SFU Dining Interface Redesign Project Part 2

Prepared for

CMPT 363 D200

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Part 2a

Context Identification

When
The dining feature for the SFU Snap app is used during meal times, which are usually breakfast, lunch, and dinner. Users may also use the app for snack times between class breaks.

Where
The SFU Snap app will primarily be used on the SFU campuses, which include several dining locations to choose from. The campuses are very walkable which makes it quick and easy to get from a classroom to a dining location.

Who
The primary users of the SFU Snap app dining feature are SFU students, faculty, and staff members. Students make up the majority of the user base, but faculty and staff members may also use the app to find dining options during their breaks for lunch.

What
The main purpose of using the SFU Snap app is to find and select dining options on SFU campuses. Users may use the app to find locations to dine at based on reviews of the restaurants left by patrons. Users can also use the app to filter the restaurants by campus.

How
Users access the SFU Snap app using their Android or iOS smartphones or other mobile devices. The app is available to download through the app store for either android or iOS. Once users have downloaded the app they can navigate to the dining feature and view reviews and filter their dining options based on the campus they are on. The app may use location services to provide users with relevant dining options based on their location.

User Identification with Personas

Persona 1: Busy Student
Name: Anthony

Age: 21

Occupation: Full-time SFU student

Background: Anthony is a busy student who spends most of his time on campus attending lectures, studying, and participating in club activities. He usually eats on campus and is always looking for new dining options to try.

Goals: Anthony wants to find dining options that are quick, convenient, and affordable. He also wants to know what people think of the restaurant before trying it.

Challenges: Anthony has a tight schedule and is often forced to eat between classes, so he needs to be able to find dining options quickly. He is also on a budget and cannot afford to spend a lot of money on meals.

Persona 2: Working Staff Member
Name: Jaspreet

Age: 35

Occupation: Administrative staff member at SFU

Background: Jaspreet works in an office on campus and often eats lunch at one of the nearby dining locations. He enjoys trying different restaurants and cuisines, but also has to be mindful of his budget/

Goals: Jaspreet wants to find dining options that are tasty, affordable, and close to his work. He also wants to be able to make reservations ahead of time by calling if possible.

Challenges: Jaspreet has a limited amount of time for his lunch break, so he needs to be able to find and order food quickly. He also wants to avoid crowded or noisy restaurants that may interfere with his work.

Persona 3: Health-Conscious Faculty Member
Name: Dr. Wong

Age: 45

Occupation: Full-time professor at SFU

Background: Dr. Wong is health-conscious and likes to eat nutritious meals that are good for her body. She often brings his lunch to work, but sometimes eats out with colleagues or students.

Goals: Dr. Wong wants to find dining options that offer healthy and fresh food options. She also wants to know the nutritional information of the meals and the ingredients used in the dishes.

Challenges: Dr. Wong has specific dietary restrictions and needs to be able to filter dining options by cuisine type, ingredients, and nutritional value. She also needs to be able to find dining options that offer vegetarian and vegan options.

Functional Requirements:

- F1: The app should allow users to write a review on each of the diner pages by clicking a review button. It should also ask users to rate the restaurant/diner based on a star scale of 2 aspects: Taste and Pricing, by tapping on a star starting from 1 to 5 with the respective aspect and also a comment box for the user to input. A "Post" button should appear below the comment box. After posting the app should also allow the review to be editable. When choosing to edit, users can re-tap the star point and rewrite the review.

- F2: The app should allow users to see the average star ratings of the restaurant and the posted reviews section so that they can read other users' comments for additional references. It should also let users filter out the comments based on the most recent time and positive/negative rating. Users should also be able to like/dislike a review by tapping on the thumb up/ thumb down icon.

- F3: The app should have a report button to allow users to report reviews if they found the comment is unrelated or violates community standards towards the diner. A new popup/ should appear and has a variety of different violation categories (spam/off-topic/hate speech, etc.) for users to choose from and a send button within the popup to send the report. The review should then be notified to the app administrator

Non-functional Requirements:

- [F1-related] The app should only allow one review per existing SFU account, meaning it can only be rated/reviewed by SFU students/faculties, and each account can only be able to give one review.

