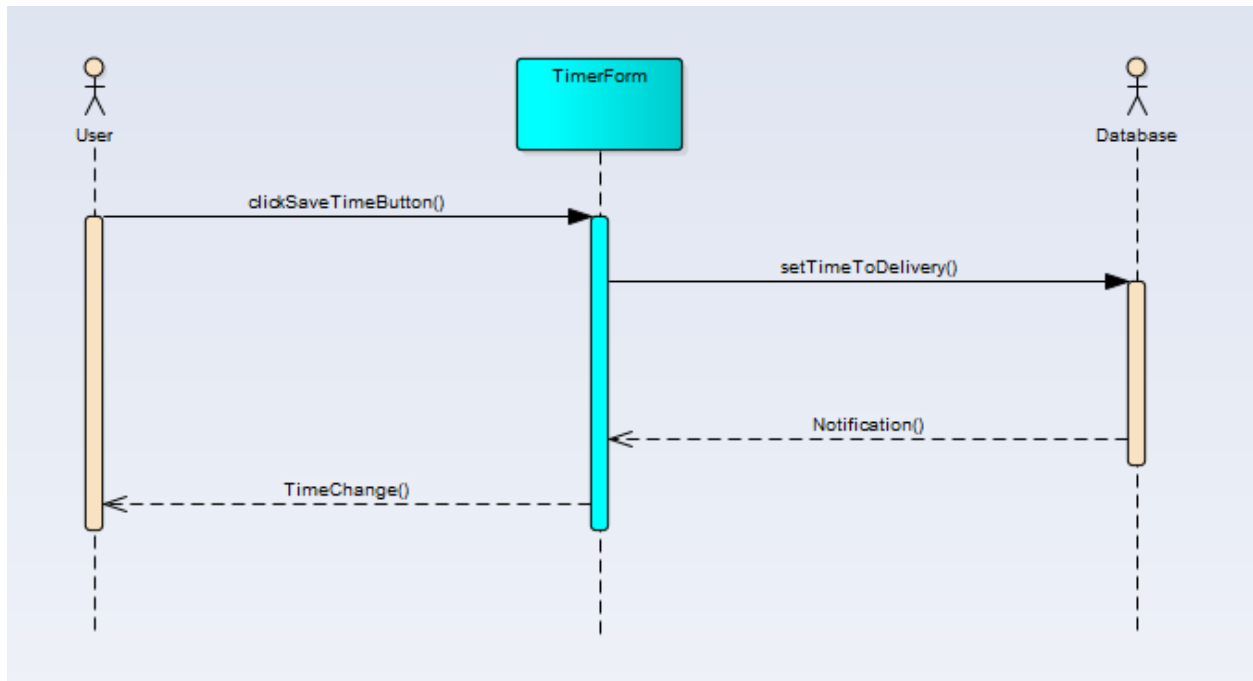
Hình 10: Sequence diagram of Save time

User Usecase Type Of Delivery
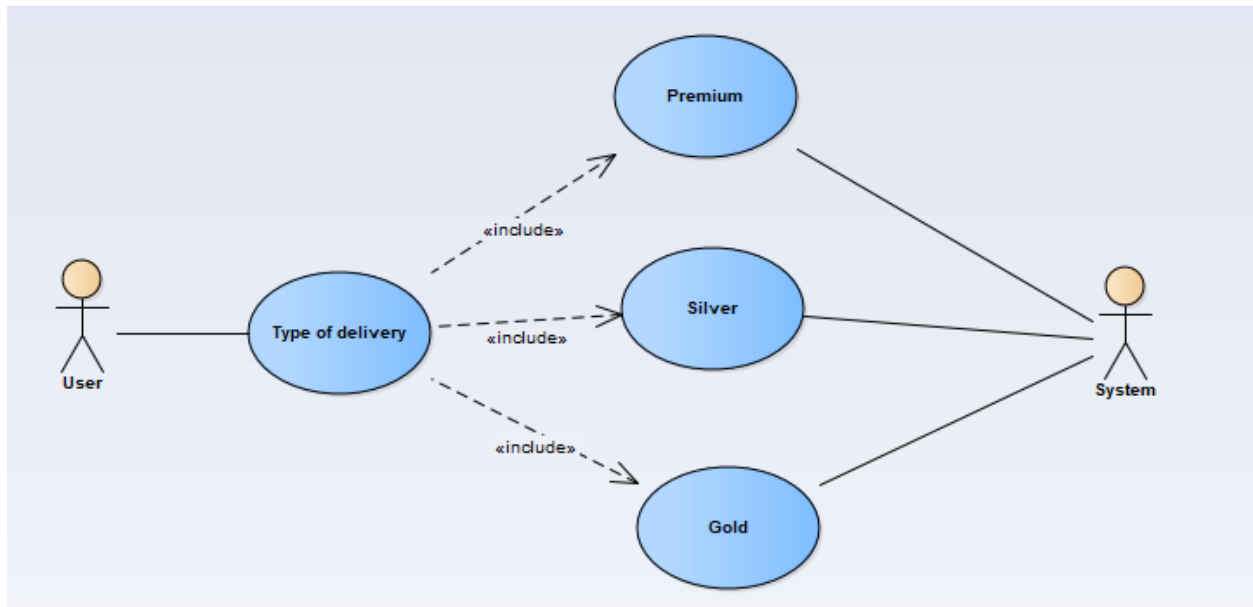
Hình 11: Use case of type of delivery

| User usecase Type of delivery	
Actors	User, System
Description	An user choose the form of delivery
Data	User's choice
Stimulus	Interface include input form and submit button
Response	Result and recommendation that is more suitable for convenience and price
Comments	The user must choose types of delivery(premium, silver, gold) to suit their demand

