

CS309 Project Proposal

SUSTech Store

Team Members:

Jin Zhaoxuan, Lan Chenxi, Sun Yongkang, Wang Chenyu, Wang Zhihao

Feature Description

User Login & Account Management

It was Steven's first time to use SUSTech Store.

Didn't find any way to register a new account, a button named "[Login/Register](#)" attracted his attention.

He clicked the button, inputted his phone number and the verification code sent to his cell phone, and then he successfully logged into a new account with default avatar and nick name.

No word can describe how he disliked the default avatar and nick name. The first thing he did after logging in was changing avatar and nick name.

Then he entered the trade page, but only to find all the buttons invalid with a hint saying, "[You Should Fill In Your Student Card Number Before Trading](#)".

Annoyed, Steven completed all his user information, even the password and his introduction. Finally, he can access all the functions of SUSTech Store.

Days later, Steven accidentally lost his cell phone at Teaching Building NO.1. What's worse, he found this when he reached Lychee hill for the next lesson.

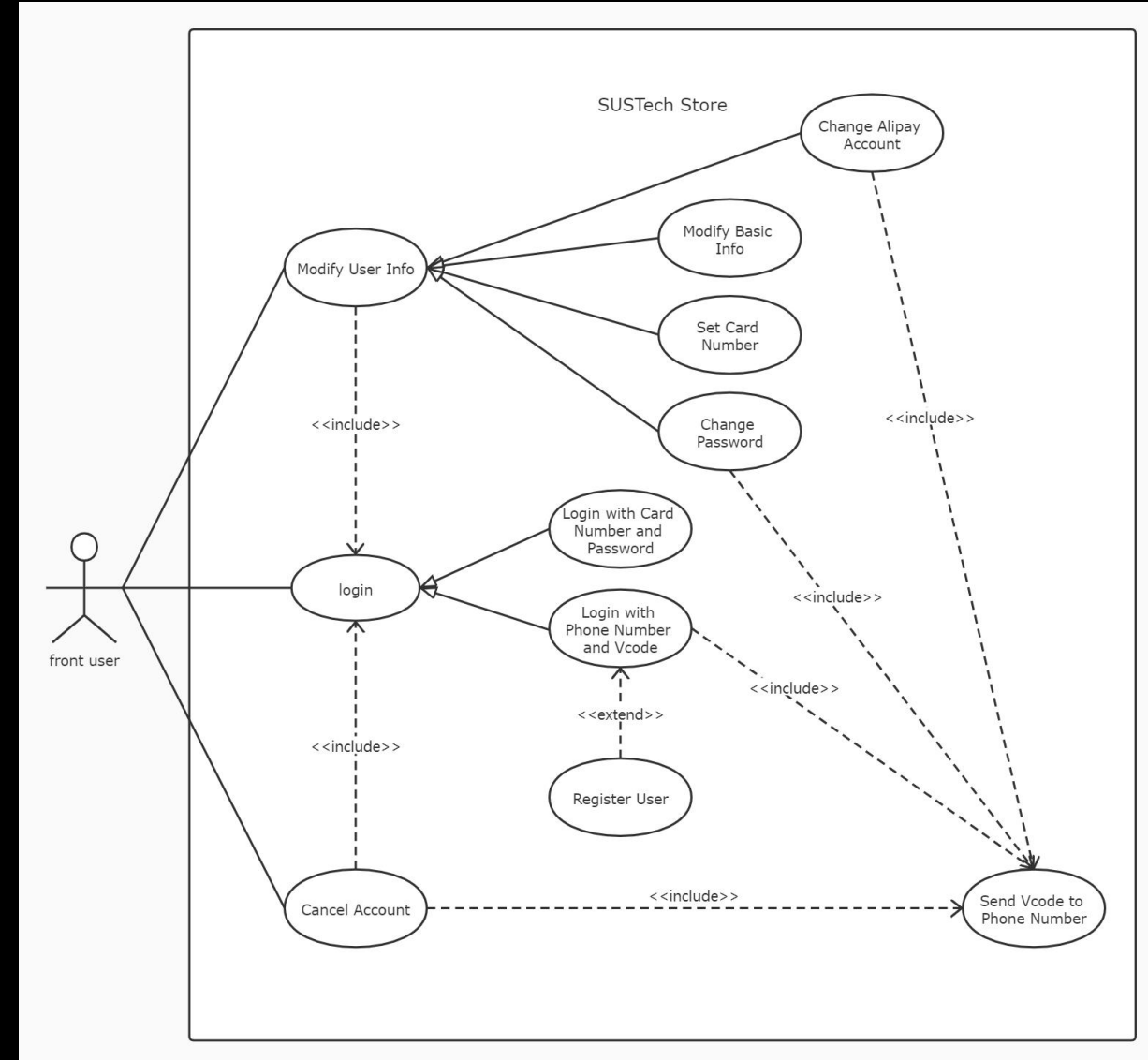
He entered SUSTech Store. Luckily, [since he had set password last time, he can log in with card number and password at that time.](#)