- [F2-related] For filtering reviews based on the most recent time, it should show the comment of the most recent date; if it's on the same day, it should also sort based on the time the review got posted. The most like/dislike comment will also appear on the top with sorting based on positive/negative sort, respectively.

- [F3-related] The button to report should appear after the user tap on a specific review, and the button can appear in a form of a symbol(ie. A flag) for simplicity.

Part 2b

To come up with ideas for the MFP, we drew a few sketches that mostly improved upon what we did in Part 1 of the project. We then chose to omit some unnecessary information and streamline our design. We were both thinking about putting the review function on the diner's detail screen (the screen after the user clicks the arrow of a diner) and finally decided to put the review function under the information section of the screen to put up the core structure for the MFP since it has a solid space arrangement and provides easier access to fulfill the requirements listed above.

Horizontal MFP:
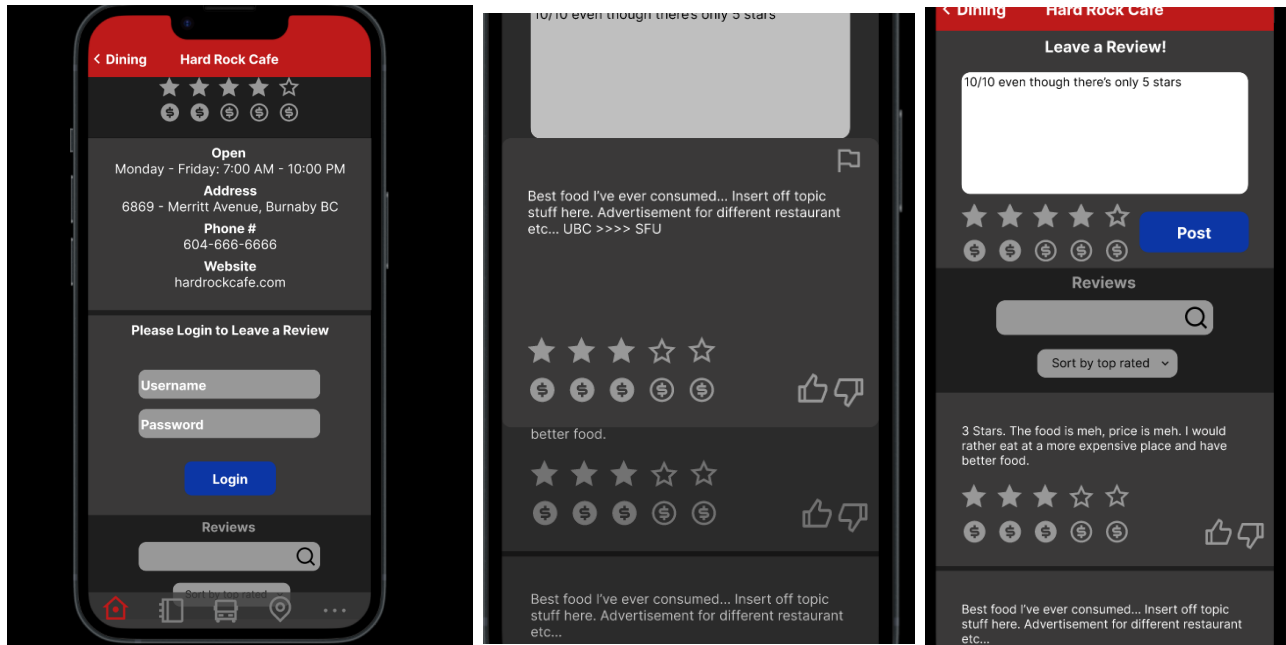
Methodology & Justification of the Design

The methodology that went into the design of the H-MFP was in keeping with the original style of the IOS version of the app, so the feature could feasibly be implemented and feel like it was always there. This is shown by the color palette of the dashboard and dining page matching the review page. They are very similar in design as well, using minimal and dark colors. It was quite difficult to replicate the app's design while also meeting all the functional and non-functional requirements, but I believe that this is a very good medium-fidelity version of what a fully integrated review feature could look like in the SFU Snap app for dining.