User Usecase Payments
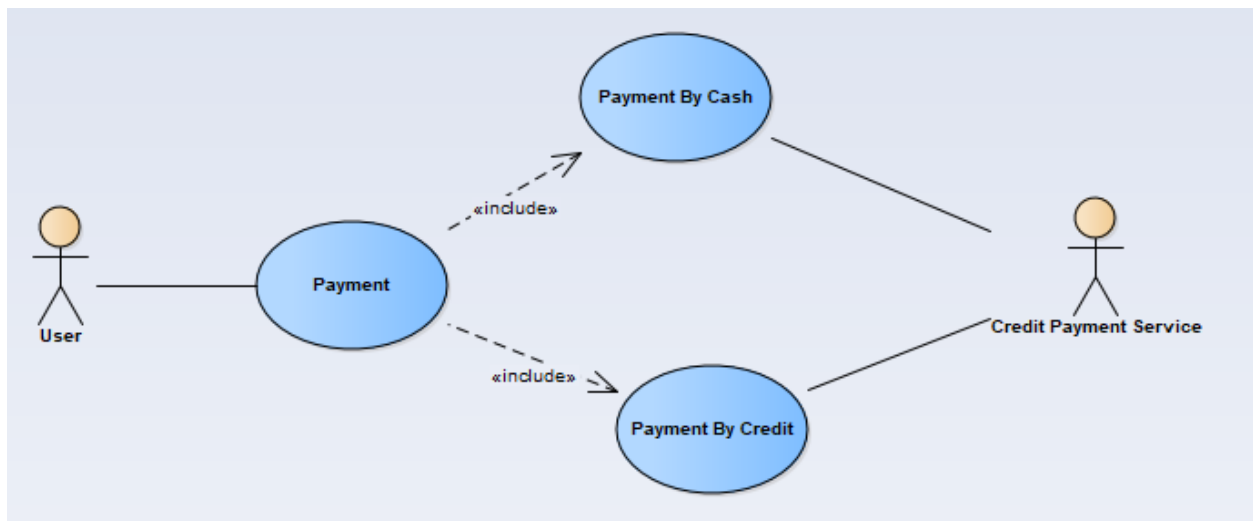
Hình 12: Use case type of payment

| User usecase Payments	
Actors	User, Credit Payment Service
Description	User can choose types of paying
Data	User's choice
Stimulus	Interface include input form and confirm button
Response	You have chosen payment by …(cash or credit)
Comments	Users can choose the payment method that suits them

User Usecase View Cart
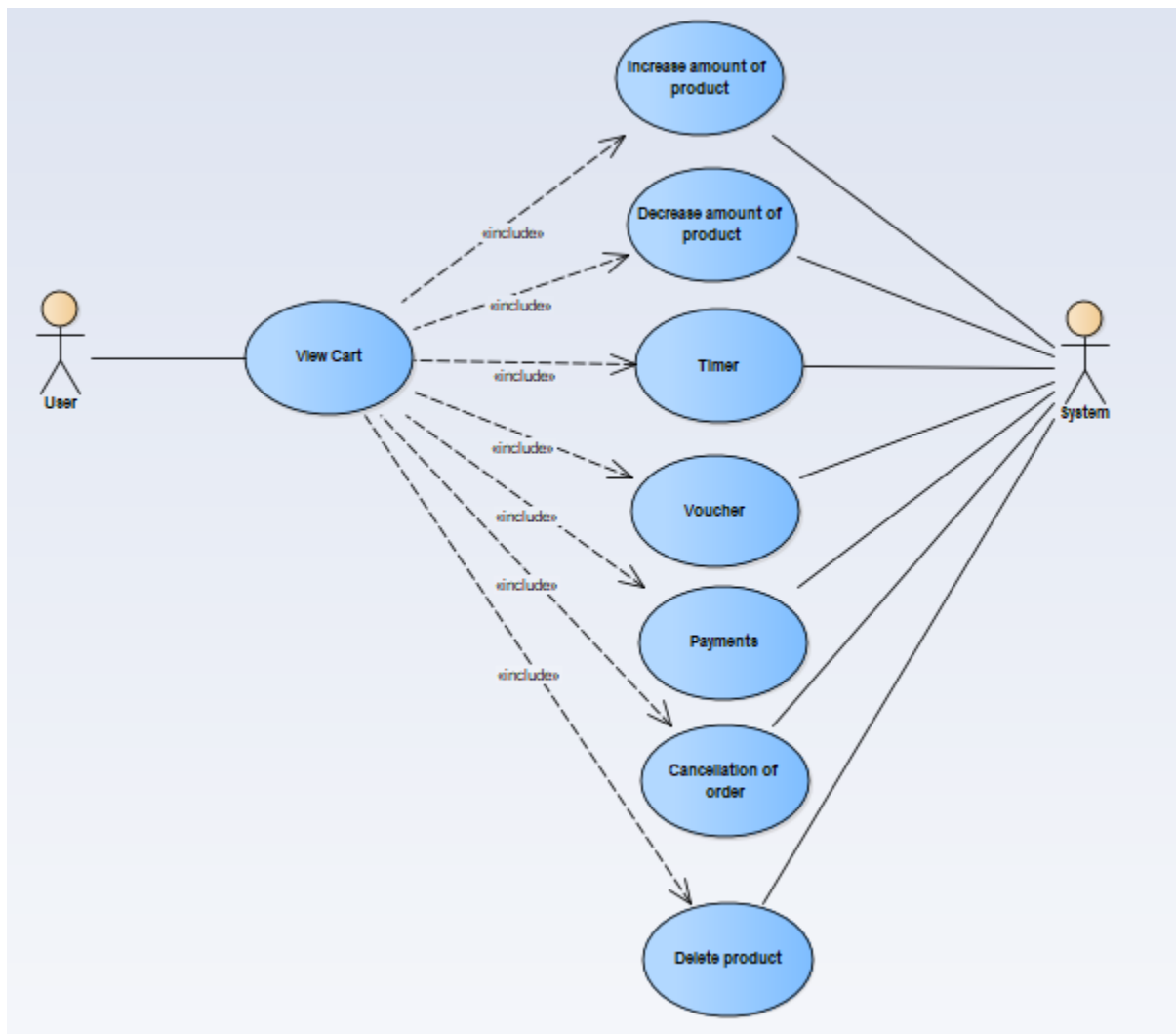
Hình 13: Use case view cart