Finally, he found somebody to bring his cell phone for him. Steven was saved.

Feature Description

User Login & Account Management

- **No register.** When a user logs in for the first time, he can only choose to login with phone number and verification code. The system will detect that the user is a new user and automatically register an account for the user.
- **Fill in user information before trading.** Only after user fills in his student card number can the user access the main functions of SUSTech Store. Also, if the user wants to login with card number and password, he is also supposed to set a password.
- **Verify before sensitive operations.** When a user tries to do some sensitive operations like changing password or cancelling account, the system will verify the identity of the user by sending verification code to the user's cell phone and ask the user to input the verification code.



A Web Page

http://test.com

Phone Number Login/Register Password Login

➡

Login / Register

Phone Number 12345678900

V-code 123456 Get V-code

Login / Register

A Web Page

http://test.com

Phone Number Login/Register Password Login

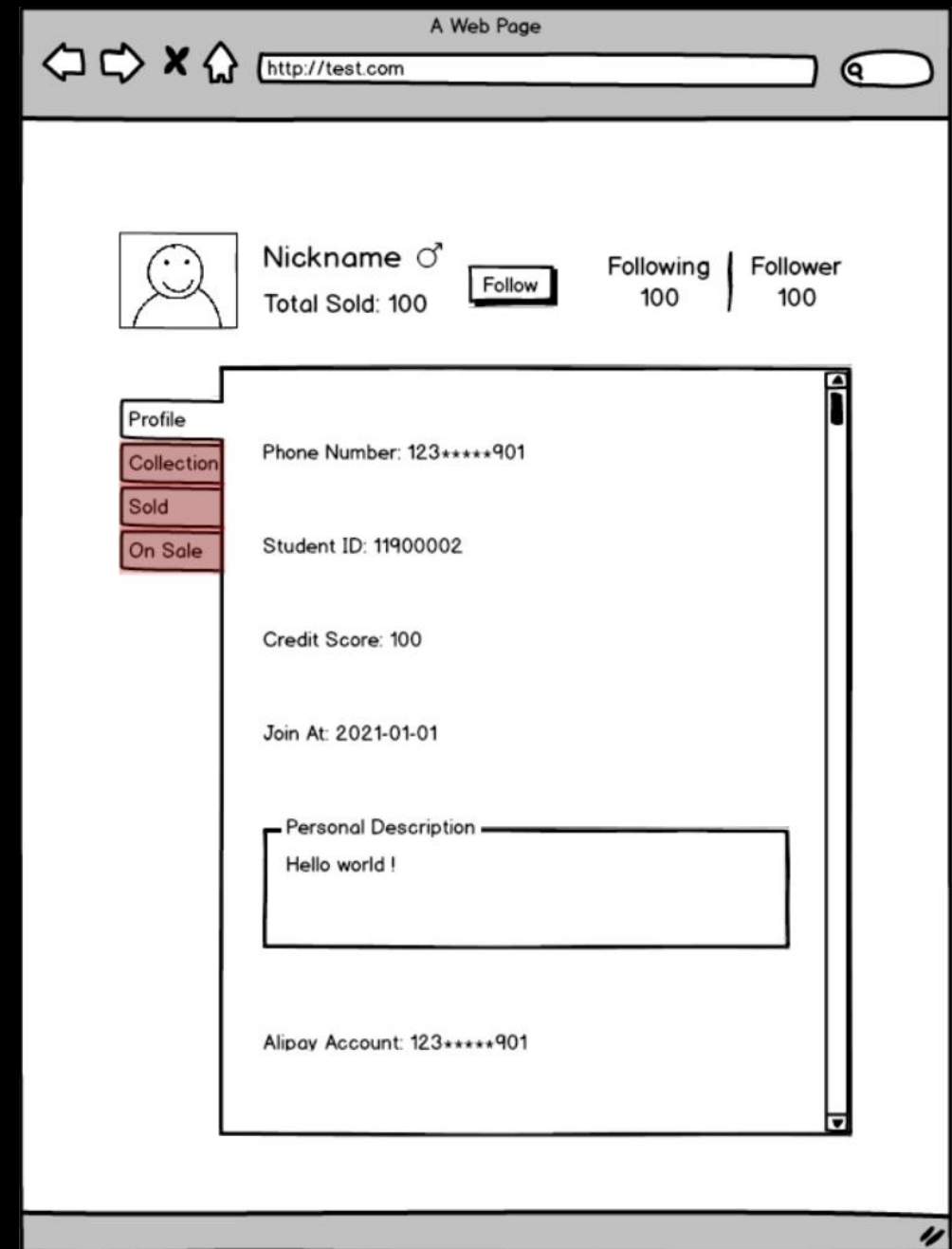
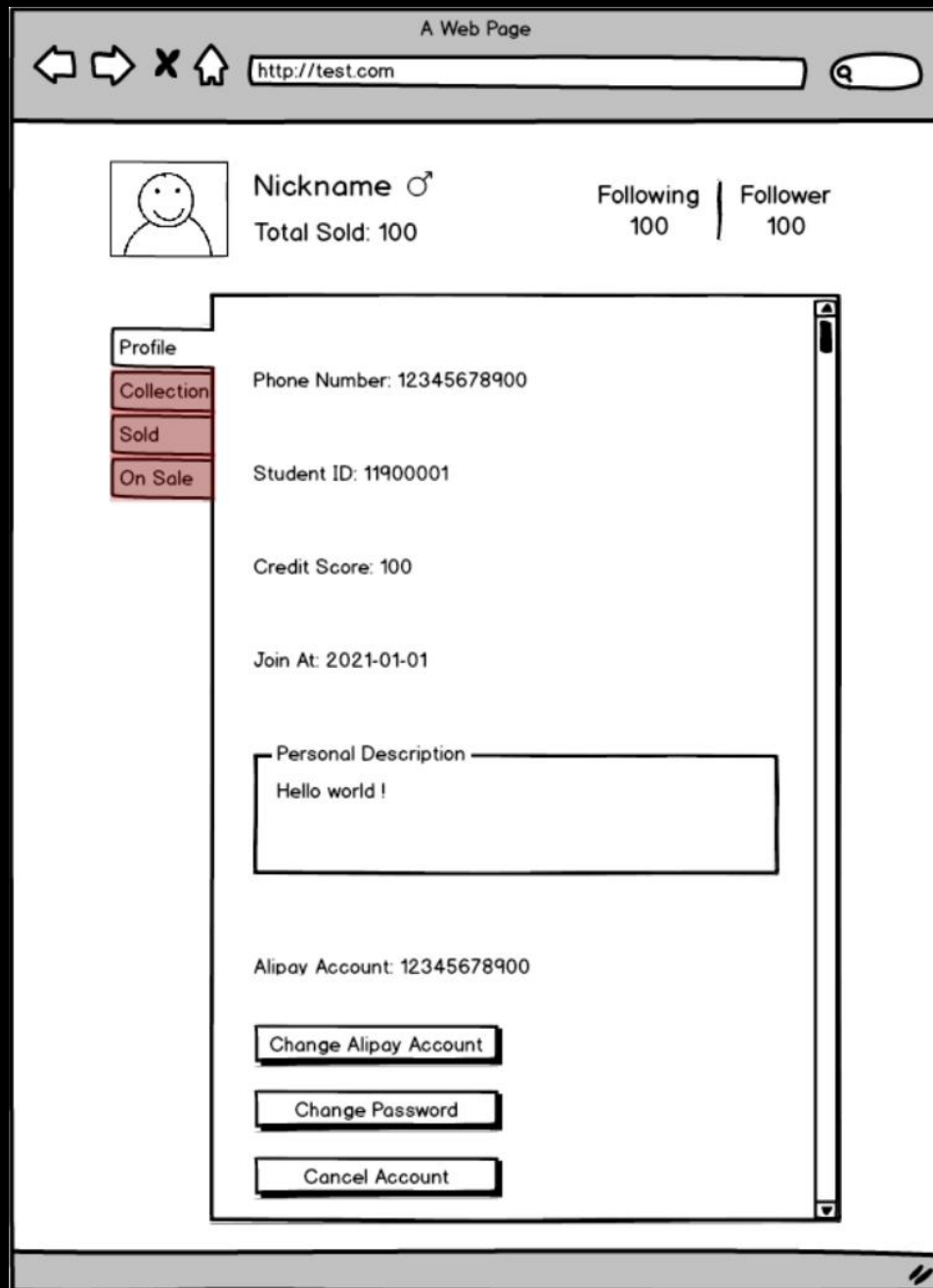
➡

