CSC3170 Project: CUHKSZ food order System

Student   Deng Yifan
Student ID   122090080

Introduction

For convenience, I choose the food ordering system as the topic of my project. This system will contain three roles: customers, delivery personnel and restaurant. In brief, customers can reserve food online. He/She can order food, and refund if the food is not so good. Restaurant can get the information of orders, food, employees and handle the refund request from client. Managers can get all information of canteen to help them manage canteen. Before coding, we should first analyze the workflow and requirement of the project and role.

Requirement Analysis

Some features are commonLogin, register and exit
    For customers, we need functions below:

- Personal center: control personal center and offer the right to modify information.

- Make order: Select a restaurant, enter your desired meal, and send your request to the restaurant

- Refund: Send a request to refund.

- Balance: In school, you can recharge to facilitate payment and get certain discounts

For restaurant, we need functions below:

- Restaurant Information: Control the information of restaurant and offer right to change information.

- Food Information: Show food information, and offer right to add, delete, modify

- Employees Information: Show Employees information, and offer right to add, delete, modify

- Order center: Show recent order, and deal with uncompleted order.

- Refund: show need to refund order and offer right to deal with it.

For Manager, we need functions below:

- Resignation: If a manager faces a personnel transfer, he needs to delete the existing information.

- Information center: It will show restaurant, employees, managers and foods. Help managers to manage canteen

schema design and Database

Structure

This project is based on Python, SQLite and Socket. This project includes 3 kinds of clients sides, Client, restaurant and manager, and a server. It handle the basic requests of client, such as login and register, receive the message from client, restaurant and manager and process the data according to the type of message and return the result to Client, restaurant and manager

Database design

users, restaurants, employees, canteen_managers are mainly used to store different kinds of users' information. Food is used to store food information. And orders contains all orders, and order_info contains the detail information of orders. I am going to use SQLite to complete database. Based on the functions we need tables below:

- users: id, account, password, sex, image, phone, add_time,modify_time

- restaurants:id, name, logo, store_manager, Number of Employees, commends, add_time, Modify_time

- employees:id, name, age, sex, salary,status, type, add_time,modify_time,

- food: id, id_shop,name ,material, tasty, price, cost and picture, add_time, modify_time.

- orders: id, id_shop, id_client, total_price, status, pay_status, add_time,modify_time,

- order_info: id, id_order, id_food, price, status, amount

- canteen_managers:id, work_id, name, password, add_time,modify_time.

Implement

Client

The client part is used to offer service for clients. It mainly has four parts: login and register, personal center, order food, refund.

Login and Register

These functions are basic. The login and register system of restaurant is similar.

- For login, user should use account name and password to get access to the program. If user make wrong, the program will inform the user wrong message.

- If a new user want to register a new account, he/she should enter username, password, phone. The program will require you to enter password twice to confirm. Besides, the data will be record in database with default balance time to modify and time to add.

Client center

The personal center offer three function:

- First, user can see his/her personal information and current balance in personal center

- Second, user can modify information, such as password, username and phone.

- Third, user can add money to his/her balance. I simplify the procedure, and ignore the process of transferring money from WeChat or Alipay. When entering the number, the balance will increase.

Order food

This is one of the most important function in the program, the workflow in client part should be:

- choose a restaurant

- choose the food and the amount

- pay for a order(subtract from balance)

- form a order data, and then be store in tables 'orders' and 'order_info'

Refund

If a customer is dissatisfied with the food or the hygiene of the order, he or she needs to ask the canteen manager for a refund. The canteen manager needs to verify the situation, determine whether the customer's request is reasonable, and then approve or reject it. The workflow should be:

- Go into "Today's Order Refund", and See the order you can refund. Of course, you can only refund order today.

- Enter the order id and the reason of refunding.

- Send the message to server and server will store the information into order_info table. Mark " waiting for refunding!"

Restaurant

This part is used to offer service for restaurant and help restaurant to service client. The functions are: Login and register, Restaurant information, Employees list, Food list, Orders list.

Login and Register

This is similar to the client part.

Restaurant information

This part is used to show the information of restaurant. It offer right to modify the information, but restaurant should get a permission from manager.

Employees list

This part offer the information of Employees. And it offer the right to add, delete, modify the information of Employees.

Food list

This part offer the information of foods. And it offer the right to add, delete, modify the information of foods.

Order list

This is used to handle order. It contains two part:Recent order and Uncompleted order and Refund controler.
Order history offer a window to check the history order.
new orders show current order, and deal with order.
Refund controler will make decision for the refund order, and update result in orders table and order_info table.

Manager/Back end

This part help manager to manage the canteen. It has many functions: Login and Register, resignation and Information center.

Login and Register

Although the code design is similar to client, the logic is a little different. For manager, he/she should first use the work id (suppose it is offered by university) to register a account, and then use work id and password to register.

Information center

Show the information of food, restaurant, manager and employees to canteen managers

Resignation

If a manager faces a personnel transfer, he needs to delete the existing information. He should first enter a key to get permission, and then he delete his information

How to use

We have four files: server.py, client.py, restaurant.py, manager.py. Here are steps to run the program.

- run server.py and one of client.py, restaurant.py, manager.py or more than one.

- enter "localhost" and a proper port to start socket for each file

- follow the tips in command line, and enter the command to get the service you want.