| User usecase View cart	
Actors	User, System
Description	User can increase, decrease, delete product
Data	User's adjustment
Stimulus	Interface include input form and button
Response	You increased successfully

|	(Or You decreased successfully)
	(Or You deleted successfully)
Comments	The user may view cart about things that they purchased

Deliverer Usecase Delivery History
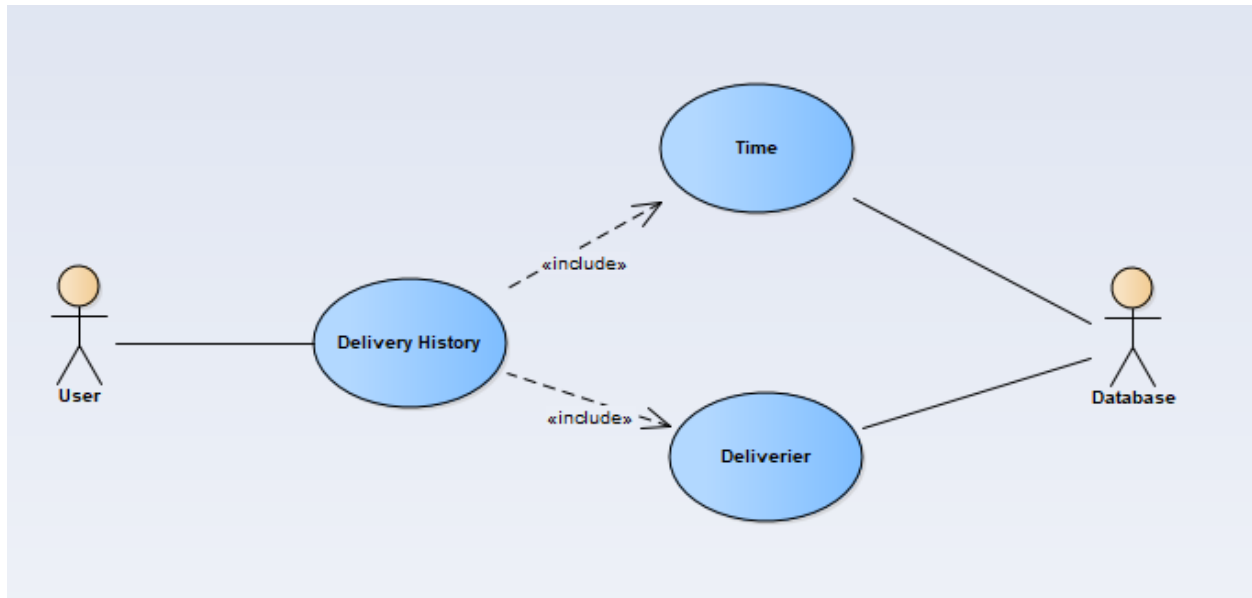
Hình 14: Use case Delivert History

| Delivery usecase Delivery History	
Actors	User, Database
Description	Review history (delivery time, delivery person)
Data	Information on delivery of goods
Stimulus	Interface include information form
Response	Interface include the list of delivery history
Comments	User can see the delivery history
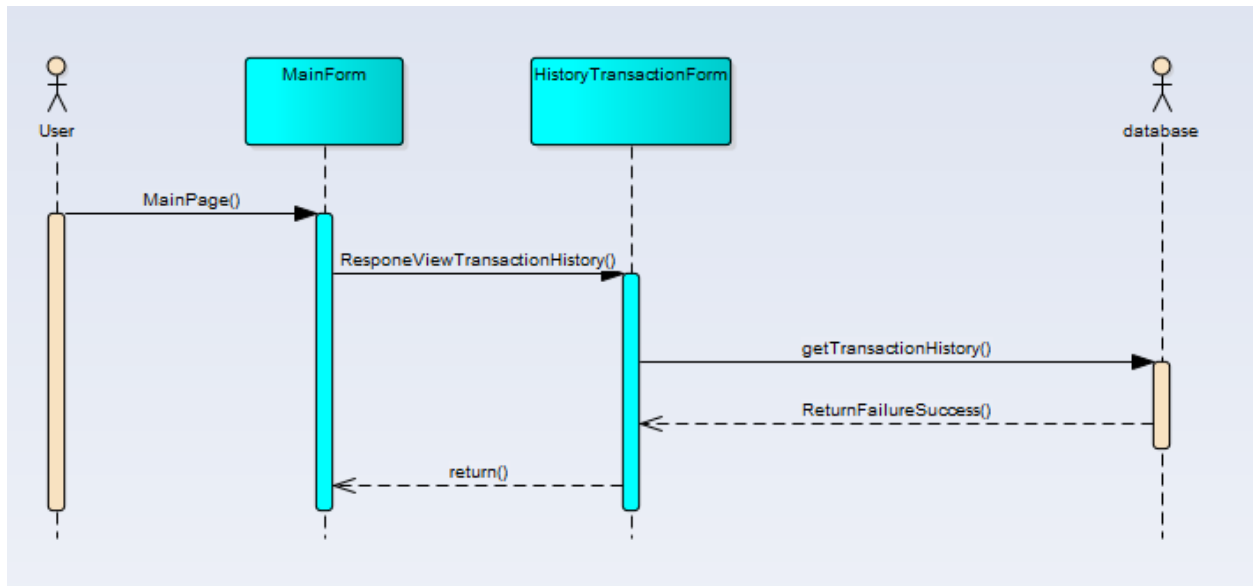
Hình 15: Sequence diagram of delivery history