Login

Card Number 12345678

Password *****

Login



Feature Description

Order Creation

Isaac was thirsty for an RTX 3070 Graphics Card, and he found one for sale on SUSTech Store.

However, though it was a secondhand card, he still can't afford the high price.

"Could you offer me a discount of 400 yuan?" Isaac asked the seller in online chat.

"Ok, that's fine." The seller replied.

Isaac immediately created the order, chose the trade time and location with delight and then sent the order to the seller, [wait for the seller to change the order price](#).

Hours passed but the seller still didn't modify the price. At the very time Isaac wanted to send another message to ask, he found that [his order had already been cancelled automatically](#).

"Is there something wrong?" Isaac asked the seller.

"I'd like to offer you a discount, but the buyer gave me too much!" The seller replied.

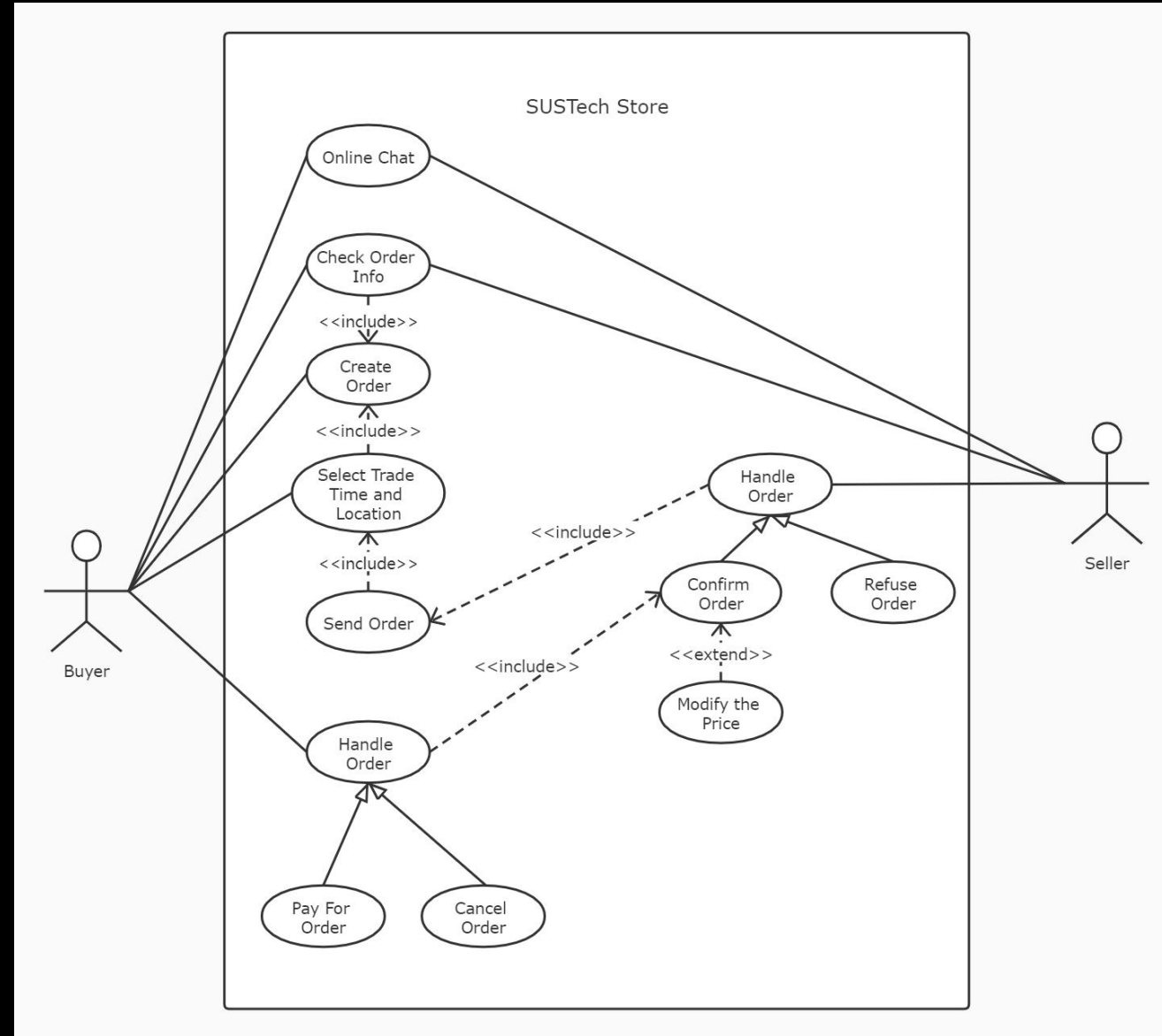
Obviously, the seller had dealt with another guy who offered a higher price than Isaac.