Meeting FR & NFR 1

Functional requirement 1 involves allowing the user to write reviews for the restaurants in the app as well as splitting the star rating system into two distinct categories, taste, and cost. Alongside this, the non-functional requirement made sure users could only post 1 review at a time. The app meets these requirements clearly as a review feature is integrated into the restaurant info screen when the user scrolls down. This is also updated with a review already posted by the account if it exists. The rating system is also separated into two categories, which can be identified by their respective icons. In short, these features come together to meet both the functional and non-functional requirements.

<u>Meeting FR & NFR 2</u>
Functional requirement 2 involves the ability to see the average star rating for the restaurant as well as the ability to view the reviews that contribute to the rating as well as filtering and searching for those reviews. The non-functional requirement related to this involves creating a relevancy algorithm to sort reviews and enabling the user to vote on whether they like or dislike a review which contributes to the algorithm. The review feature is implemented as the user opens the restaurant info page. This page clearly shows the average rating of the restaurant on top, and users can scroll down to see individual reviews. Users also have access to a search bar and sorting menu. The design meets non-functional requirements by adding a thumbs-up and thumbs-down button. These buttons will contribute to the rating algorithm for the non-functional requirements. These features meet all the functional requirements listed in the second set of requirements.

<u>Meeting FR & NFR 3</u>
The last set of functional requirements involves the addition of a report feature for reviews. This will help to remove reviews that are against the community guidelines. The non-functional requirements for this involve making sure that users do not accidentally flag reviews by making the flag button only appear when users open a full review. The report feature meets both requirements. It is implemented as shown above, and in the appendix alongside the Figma file. When users tap a review an overlay opens which shows the complete review by the user and an option to flag it appears. Once the user completes the report form they are prompted with a response thanking them for reporting and they may continue using the app as they, please. This meets the last set of requirements set out for the H-MFP.

Vertical MFP:
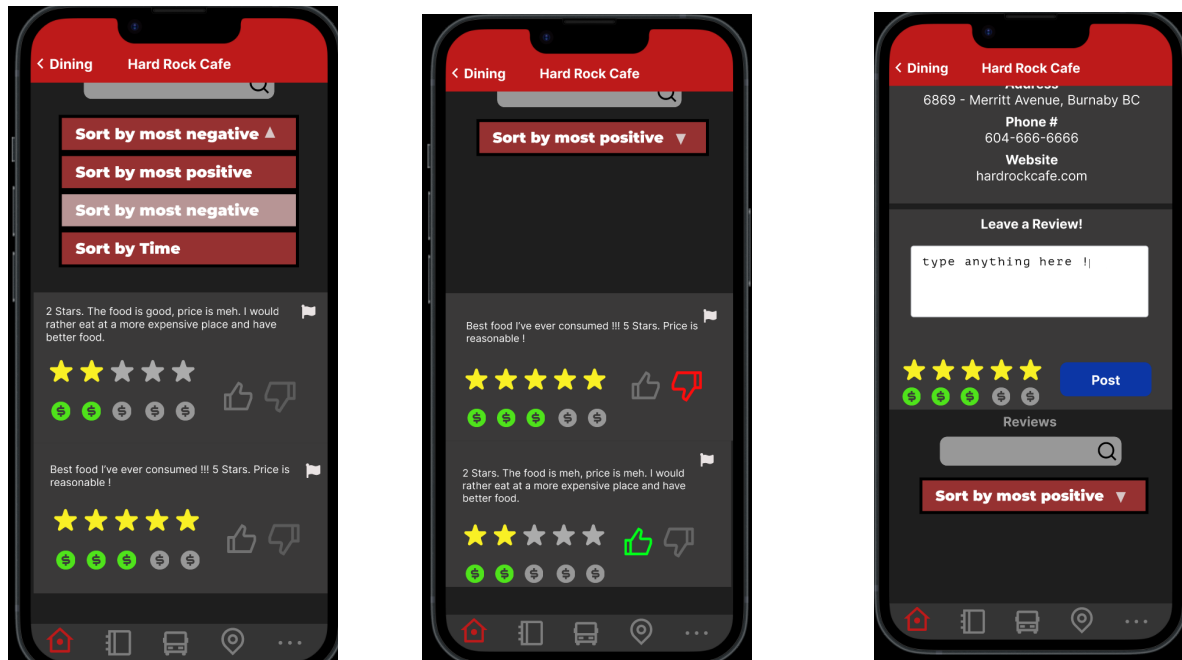
Methodology & Justification of the Design