Deliverer Usecase Information Of Recipient
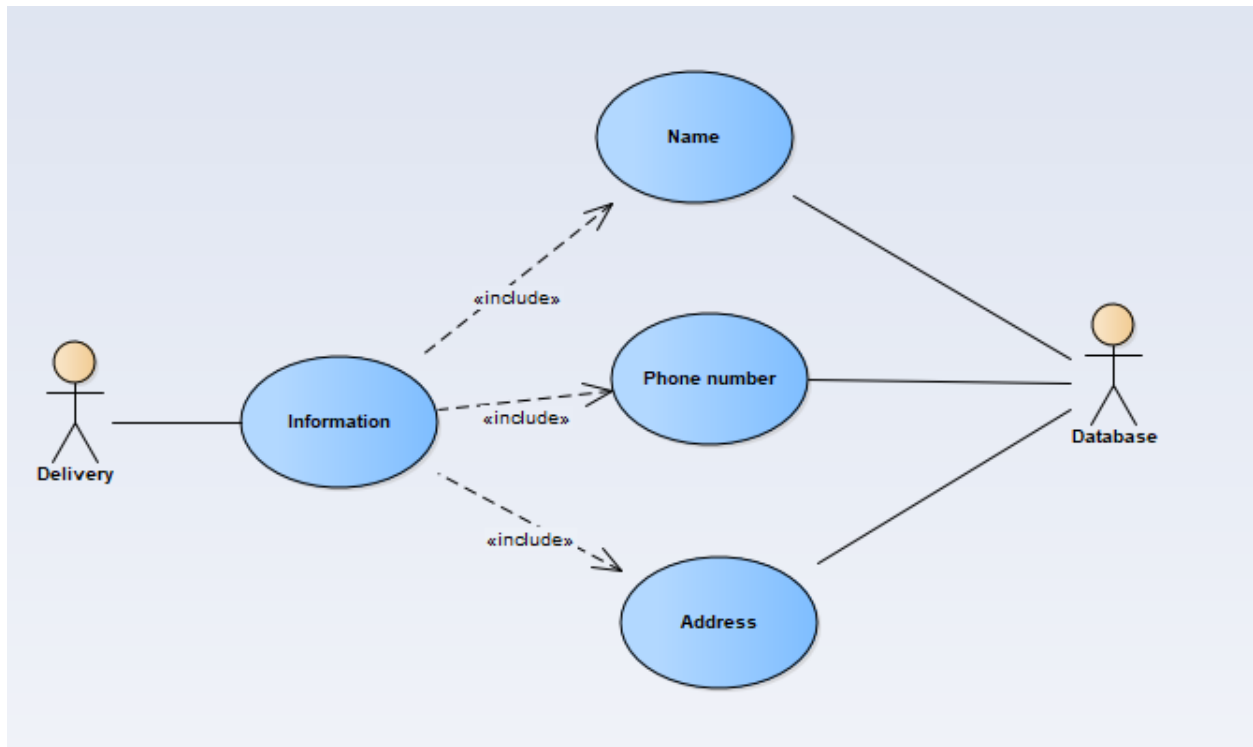
Hình 16: Use case of Information of Recipient

| Deliverer usecase Information of recipient	
Actors	Deliverer, Database
Description	Deliverer can see the personal information of recipients
Data	Information saved from database
Stimulus	Interface include information form
Response	Recipient's information
Comments	the carrier can view recipient's information into the form that save to the database

Staff Usecase Calculate Money For Goods
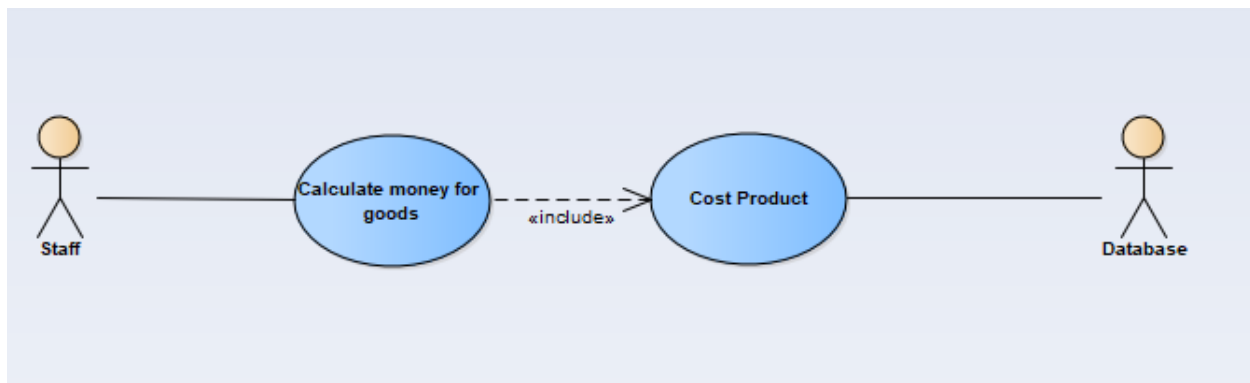
Hình 17: Use case of calculate money for goods