Isaac was depressed.

Feature Description

Order Creation

- **Chat before creating orders.** The buyer and seller can have an online chat before the buyer create order to discuss about the price and trade details such as time and location.
- **Modify the price for discount.** After the order was sent to the seller, seller can choose to modify the price so that the buyer can pay for the good in a previously discussed price.
- **Cancel/Refuse if in need.** When necessary, Both buyer and seller can cancel/refuse the order without reason before the order takes effect.
- **Cancel order automatically.** The seller may trade with multiple buyers at the same time. When the seller confirms one of the orders, all the other orders will be cancelled automatically.



A Web Page

X

http://test.com

Q

Good Details

Good Image

Good Title: XXXXXXX

¥ 100.00

Seller Details

Nickname: XXXXXX

Student ID: 11900001

Transaction Details

Choose Transaction Location:

Choose Transaction Time:

submit

Feature Description

Offline Transaction

Daniel just bought a RTX 3070 from SUSTech Store.

Though there are many buyers fighting for the opportunity of buying this card, he finally get the card by offering a very high price.

When he went downstairs, he found that he didn't bring his cell phone with him. Luckily, he had already remembered the transaction code and his deal code, so there is no need for him to go back and fetch his cell phone.

It's the day for the transaction. When he meets the seller, he verified himself using the transaction code, then the seller gave him the graphic card and asked him to have a check.

"Check quickly and give me your deal code!" The seller urged impatiently.

Ignoring the noisy seller, Daniel checked carefully, and he found a flaw on the card, which is never mentioned by the seller before.

As a completist, Daniel can't stand this.

