QUEUING THEORY

Team Aphrodite
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Requirements:
Customer Meetings

Customer Meetings – Team Aphrodite AS Non-Customer

Brian Burg

Present: Everyone

Brian emulated a few different customer types. At first, he played the role of a business owner and brought up a number of different issues. Brian asked us whether it was possible to attach information to a queue, such as email or other contact, which a business could find useful. Perhaps joining the queue involved joining a mailing list first. He also raised the issue of having more than one queue for a single business, such as one general queue and one VIP queue. An idea was brought forth to integrate with Facebook so that customers that "liked" a business could gain access to the VIP queue. Additionally, Brian said that he would like to see a show-vs-no-show ID stamp when dequeuing customers so that they could build a more accurate history of customer flow.

Brian also took on the role of a CLUE Tutor organizer. He said that it would be useful for people to be able to see tutors present on a given night so that you could sign up with an individual tutor if you wanted. He also brought up that people are unlikely to want to set up queues every single night; it would be very useful to make recurring queues an option. Finally, he said that there would need to be an ability to group class titles, such as all CSE courses or all math courses, together to make choosing a tutor easier.

Brian also acted as a person wanting to get into line. Would they have to install an app? Would they have to make a profile? We decided that we were NOT developing a mobile app, just a mobile-friendly website.

Finally, we asked Brian about some foreseeable issues that we came up with on our own. We asked him how to deal with malicious users, and he suggested an authentication system like using Captcha, identifying by IP address, or logging in to other services like Facebook. It would be important to couch these functionalities correctly within the existing framework. We asked Brian about in-person identification once you reached the start of the queue. A number would be sufficient, he said, as long as we focused on important requirements like making the site load quickly and without lag. Lastly, we asked Brian about tools: he suggested using frameworks like Angular, Ember, and Backbone for Javascript development of both front-end and back-end components.

Team Hermes

Present: Bryan Djunaedi, Stephen LaPlante, Evan Leon, Thomas Rothschilds, Simone Schaffer, Nicholas Shahan, Evan Whitfield

Team Hermes brought up a number of issues which we took note of. Some of them were the same as Brian's, and they will not be noted here. The unique issues they brought up consisted of some of the following questions.

- Can you see your friends in the queue?
- Can business owners personally enqueue people?
- Can you preserve a queue at the end of the day to restart the next day?
- Can you empty the queue at the end of the day but use the same one the next day with an empty start?
- What if a customer does not have a smartphone? (They can call in and the restaurant can manually enqueue you).
- Had we considered sending notifications via SMS to people once they got to a certain point in line, customizable per user?
- Could you enter the size of your party if you were waiting in a queue for a restaurant?
- Could we implement a re-enqueue wait time so that people couldn't sign up for the same queue again and again?

Team Hermes also expressed concern about information being sold to telemarketers if they had to sign up with additional information. They suggested having a basic queue with pre-entered values so that people wanting to set up a simple queue didn't have to enter excessive information.

Customer Meetings – Team Aphrodite AS Customer TO Team Caelus
Present: Nicholas Shahan, Bryan Djunaedi, Stephen LaPlante, Evan Leon, Thomas Rothschilds, Evan Whitfield

Team Aphrodite acted as a customer to Team Caelus, which is working on Note2Flash. Our primary concern involved their desire to build a text editor in conjunction with the notes-to-flashcards functionality, since so many text editors exist, and are in popular use, already. We asked them if they would consider implementing a mobile-friendly version so that you could study your flash cards on the run. We asked a lot of additional questions, such as the following:

- Can you read directly from a different text editor? (That might be doable).
- Are symbols available for technical subjects? (They might implement LaTeX support).
- Would they have a spell check?
- Can you archive old sets of notes without deleting them? (Yes).
- Is there a scoring system for notecards so you can mark some as "Yes! I got it right!" and "Nope, got it wrong"?
- Can you recover deleted notes?

We ended with potential issues regarding touch integration and modifying and sharing existing notecard sets with friends or other users. We brought up the fact that many users might want to sell their quality notes to others, so they could think about monetization (taking a cut of the money generated by sales).

Customer Meetings – Additional

We also had the pleasure of meeting with three pseudo-customers this week. The first was Sam, a tutor for CLUE in Mary Gates Hall. He was most interested in the dequeuing process and how his manager could create queues. He brought up interesting points about the size queues might need to be to work at CLUE tutor sessions because the whiteboards they currently use work for around 50 students. He also made us realize that we need to put some thought into where students might wait if we allow them to see how long it will be before they are called. Sam suggested that it might be nice to have a line at which students would know that they should be in the room, ready to be helped by a TA. He also suggested that the ability for students to postpone themselves could be useful. Our second pseudo-customer was Jane from the University Bookstore. Jane works as a clerk during some of the busiest times of the year, including the bookstore rushes at the beginning of each quarter. Jane suggested that having a queuing app could alleviate some of the stress during these busy times. She brought up that students could browse the rest of the books in their subjects instead of standing in lines. However, she also suggested that the ability for students to see how long they have left could lead to them missing their names being called, which could further complicate the bookstore rushes, among other ideas. Our final pseudo-customer was Amanda, a clerk at the University's Hall Health. She raised concerns as an administrator regarding displaying student names before and after students enter the queues. She also suggested that administrators might need access to an internal queue to process broken limbs and contagious diseases separately from flu and cold cases. Finally, another major concern that she brought up was how to process appointments alongside walk-ins. We will have to consider the ideas each pseudo-client brought to light very carefully in the next few weeks.