User usecase Calculate money for goods	
Actors	Staff, Database
Description	To calculate amount of money for goods that purchased
Data	Money(database) and staff's input
Stimulus	Interface include input form
Response	Amount of money
Comments	The staff can see the price of each products and calculate total goods purchased

**User Usecase Cancellation Of Order**
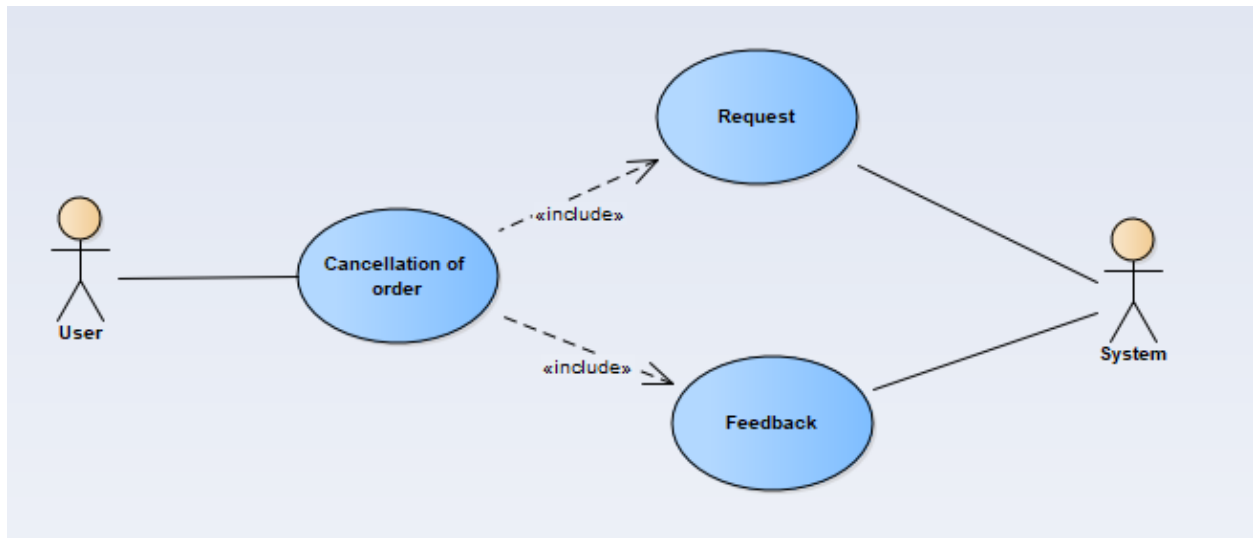
Hình 18: Use case of cancellation of Order

| User usecase Cancellation of order	
Actors	User, System
Description	To cancel a purchased order to the system
Data	User's confirm
Stimulus	The interface includes a list of orders
Response	User successfully cancel
Comments	The user can view and cancel their orders which they bought
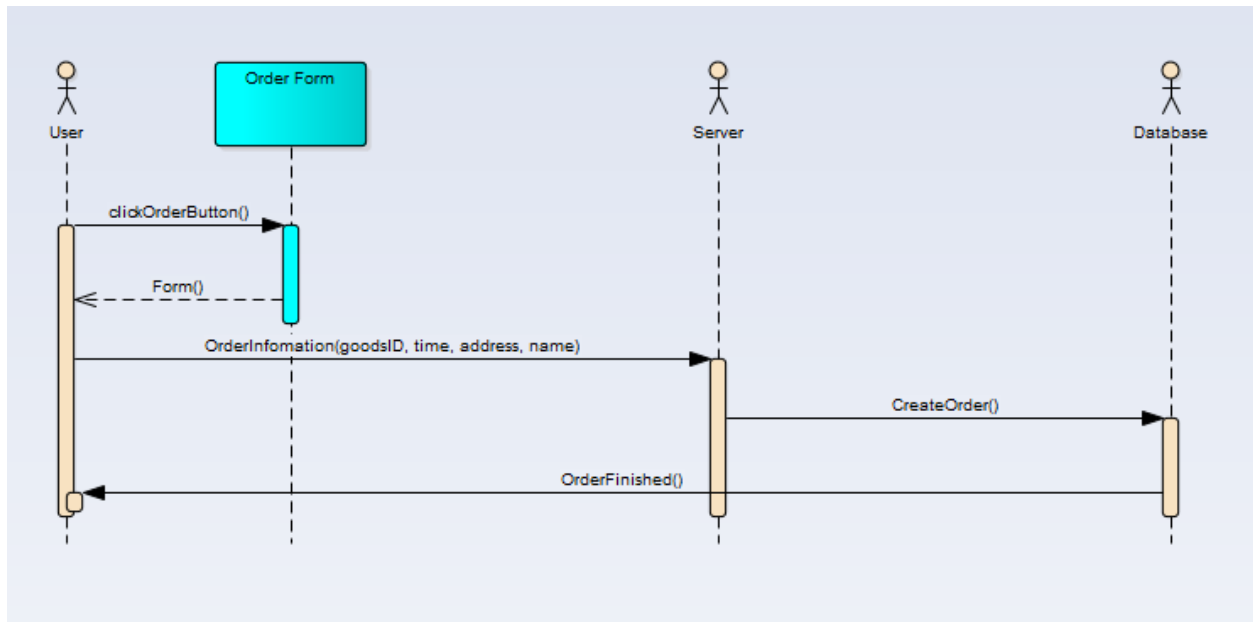
Hình 19: Sequence diagram of create order

