

Final Project Proposal
Wok Wok

General Description of Project:

Our final project proposal is to create an in-terminal simulation of cooking in a restaurant. The goal of the game is to serve a pre-determined amount of customers in the least amount of time.

Once the simulation begins, the clock will start with a suggested finish time based on the amount of customers.

There will be a queue of customers who wish to order an item off of the menu (Array of ints representing number of items customer ordered). The menu will be represented by a HashMap. The contents of the HashMap will hold a "key" associated with a particular "value," such that the key is the name of the menu item (e.g. *hamburger*), and the value will be an array of ingredients (e.g. ["bread", "patty", "tomato", "lettuce"])

We decided to use a HashMap because the customer will be ordering based on a menu item name, of which the ingredients are known to the cook. In other words, the customer would not be order "a lettuce, tomato, and patty on top of bread," but rather a "hamburger." We would need to check if the ingredients the cook used matches what the customer means. In the simulation, if the ingredients cooked matches that of the one that the customer ordered, the customer is dequeued, and the process repeats for the remaining customers.

When the last customer has been dequeued, the simulation ends, and the clock stops. If the end time is less than the suggested finish time, bonus points will be added to the score.

Prioritized To-Do List

1. Have a fully functioning game
 - a. Implement timer for game duration
 - b. One-level game with predetermined amount of customers (e.g. 10)
 - c. Each customer orders 1 item only
 - d. Create customer priority queue
 - e. Be familiar with HashMap and implement it to create a menu
 - e. Create Customer and Cook classes
2. Expand on one-level game
 - a. Variable amount of customers
 - b. Variable amount of items ordered per customer
 - c. Customers with least amount of requests dequeued first
3. Change customer queue into priority queue
 - a. Customers have VIP tag (boolean instance variable) for priority queue

Concepts Addressed in Our Project:

- Priority Queue implemented as an array
- Using a HashMap to store all menu items