The Project Report:
The Roman Holiday Online Store
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1. Problem statement.

Online shopping is the act of purchasing products or services over the Internet. It has grown in popularity over the years, mainly because people find it convenient and easy to bargain shop from the comfort of their home or office. One of the most enticing factor about online shopping, particularly during a holiday season, is it alleviates the need to wait in long lines or search from store to store for a particular item. In the United States, online store has developed rapidly, for example, Amazon, Wal-Mart and so on.

In China, online stores only use short time to develop from nothing. And in recent years, more and more shopping behavior has been done through the internet. Step by step, online shopping has been accepted by people in increasing number and we could imagine that online store will be much more popular in the near future.

Unfortunately, not all the shopping webs could accomplish a complete list of goals and not all product company has its online shop, especially in china . So we are trying to create a online shopping mall system, based on the knowledge we have learned, to do a better job.

2. Proposed solution.

We are trying to create a web system for online shopping. The system will have two foundational parts, foreground part and background part.

In the foreground part, the user could browse, search products and also could see the latest announcement. The environment is just like in real market. The user could use a tool called shopping cart and choose products putting in it. And then the user could do some other jobs like checking, changing numbers, removing items and so on. The user could check their order forms and save the form through E-mail.

In the background part, the merchant could manage related information, log and change data. And the merchant could inquire and manage registered users.

For the system, it has 9 main tables, for example, the BBS table, the goods table, the manager table, the member table, the order table, the order detail table, the rebate table, the sub type table and the super type table.

There are several technologies we need to use, for example, Database, JAVA, JSP, JavaBean, HTML, JavaScript, JDBC, Tomcat, Servlet, Api and so on. And in my opinion, JSP+Servlet+JDBC+JavaBean could be one of the popular combinations for building e-commerce platform.

3. Architecture:

3-1. Foreground:

(1) Main function model:

New goods, Goods on sale, Sell sort, Member and Goods search.

(2) Main architecture:

<a>.

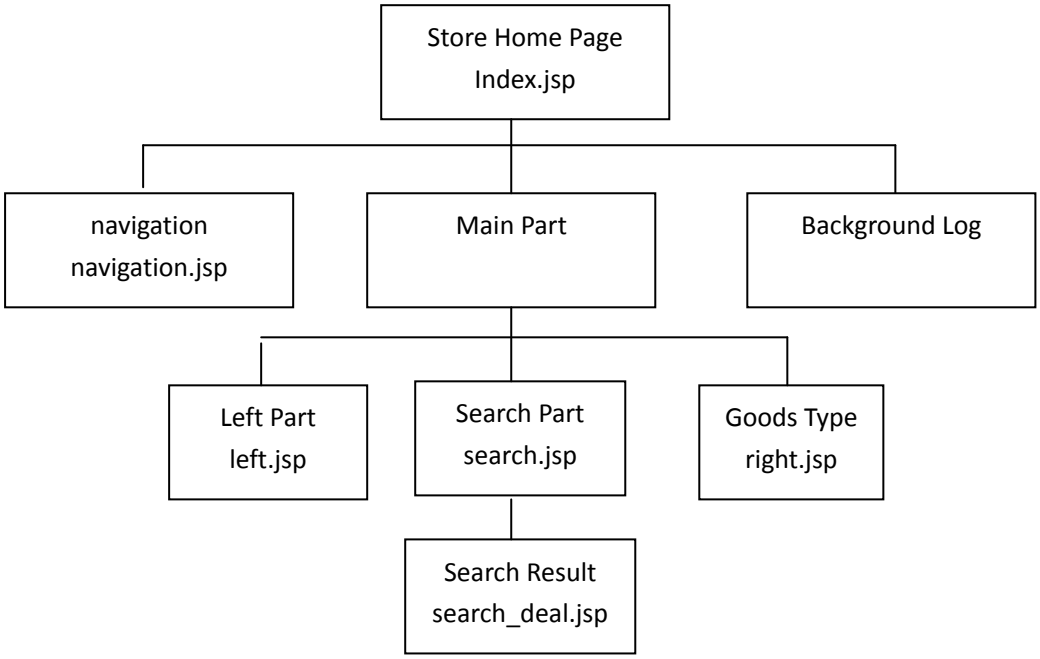

Figure 1

<b>.