User Usecase Evaluate
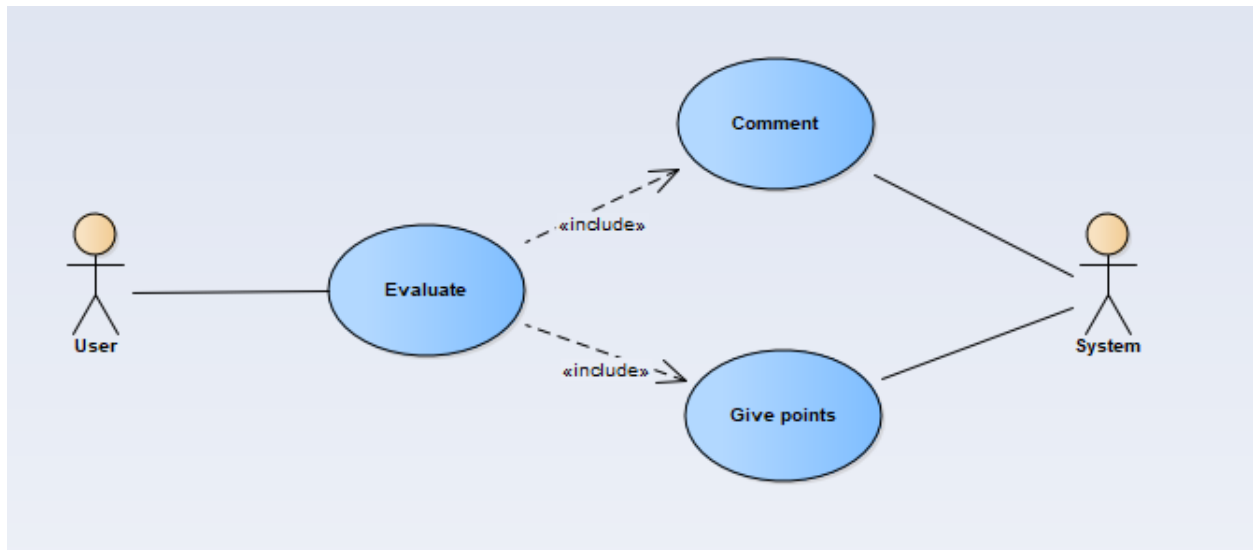
Hình 20: Use case of Evaluate

| User usecase Evaluate	
Actors	User, System
Description	User can evaluate shops or products to the system
Data	User's evaluate
Stimulus	Interface that is an evaluate form and feed back from stores
Response	Evaluate has been saved successfully
Comments	The user can be feedback and evaluate about the quality of purchased products
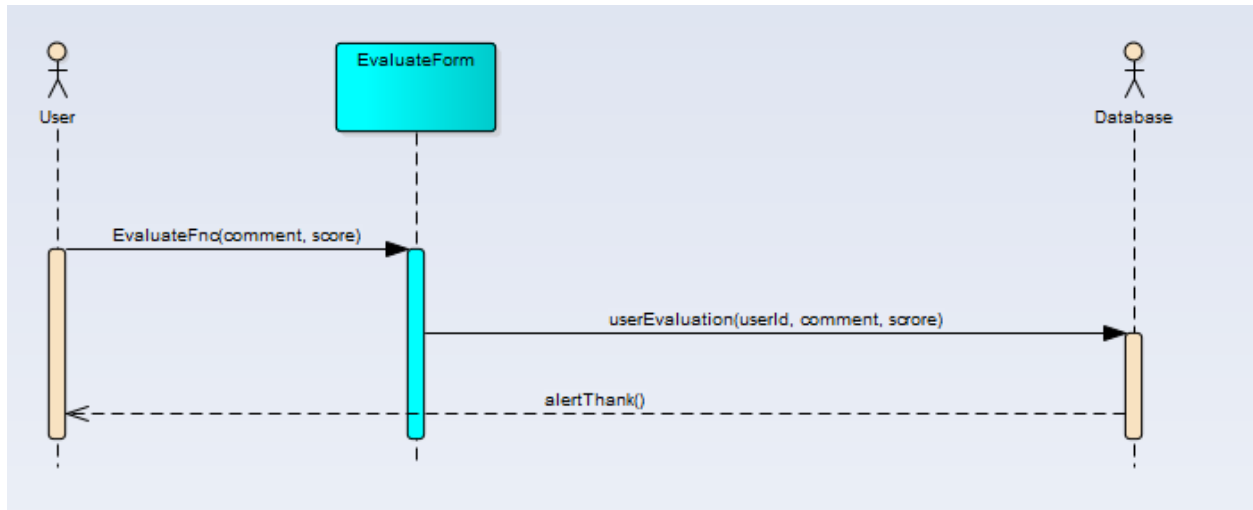
Hình 21: Sequence diagram of Evaluate

