

Online restaurant system

Fall, 2019

In this system, any customer can order different food from a local restaurant with different choices.

There are five types of users for this system:

1. *Managers/superusers* for each store who decides commissions of salespeople dealing with supplies, pays of cooks and delivery people, and handles complaints and managements of customers.
2. *Salespeople* who deal with suppliers for the best food supplies with best prices, each store should have at least two salespeople
3. *Cooks* who determine the supplies qualities, menus and prices of different food items, each store should have at least two cooks
4. *Delivery people* who bid on deliveries, decide routes to and fro the restaurant to the customer, and evaluate customers
5. *Customers* who can order, pay and evaluate food and delivery people; there are 3 types of customers for each store: visitors, registered customers and VIPs, who received different prices—highest for visitors and lowest for VIPs. One customer can be a VIP for one store, while a mere visitor for another.

The system works as below:

1. the customer is first asked to login, if no username and password are keyed in, the customer is treated as a visitor. A visitor is always given the choice to register as registered customer, which must be approved by the store manager—the manager can check the customer record of the restaurant to decide if this customer should be approved, any customer who is on the blacklist of the restaurant should be automatically denied.
2. The restaurant lists 3 different most relevant food choices based on the *order history* of the registered customers and VIPs, and top 3 most popular choices of the restaurant for visitors. The customer then chooses the food as s/he pleases.
3. Registered customers receive discounted prices, while VIP, besides discounted prices, will receive additional food items for free. Visitors can read but cannot put in ratings.
4. after customers submitted the choices, the manager starts a bidding procedure for delivery people to bid. The one with the lowest asking price will be chosen, and the winning delivery person then decides which route to go for this transaction based on traffic on the road: s/he can use any scheduling algorithm to decide the optimal route, assuming each segment of street can be randomly assigned to be of type good, busy, and closed.
5. after finishing the order, the customer must rate the food/cook and delivery person from 1 (worst) to 5 (best). Any rating less than 3 is viewed as complaints and should be given a sentence describing the reason. The delivery person can rate the customer as well right after delivery – but s/he cannot rate any more after knowing the rating of the customer.

6. A registered customer who made more than 3 orders with average rating >4 is automatically promoted to a VIP; a registered customer making more than 3 orders with average rating <2 but >1 is demoted to a visitor, if average rating is 1 then the customer is put in the customer blacklist who can never be a registered user (customers cannot change their names).
7. A delivery person receiving average rating <2 for the last 3 deliveries will receive a warning, which can be erased by the manager. A delivery person with more than 3 warnings will be laid off.
8. A food item receiving average rating <2 in the last 3 orders will be dropped. The cook whose food was dropped twice will be warned. A cook warned more than 3 times is laid off.
9. A sales person who received 3 straight 5's will receive 10% raise. If the supplies s/he ordered were complained by cooks 3 times, this sales person will receive a warning and 10% commission reduction. S/he will be laid off with three warnings.
10. To be friendly to vision challenge customers, a voice-based order feature should be available.

System outlook:

1. provide a consistent GUI (no need to be web-based) for the system, different users will have *different/personalized* outlooks.
2. each team is free to choose one creative feature for this system, accounting for 10% of the project score: a feature deemed not creative enough will receive low score; whereas a resoundingly creative one could receive some special bonus over 10%.
3. Any system details that are not provided are left for you to freely use any methods of your own choosing to design and implement.

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