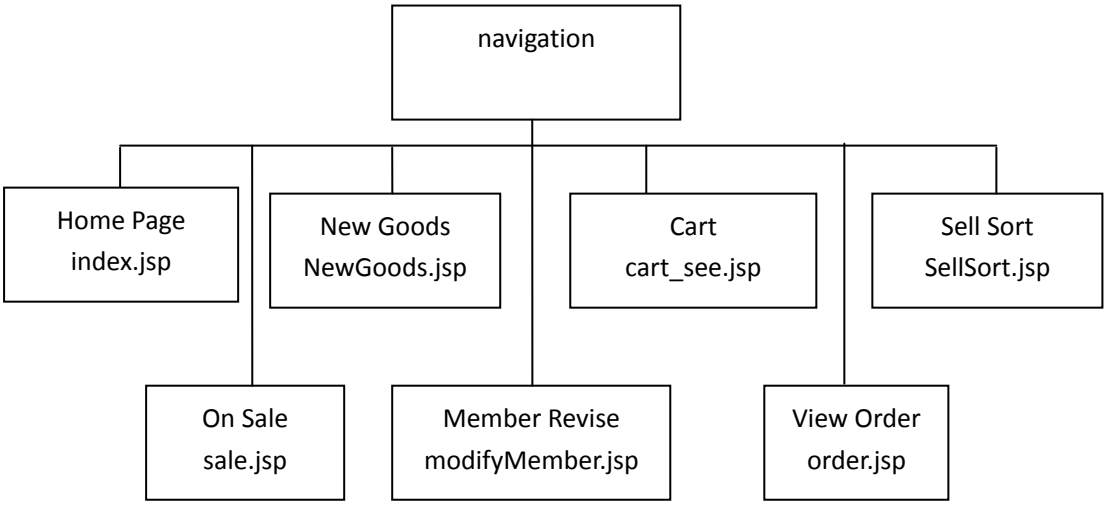

Figure 2

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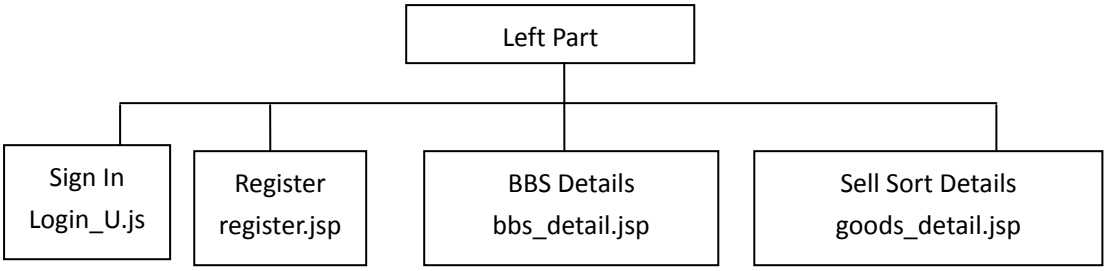

Figure 3

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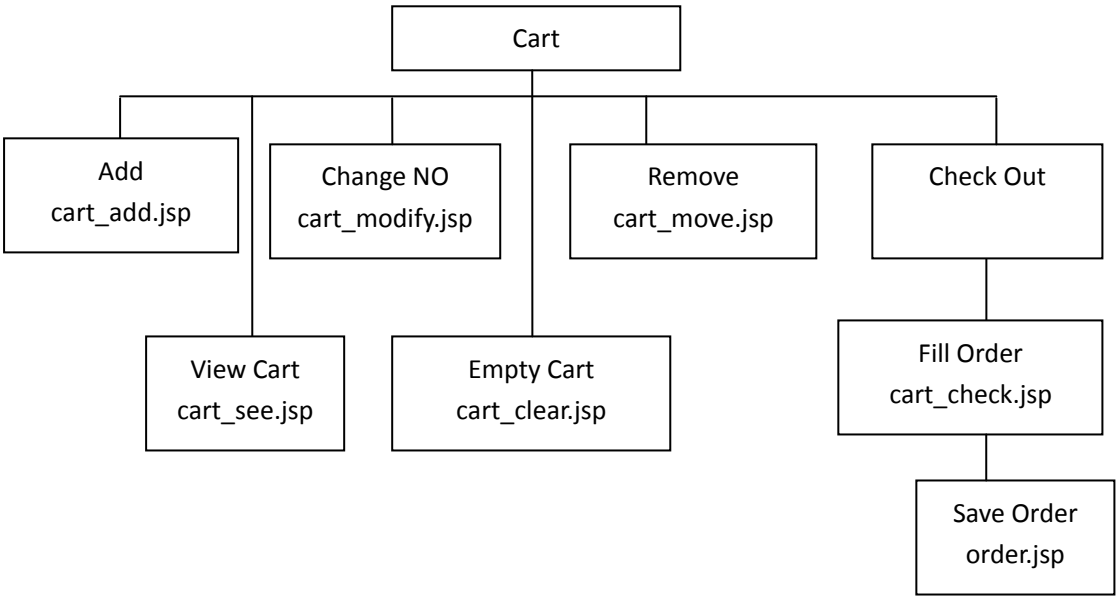

