



Coffee Stop

By Team 20

Github Repo

- <https://github.com/jddebosk/cs160-final-project>

Video

- <https://drive.google.com/file/d/1zHnglUeq7CxPDCRpSwBv3HOiPrPoZL4L/view?usp=sharing>

Team Contributions

- Ria: Created the script for the video and narrated it
- Rushnan: Took an interview and wrote down the user's observations and criticisms
- Dina: Wrote about discussion of revisions
- Daniel: Took an interview, and wrote down the user's observations and criticisms
- CJ: Wrote about the discussion of revisions

Discussion of Test

We recruited three different people. User 1 was a UC Berkeley cognitive science senior who drinks coffee around 2 - 3 times a week. User 2 was a UC Berkeley computer science senior who drinks coffee/matcha lattes about 4 times a week, and noted they were caffeine sensitive. User 3 was a UC Berkeley Political Science senior who drinks coffee about 2 times a week.

For Task 1 (Creating a Custom Drink), User 1 first tried to click on Order a Custom Drink on the homepage. This would be a minor usability problem (3), because it is a smart idea to link that description to the order drink page, and is something we didn't think about. Then, he used the hamburger menu to get to the custom drink page, and clicked the button to Add A New Drink. Then, he added the drink using the fields, and was able to have it appear on the custom drink page once it was submitted! User 2 first tried to Order Custom Drink on the homepage, which is a Minor usability problem (3), since it would make sense to have easy navigation from the homepage without going to the top right corner. Afterwards, the top left button was pressed to try to get to the page, which didn't work, which is a cosmetic issue (2), since that's just a logo. She then went to the hamburger menu, where she was successfully redirected to the order custom drink page, where she was able to order a custom drink. She remarked that there were limited options regarding syrup, which is a minor usability problem (3). It also wasn't clear from the order custom drink page where exactly the drink was coming from, which would be a major usability issue. For User 3, after selecting the Custom Drink option from the navigation bar, she tried to add a new custom drink. As she was adding a new custom drink, she noticed that for the "Sugar" field, the user is able to choose only up to 3 spoons whereas for the "Number of Syrup" pumps, the user can input any number that they want. She believes that a user should be able to input whatever number they want in the "Sugar" field and should not be limited to only 3 spoons. This is a (4) Major usability problem since having restrictions like this reduces generalizability. As one of the developers of this app, I think it would be a good idea to keep these fields consistent and let the user input any number they want. This is something that we can fix in the future.

For Task 2 (Finding a Cafe and Viewing Capacity), User 1 went to the Map, and searched for the cafe of his choice. Then, he was able to scroll down and see the capacity. He really liked it! User 2 went to the Map, searched for Starbucks, and was able to see the capacity of the cafe by easily scrolling down. User 3 was incredibly impressed with the Google Maps API. User 3 was able to find a cafe on the map page, and also access the "more details" page, which they thought was really helpful.

For Task 3 (Viewing and Updating Cafe History), User 1 went to the Cafe History section, and then was able to click on other cafes. Then, he realized he had to review the drink, so he went to Custom Drinks, showed the Drink, and reviewed it. Then, it took him to Cafe History and he could see the drink. He said he wished that maybe the review button should be outside of the show page. User 2 went to the Cafe History section last, and was able to click on other cafes. User 2 clicked on the drink that they made during the Order Custom Drink section, and rated it and provided comments successfully. User 2 had no issues or feedback regarding functionality issues. User 3, after choosing to add a new drink from the map page, and adding the drink in the custom drink page, saw the new drink in the cafe history page. She really liked the easy flow of the navigation and how every page is connected to each other.

Overall, the interviews ran smoothly. If we were to run the interviews again, we would try to pay more attention to the amount of time that it takes the user to figure out different tasks, such as how to add to Cafe History. One improvement would be to record each interview. During some parts, we thought we gave the interviewee too many instructions on how to navigate the map, which might have skewed the results. In future interviews, we will make sure to only provide them with a preset list of standardized instructions across interviews. Additionally, spreading out our interviewee demographic to people who wouldn't normally be comfortable navigating through a coffee app could help provide further input.

Discussion of revisions

Based on observations from the poster session and the usability tests, we would edit multiple different aspects of the app. First, we would work on improving our cafe capacity task feature if we had more time to work on this app. We would implement occupancy estimation with the WiFi, bluetooth, and BLE (Bluetooth Low Energy) transmitted from users' devices. There's a significant body of literature surrounding occupancy estimation using various methods, but we were most interested in the robustness of the indoor and outdoor experiments in Longo et al. (2019)¹ for future iterations of our app. In addition to occupancy prediction methods, we could also exploit Google Maps API data to estimate occupancy and request manual updates when necessary.

Additionally, a user at the poster session observed that the cafe history page is only sorted by date and suggested diversifying the sorting options and potentially allowing the user to choose. An example would be a drop down menu with multiple sorting options such as most highly-rated drinks, specific drinks such as "vanilla lattes", or proximity to your current location.

User 3 noted that our login page isn't fully functional and only allows one user at a time to use the app and take advantage of its attributes. Implementing a complete sign up/login feature would allow for multiple user sessions that all have their cafe history saved to their personal accounts. That way, many users could create their own username and password and consistently access their saved history and favorite orders/coffee shops.

Another feature that would help cater towards the cafes we hope to connect with would be to incorporate their menus into the ordering selections of our app, which is a suggestion that User 2 had. Instead of typing out names of drinks and having generic modifications, loading menus with specific drinks and flavors would help create a more personalized experience for the user. Additionally, a selection of their favorite coffee shop's menu would also help make CoffeeStop diverse in its options and allow for a faster setup to have their drink ready to show the barista.

Lastly, when scrolling through the homepage of the app, adding links to the 3 functionalities described could help usability. We got this idea from User 1, who tried to click on the homepage functions. Instead of only explaining how to use and why it's beneficial, clicking on the image or text would take you to that page of the app for quicker access. That way, when someone is learning how to use the app, they're able to immediately test out what they have learned and apply it while using the app. Another way to guide the user on the homepage would be to reference the navigation bar in the description so they understand the next step to get to the correct page.

¹ Longo, E., Redondi, A. E. C., & Cesana, M. (2019). Accurate occupancy estimation with WIFI and Bluetooth/BLE packet capture. *Computer Networks*, 163, 106876. <https://doi.org/10.1016/j.comnet.2019.106876>