The method for creating the V-MFP was simply trying to expand on the functionalities of each feature that were mentioned in both the functional and non-functional requirements. We aimed to create a realistic and deeply functional screen that could work on the app without any jarring UI differences. We also decided that using the core structure of the H-MFP to develop the V-MFP will prove to be more effective than making a separate MFP at the same time.The overall look of the V-MFP will be similar to the H-MFP.

Meeting FR & NFR 1

To fulfill the requirements for functional and non-functional requirement 1 (allow the user to write a review with a star rating for Taste and Cost while asking that only one review per user is allowed). After navigating the app to get to the review feature, we ask our users to first enter their SFU email and password, then click the login button so that only the logged-in users can write reviews.The next screen is where the user can enter text in the comment box and leave the star rating by clicking the corresponding star/dollar icons. Then users can click on the "Post" button to get to the next screen. This screen will have their review at the top and an empty review box where they can easily edit their review by choosing a new star rating and adding a new comment and pressing "Post" once more. Clicking the Submit button will complete the process and a pop-up tab appears saying the review has been edited which fulfills the requirement for FR & NFR 1.

Meeting FR & NFR 2
The design of the H-MFP has already fulfilled the requirement where the app should allow the user to see the average star rating of the diner and make the posted reviews visible, so the task needed here is to allow the user to filter the review section by choosing the corresponding drop-down menu option under the review search tab. The position of the reviews will change based on which sorting option is chosen (the option for sorting by time is omitted and will display an Under Development textbox if clicked). For the last step, users can click on the thumbs up/thumbs down icon on the posted reviews to rate a review and can also switch between them. Thus, users can do all of the tasks that are required in FR & NFR 2 on any screen of the diner page.

Meeting FR & NFR 3
In each of the posted reviews, users can see the bright flag icon on the top right of a review box. Users can click on the icon which will lead them to a report screen. Users can enter the comment on the Report text box and click on the radio button that corresponds to the violated category to report a comment. After that, users can click the Report button to send the review to the administrator. The screen will then switch back to the corresponding screen if the user reports a comment before/after login. This fulfills the requirements of both the FR and NFR 3.

Conclusion for Part b:
After coming up with ideas and using Figma for our MFP, we have learned that some of the original features that were intended to be included inside the MFP had to be omitted, such as checking for input errors or time-based filters for the reviews section since Figma has limited functionality and it is difficult to include these features. Some of the features that were included have issues with displaying the intended UI that are extremely difficult to fix (eg. The drop-down menu) within Figma. However, we have learned how to create a prototype design that was able to mimic the actual overall design and the color palette of the original app using the prototype tool. The steps of designing MFPs also helped us learn how to create different cases that give a realistic experience for simple interaction features (hovering over thumb buttons, report icons, and star rating icons...). Overall, we believe our design is very straightforward and meets all user requirements.

Part 2c

Cognitive Walkthrough

Context & Scenario
You are a full-time SFU student who is always looking for new dining options to try on campus. You want to find quick, convenient, and affordable dining options on campus and are interested in knowing what people think of a restaurant before trying it. You have access to a new feature on the SFU app, which allows you to view reviews of the dining options.

Potential Users
You are the potential user for this application who is a busy student that is looking for new dining options and is motivated to try new things through reviews. You are also interested in leaving their own feedback to help restaurants improve their service.