Figure 4

3-2. Background:

(1) Main function model:

Goods, Member, Order, BBS management.

(2) Main architecture:

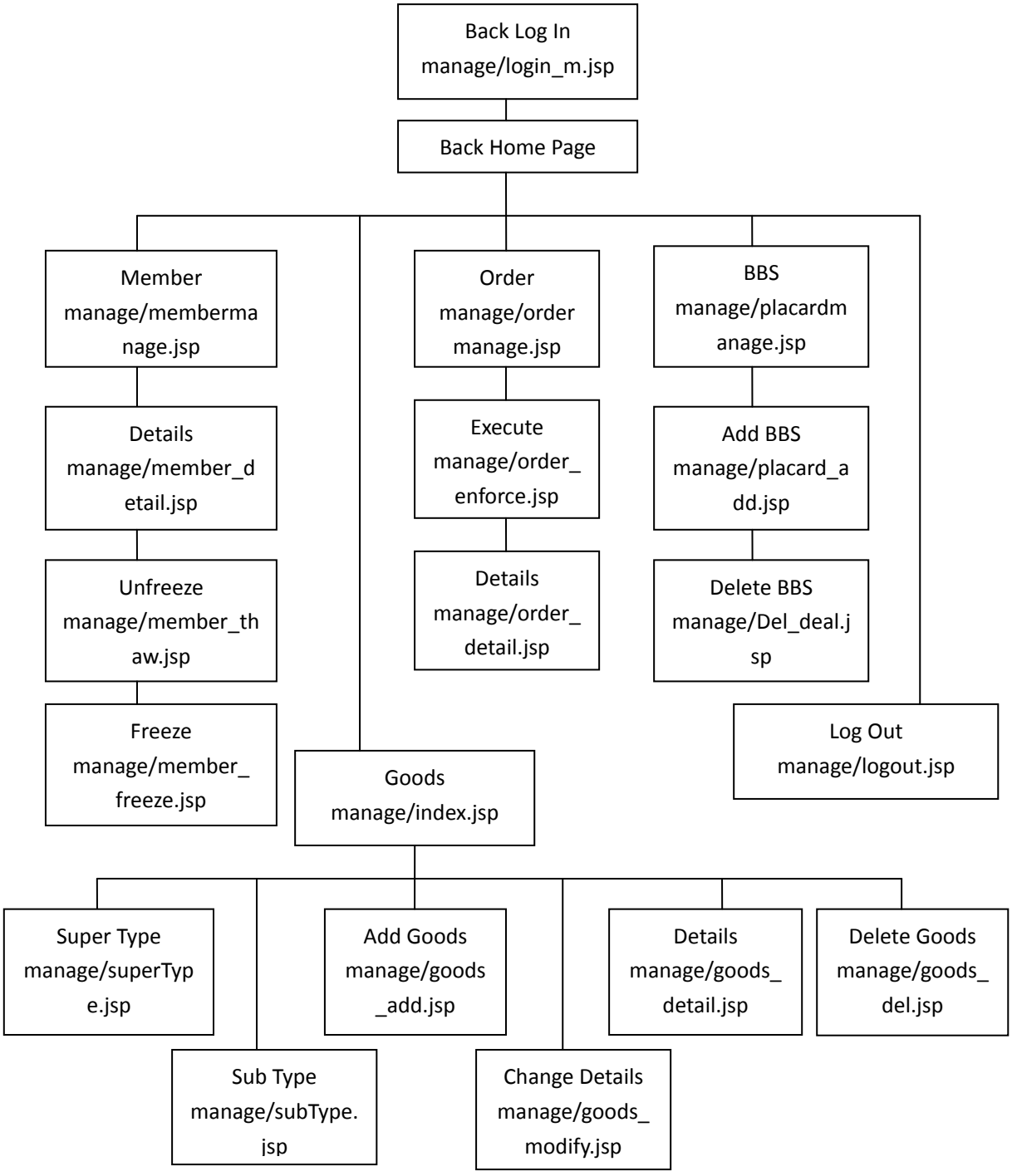

Figure 5

4. APIs Discuss

4-1 The APIs for database calling:

The eBay web service:

Application	Function	API				
		Trading	Finding	Shopping	Feedback	Product Service
Selling	publish	X				
	inventory	X				
	deal					
	feedback	X			X	
	buyer exchange					
	dispute	X				
	member information	X		X		
	goods details			X		
	product details					X
	search		X	X		
	history price					
Buying	search		X	X		
	goods details					
	history price					
	member information					
	purchase	X				
	buyer notice					
Notification	Proactive notice					
	goods details			X		
Research	goods details			X		
	history price					

Table 1

4-2 Some data source for database building:

(1) Amazon: http://www.amazon.com

(2) Tmall: http://www.tmall.com/

(3) Ebay: http://www.ebay.com/

4-3 JDBC:

As we all know, JDBC is also a kind of API.

5. Technology stack that you used

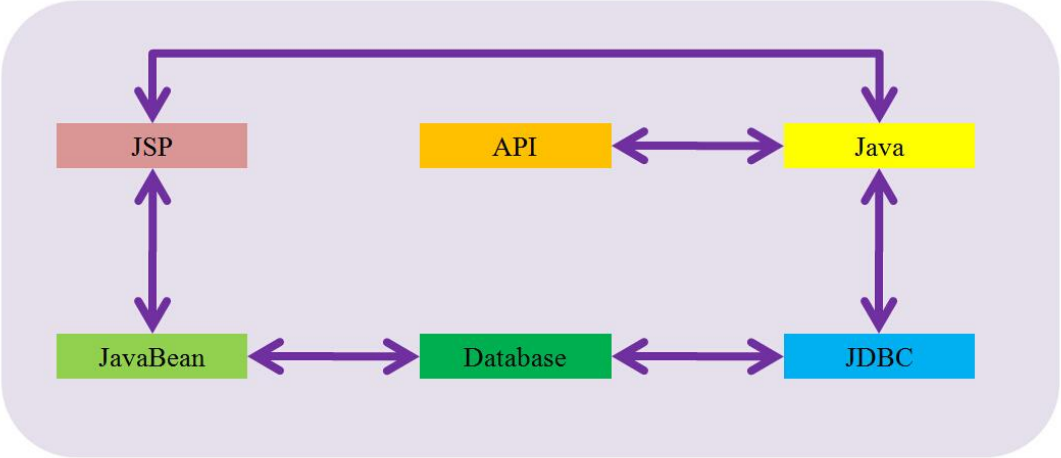

Figure 6

6. Use cases.

6-1. The foreground part: 15 main use cases

6-1-1 Goods:

(1) New goods: look for new goods.

(2) Goods on sale: look for the goods which is on sale.

(3) sale sort: look for the sale sort.

6-1-2 Search:

(1) Search by type: search goods by their types.

(2) Search by key words: search goods by some key words.

6-1-3 Cart:

(1) Add to cart: add goods to your shopping cart.

(2) View the cart: look your cart details.

(3) Empty the cart: remove all the goods in your cart.

6-1-4 Check out:

(1) Fill the order details: write the order information.

(2) Check out: pay the order.

6-1-5 Member:

(1) Register: register to become a member.

(2) Sign in: log in as a member.

(3) Information revise: change your member details information.

6-1-6 Order:

(1) Query: look the order details

6-1-7 BBS:

(1) View the BBS: look the announcement details.

6-2. The background part: 6 main user cases

(1) Log in: log in as a manager.

(2) Goods management: manage the goods including goods details, types and so on.

(3) Member management: manage the member information and state.

(4) Order management: manage the order and execute the order.

(5) Log out: log out from the background.

7. Data model.

7-1. Some main entities:

(1) Manager:

The manager information includes the ID, name and password.

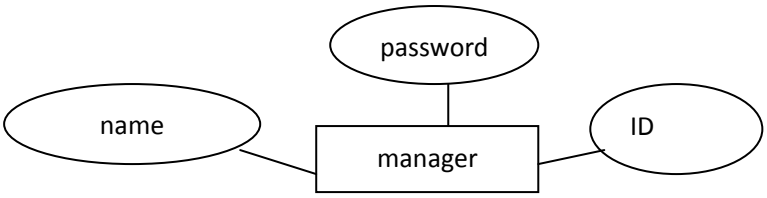

Figure 7

(2) Goods:

The goods information includes the goods ID, type ID, goods name, goods details, goods price, goods current price, goods image, update time, new or not, on sale or not, view times.