User Usecase Voucher
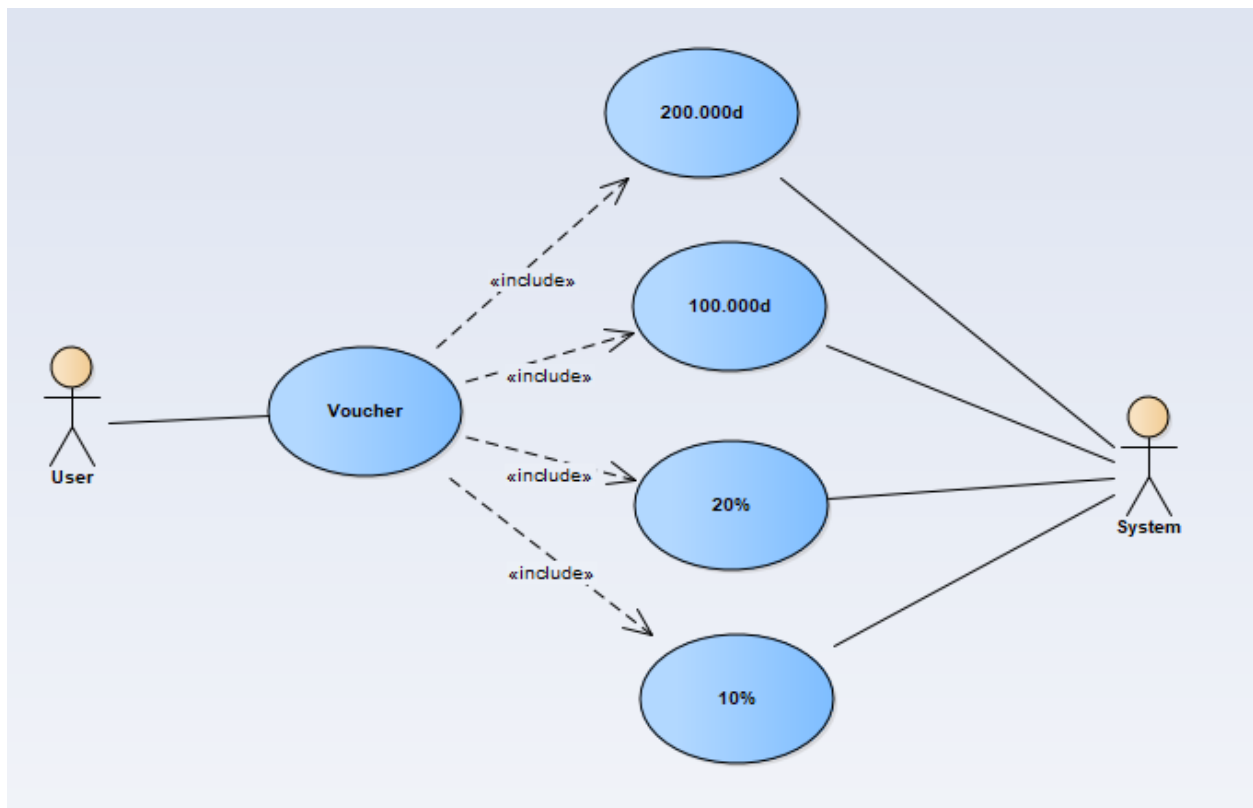
Hình 22: Use case of Voucher

User usecase Voucher	
Actors	User, System
Description	List of other voucher for user apply from the system
Data	User's choice
Stimulus	Interface include the list of other limited vouchers
Response	Vouchers today have
Comments	Users can choose coupons to discount products they have purchased
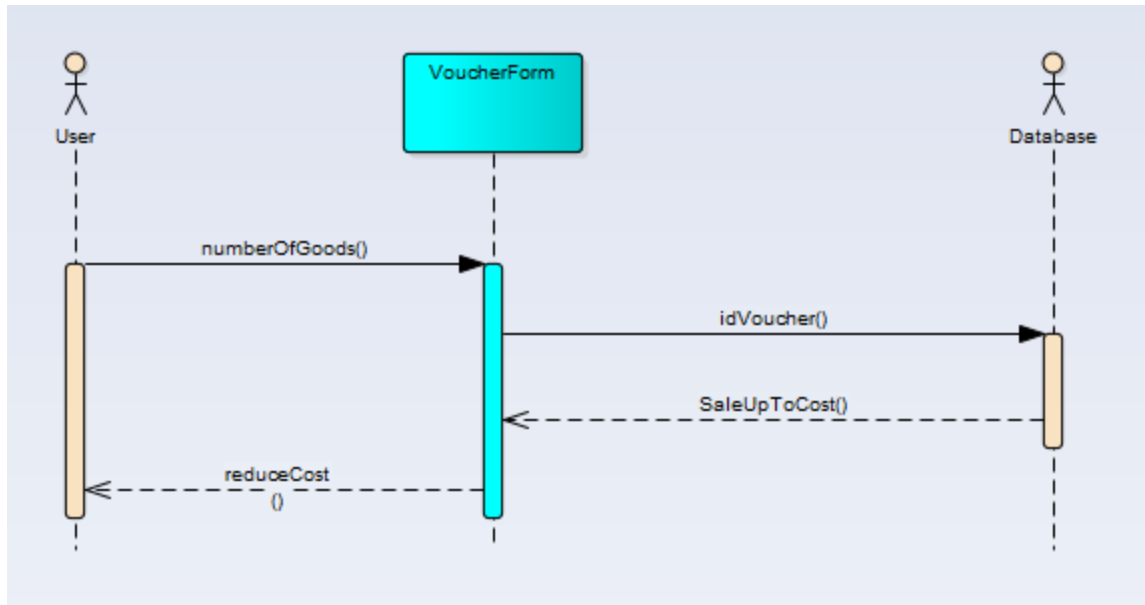
Hình 23: Sequence Diagram of Voucher