Representative Task 1 & Evaluation
The first task you are asked to do is find a restaurant, read its review, and dine there. Then, once you have dined at the restaurant you can leave a like or dislike on the review based on whether it was accurate.

Actions
1. You navigate to the dining options section in the SFU Snap app
2. You select the restaurant that you want from the options available
3. You look at the average star ratings of restaurants to find one that interests you
4. You read a review and dine at the restaurant
5. After dining at the place you chose to return to the same review in the app then like or dislike it and even report the review to improve the review algorithm

Representative Task 2 & Evaluation
The second task you are asked to do is related to the first task. After dining at the restaurant you want to leave your own review to help others decide whether to dine at this place or not. Your review is up to your discretion.

Actions
1. You Navigate to the dining options section in the SFU Snap app
2. You select the restaurant you dined at from the options available
3. You find the section asking you to leave a review
4. You enter your SFU login credentials to gain access to submitting a review
5. You write your review and rate the dining experience based on taste, and cost of the food
6. You submit your review

Task 1

Action Sequence	Does the user know what to do?	Is the user motivated to do it?	Can the user associate the change/feedback from the interface to correct the action they perform?	Does the user understand the change/feedback so that they know where they are in the task after performing the correct action?	Extra note:
Action 1: Navigate to the dining menu	Yes, the user has used the original app before	Yes, they want to look for a diner menu in this app	Yes, the screen is scrollable and changes	Yes, the name of the location header at the top is different	There should be different restaurant options on the MFP.
Action 2: Select Restaurant	Yes, names are clear in tiles	Yes, but there should be some variety in restaurants	Yes, the screen changes to restaurant info page	Yes, the information is clear on the page where they are	No prompt to scroll down to read a review, which does not feel natural.
Action 3: View Rating	Yes, the review is clearly at the top to see	Yes, they want to know the rating of the restaurant they choose to look for	Yes, but it feels like the feedback interface should be colored	Yes, the review is visible as soon as they open the page	Should display dislike and like ratios because users usually look for that.
Action 4: Read Review	Yes, but had to interact with the page to know it was scrollable first. Not many inputs beyond that	Yes, they want to read the review	Yes, they can scroll to the review and see them. But there is no indication that it is there unfortunately	Yes, the review is clearly marked on the page.	There can be some animation to give good visual feedback
Action 5: Rate Review	Yes, the icons are clearly marked	Yes, they want to make sure the reviews are correct for the restaurant	Yes, the icons change color and are dynamic	Yes, the thumbs up is green and the down is red. Clearly indicating actions.	More violating categories/options on the report page are welcomed.

Task 2

Action Sequence	Does the user know what to do?	Is the user motivated to do it?	Can the user associate the change/feedback from the interface to correct the action they perform?	Does the user understand the change/feedback so that they know where they are in the task after performing the correct action?	Note
Action 1: Navigate to the dining menu	Yes, the user has used the original app before	Yes, they are looking for a new restaurant	Yes, the screen is scrollable and changes	Yes, the name of the location header at the top is different	After submitting review, "edit your review" box does not contain original review
Action 2: Select Restaurant	Yes, names are clear in tiles	Yes, but there should be some variety in restaurants	Yes, the screen changes to restaurant info page	Yes, the information is clear on the page where they are	Good that the review appears at the top
Action 3: Find Section to Leave a Review	Yes, the page has instruction that says "Leave a review"	Yes, they were eager to find the review section	Yes, they can scroll down to see the login to review prompt	Yes, it's pretty clear what to do to leave a review	Feedback on the search bar is not clear in functionality
Action 4: Login	Yes, all instruction text are clear and obvious	Yes. they want to login so that they can leave a review.	Yes, especially the login form is fillable.	Yes, they can press login and it changes to a new page	Filter language is a little unclear ("sorting by time" can be "sorting by most recent")
Action 5: Review Restaurant	Yes, the review is clearly fillable with the text box	Yes, they cannot wait to leave a review	Yes. they can fill in the review form, and dynamic review rating icons	Yes, the text changes when they enter form info	Filter colors don't prompt which filter is selected
Action 6: Submit Review	Yes, the text on the button has obvious meaning on what it can do	Yes, they have filled out the review form and wish to submit the review as soon as possible	Yes, the screen changes and their review shows up	No because the review is not visible without scrolling down once you submit so they were not sure whether it was posted.	