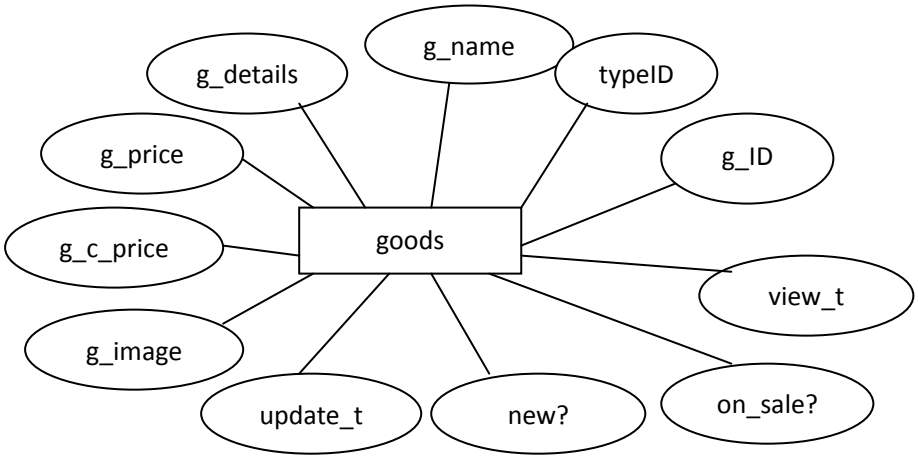

Figure 8

(3) Member:

The member information includes the member ID, username, password, real name, city, address, Zip, ID type, level, expenditure, telephone number, E-mail, freeze or not.

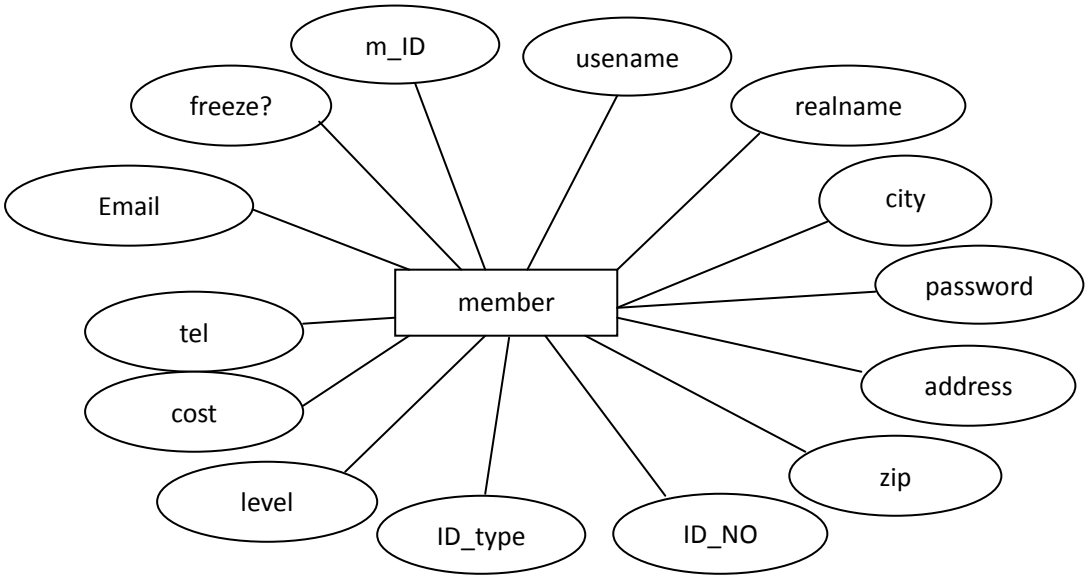

Figure 9

(4) Order:

The order information includes order number, quantity, username, real name, address, zip, telephone number, pay method, ship method, sale, order time, order work or not, remark.