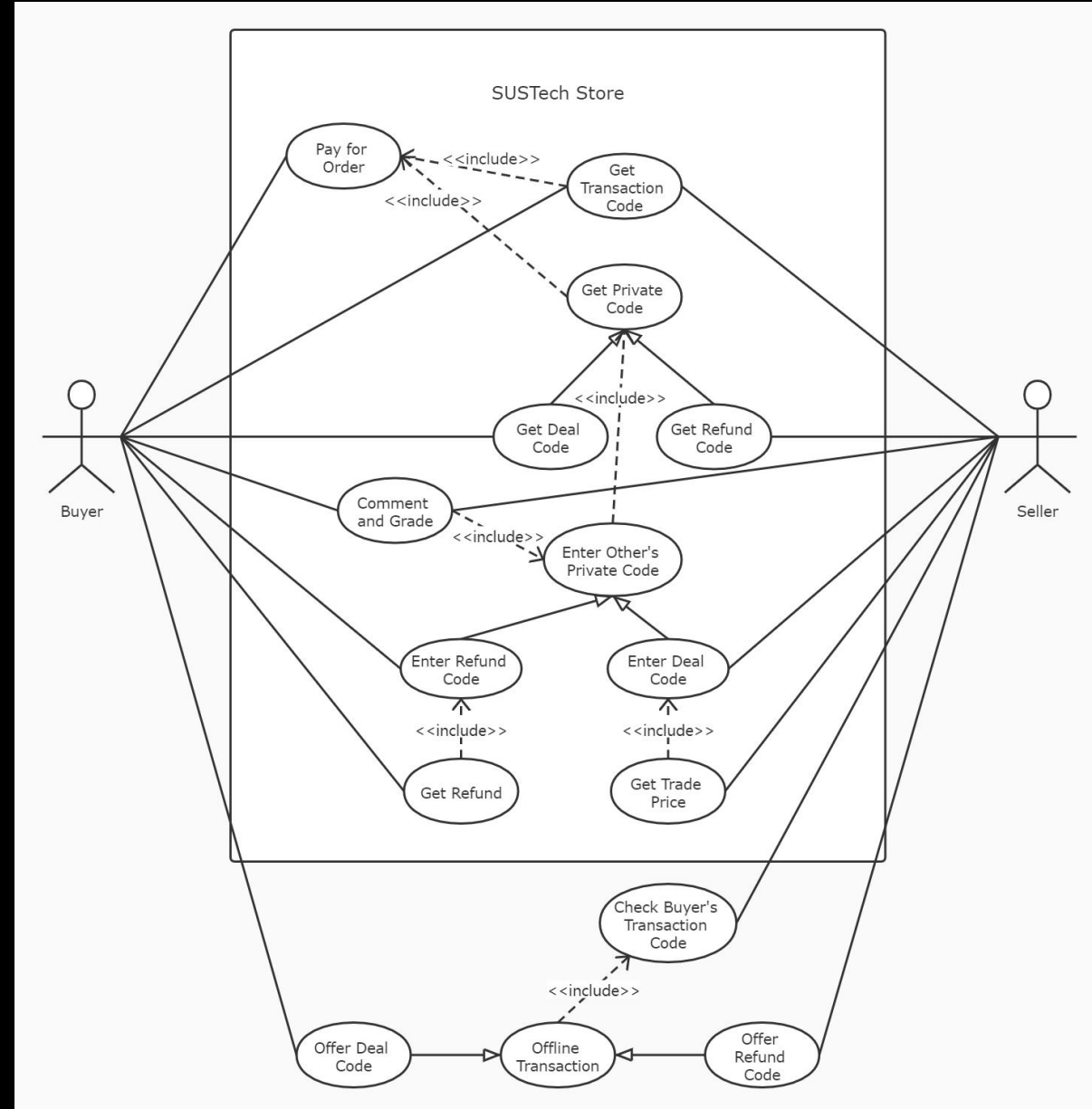
"See, there is a flaw on the card, and you didn't mention it before. I ask for a refund." Requested Daniel.

Finally, the seller gave his refund code to Daniel. When Daniel returned dormitory, he entered the refund code into SUSTech Store and then he get a refund immediately.

Feature Description

Offline Transaction

- **Verify before transaction.** After the buyer pays for the order, the buyer and the seller will both get the transaction code. Before the offline transaction begins, the seller are supposed to verify the identity of the buyer by checking the transaction code.
- **Two private codes.** Except from the transaction code, the buyer will get a deal code and the seller will get a refund code. They are supposed to negotiate offline and one of them should get the private code of the other. Whoever enter the other's code in SUSTech Store afterwards will get the money.
- **Totally offline.** Due to the design above, the transaction can be done without any access to the SUSTech Store. This is mainly out of the consideration that SUSTech Store is a website instead of a mobile app or a mini app, so it may be inconvenient to access it on cell phone.



Feature Description

Other Features

- Background management system
- Help offering system with a lighter transaction process
- Credit score
- ...

Techniques

Frontend

- Use [Vue](#) + [Element UI](#) as basic framework
- Use some APIs of Baidu Map for locating

Backend

- Use [Java 1.8](#) + [Spring boot](#) as basic framework
- Use some Tencent Cloud APIs for some features like sending SMS
- Use some Alipay APIs for payment (maybe)
- Use [Knife4j](#) for API debugging
- Use [Shiro](#) + [JWT](#) for authentication
- Use [Elasticsearch](#) to optimize search speed (maybe)

Others

- Use [Nginx](#) to solve CORS

Timeline

- This week is **Week 5** and we have finished most of the design of the basic requirements as well as some backend APIs like account management
- Before **Week 10**: Implement all the basic requirements and Help Offering System
- Before **Week 11**: Finish debugging of all the basic requirements
- Before **Week 14**: Try to implement a background management system
- The remaining time: Debugging & Adding coooooool features