Summary

For our cognitive walkthrough we decided to see how a user would interact with our app to perform two specific tasks. The first, reading a review and deciding whether to eat at a restaurant based on it then leaving feedback on whether the review was helpful. The second task was leaving a review of a restaurant. We used the cognitive walkthrough to gather feedback and learned about the strengths and weaknesses of our design.

The strengths of our design were in its ability to be easily understood by the user. Since our context and persona were based on a user who already knows how to navigate apps, it was quite easy for them to find the pages and understand what to do. The feedback and animations on our design were clear and enhanced user engagement and satisfaction.

The weaknesses of our design were more common, however. Since this is only the first iteration of our design this is expected as many iterations of a design must be reviewed before deploying a feature. The main weakness in our app was the inability to retain the original review in the review box after the user has left one leading to confusion and frustration. The app also does not provide feedback for the search bar functionality or indicate clearly which filter is selected. The filter language is also unclear and inconsistent. For example, "sort by time" should be called "sort by most recent". The app does not prompt the user to scroll down to find reviews and the like/dislike ratio on the review is not visible which may limit their exposure to other opinions.

These findings suggest that the app feature could be significantly improved by addressing these usability issues and enhancing its clarity, consistency, and feedback mechanisms. Clarity and consistency can be addressed by making the filter language easier to understand.

Reflection

After engaging in this project from part 1 through the cognitive walkthrough, first lesson comes to mind is that we would need to start conducting a heuristic evaluation so that we can have a much deeper understanding on the functionality of the app features, then we can choose on which features we can implement the new feature to improve the system rather than adding too many layers of mechanism on an already good mechanic. Second lesson learned from this project is that we would need to get access to the end users or initiate an interview with some potential users first so that we could have a better understanding about what users would like to have when testing our prototypes, because even with a small task by creating a review mechanism, the feedback we got from the cognitive walkthrough was still lacking in expectation.Third lesson from this project is that since we are working in a group, the process of combining our ideas from the sketches/ low fidelity prototypes, took a lot of time to be able to proceed with the medium fidelity prototype. Furthermore, when making the MFP, we feel that to work effectively on both the vertical and horizontal prototype at the same time, we would need to proceed with creating the horizontal prototype before creating the vertical prototype, since these two are overlapping and it would take much more time to make two separate, completely different prototype at the same time.

Next, we will continue by discussing the process of designing a user interface for the SFU snap app that involves various steps to ensure usability and learnability for our users. In this reflection, we will discuss the takeaways from the steps taken from part 1 to completing the cognitive walkthrough of the review page design. We will talk about how practicing each step brings our design closer to the final product through the steps of heuristic evaluation, requirements gathering and specification, prototyping, and cognitive walkthroughs.

Let us begin with the takeaways from the heuristic evaluation. This step involved applying Nielsen's usability principles to evaluate an interface for potential problems. We learned how this method of evaluating a UI can be cheap, quick, and quite effective. It also helped us to take a more holistic view of the interface we designed and catch any problems that might not be obvious from our requirement-specific perspective. One of the heuristic-related issues we found related to our app was the visibility of the review status at the top of the restaurant page, which made it difficult for users to understand how a restaurant was rated.

Moving on to what we learned from requirements gathering and specification, this step involved conducting user research to understand the needs, goals, preferences, and pain points of our target users. We focused more on a realistic demographic for our application and it made our requirements tailor our feature to something that truly feels like it could be a part of the SFU Snap app. Overall, focusing on requirements gathering helped us learn how essential it is for creating a user-centered design that meets user expectations and solves problems.