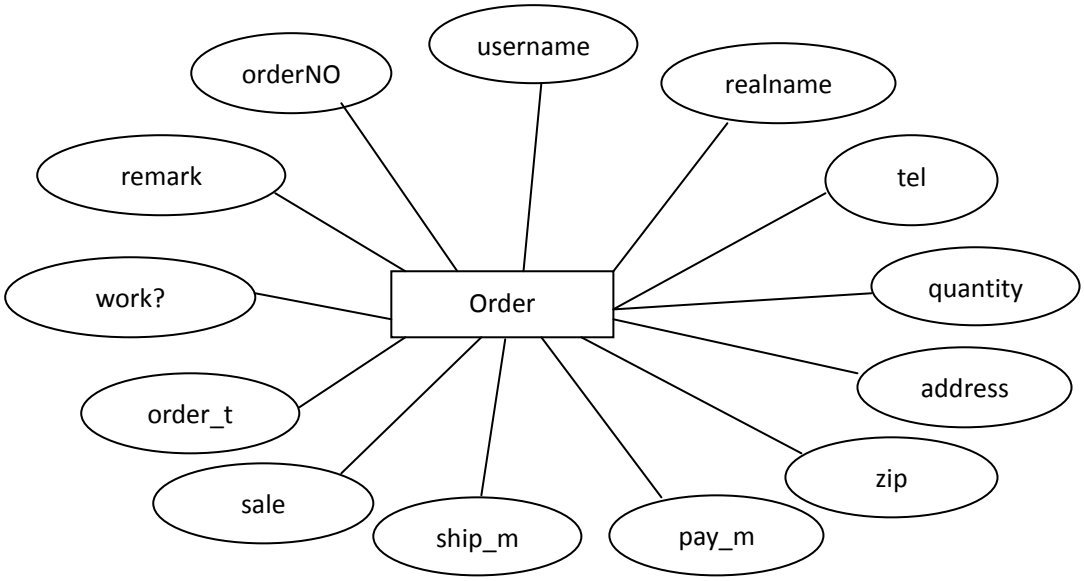

Figure 10

7-2. The UML diagram:

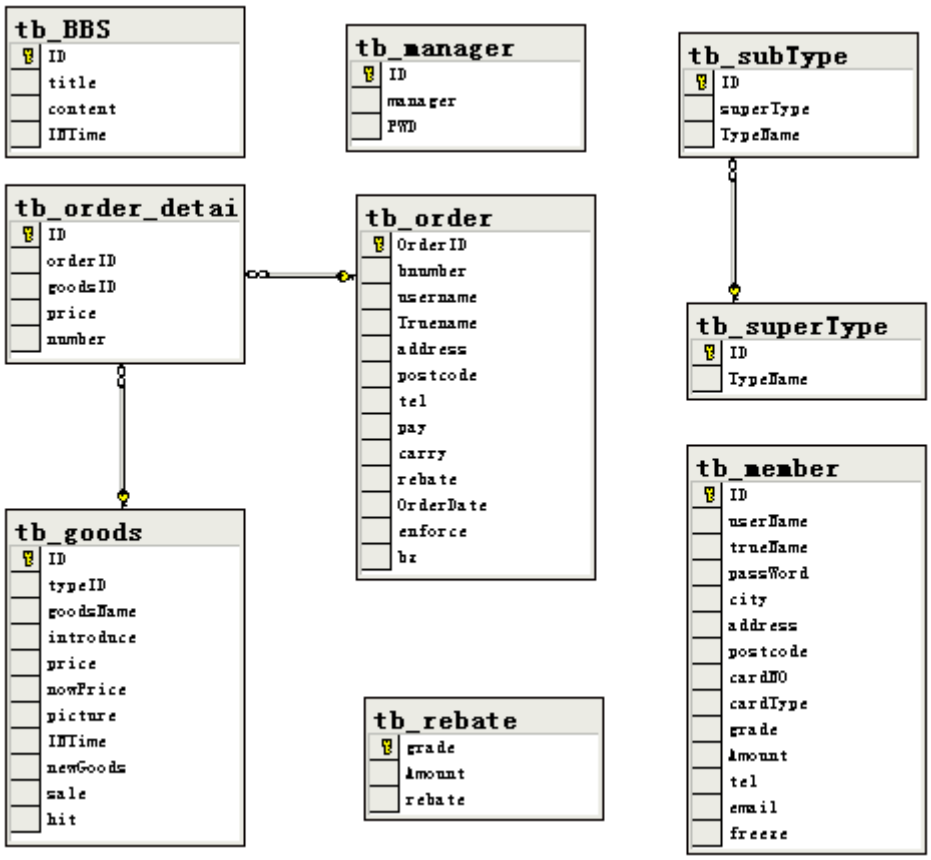

Figure 11