User Usecase Location
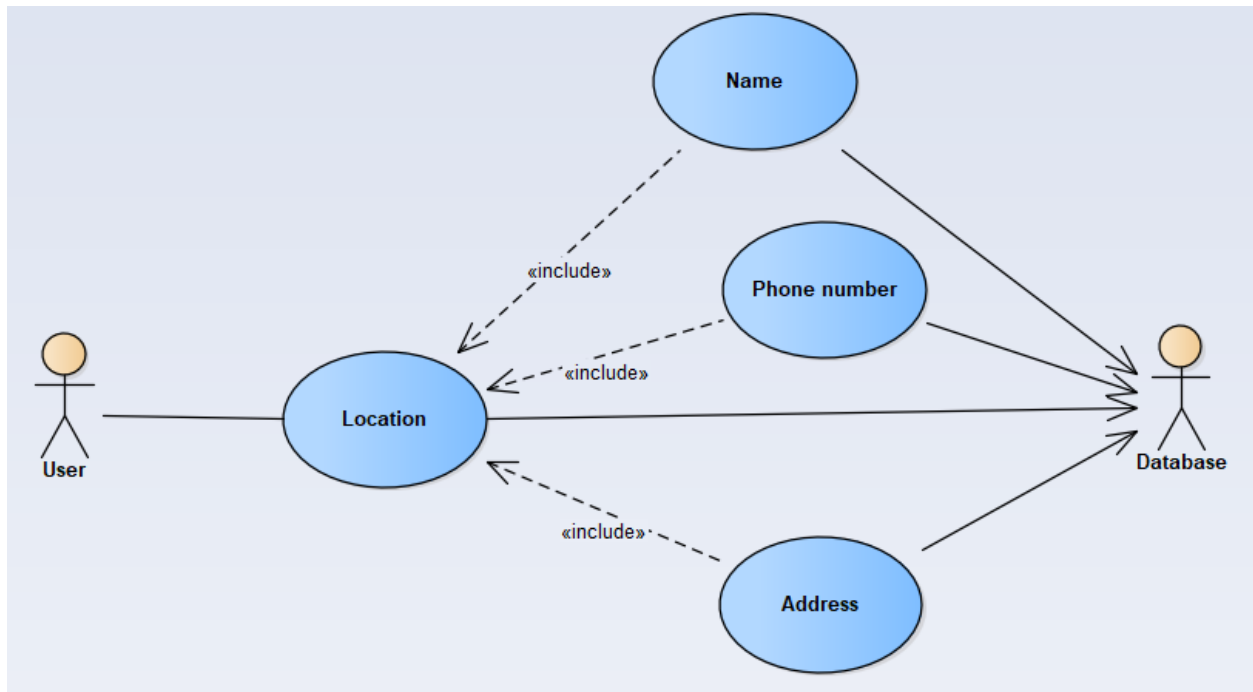
Hình 24: Use case of Location

User usecase Location	
Actors	User, Database
Description	User can enter information about their location (name, phone number, address)
Data	User's input
Stimulus	Interface is a form that holds the user's location information
Response	Information has been updated successfully
Comments	The user can enter and add their information about the delivery location for their convenience

Chapter 8: System Evoluation

The purpose of the fast delivery app is to help users optimize the time, high safety, can ensure the safety of the goods at the maximum. We provide customer experience with fast delievery services and variables such as convenience, hedonism encouragement, time-saving alignmen. Information of the user is always confidential and reputable.

RFID: This app has able to determine where his order may be going and the status of the order, can track as well as locate the most commonly delayed, lost or damaged items.

Guess the delivery time: This app will rely on the time of order to predict the time of arrival and delivery time concretely to help users arrange the appropriate time. Users can choose from many different delivery forms (silver, gold, prenium) depending on the needs of each person.

Chapter 9: Appendices

❖ **Application Requirements**

Operating system	IOS, Android, Windows Phone
Front end	Invision Studio
Database	mockAPI (mockapi.io)
Connectivity	The data subjects are the carriers
Report	Data Report

❖ **Hardware Requirements**

RAM	130MB or higher
Hard Disk	8GB or higher
Computer Processor	AMD Ryzen 3 3300X
Clock Speed	700 MHZ Processor

Chapter 10: Index

❖ Normal Alphabetic Index

1. Preface

2. Introduce

       2.1 Purpose

       2.2 Document Conventions

       2.3 Scope

       2.4 Overview

3. Glossary

4. User requirements definition

5. System Architecture

6. System Requirements Specification

       6.1 Functional Requirements

       6.2 Non-Functional Requirements
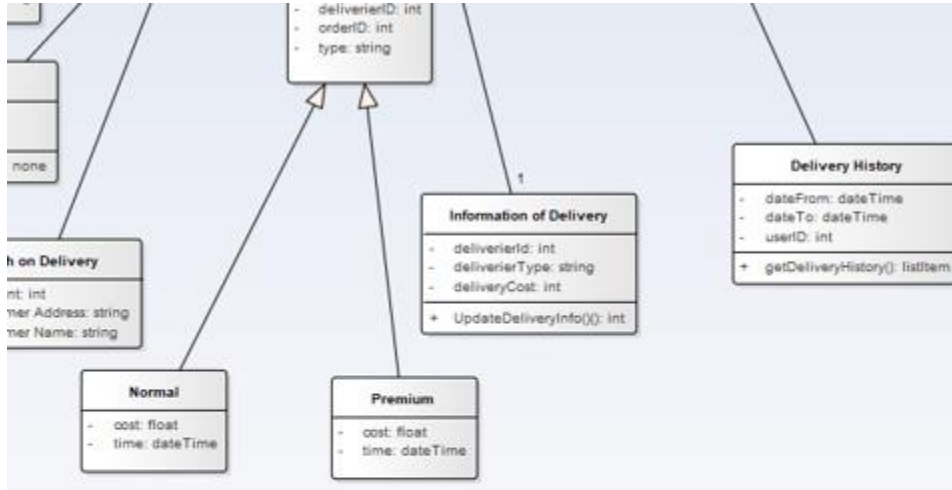
7. System models

8. System Evolution

9. Appendices

10. Index

❖ Index Function

ID	Requirement
1	Login
2	Register
3	Type of Goods
4	Location
5	Timer

❖ Index Of Diagram

"Hình 1 –> n" is index of diagram

Hình 1: Class diagram

Hình 14: Use case Delivert History