Prototyping was probably the step we gained the most practical experience, and it felt like we were truly professional designers using software like Balsamiq for Low Fidelity Prototype in part 1 and Figma for Medium Fidelity Prototype in part 2. These steps also involved creating low-fidelity sketches to help outline an idea at its inception and moving on to the medium-fidelity prototypes. It also helped us learn how flexible a design process can become once prototyping is used effectively. This was the case in our project where even though we had a sketch, the final product changed drastically from what we had envisioned in our sketch as we took into account all the requirements and heuristics we learned about.

The last and arguably the most important part of our design process was the cognitive walkthrough. This helped us understand that even though we may think our design is great, the user is what truly comes first. Showing a brand new design to a person who has no idea what to expect helped expose many weaknesses in our design which would be improved before a high-fidelity prototype was developed. The learnability of the interface was something that we were very proud of, however, as our user did not feel lost once when navigating through our UI. We also learned new questions to ask ourselves through designing the cognitive walkthrough, helping to improve our design even more. These questions were:
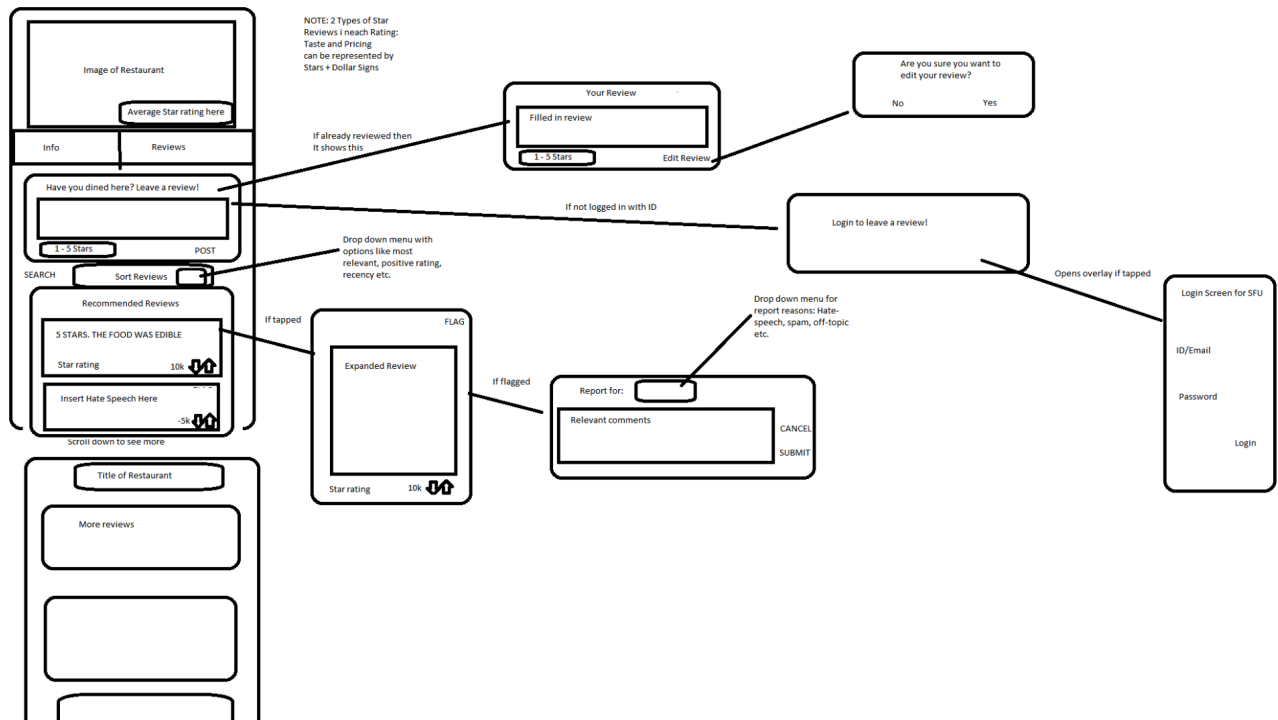
- Will the user know what they need to do at this step?
- Will users notice that they need to do something at this step?
- Will users know how to do what they need to do at this step?
- Will the users understand what happened after they did something?

All these questions helped us truly understand the value of cognitive walkthroughs and why they are invaluable in the design process.
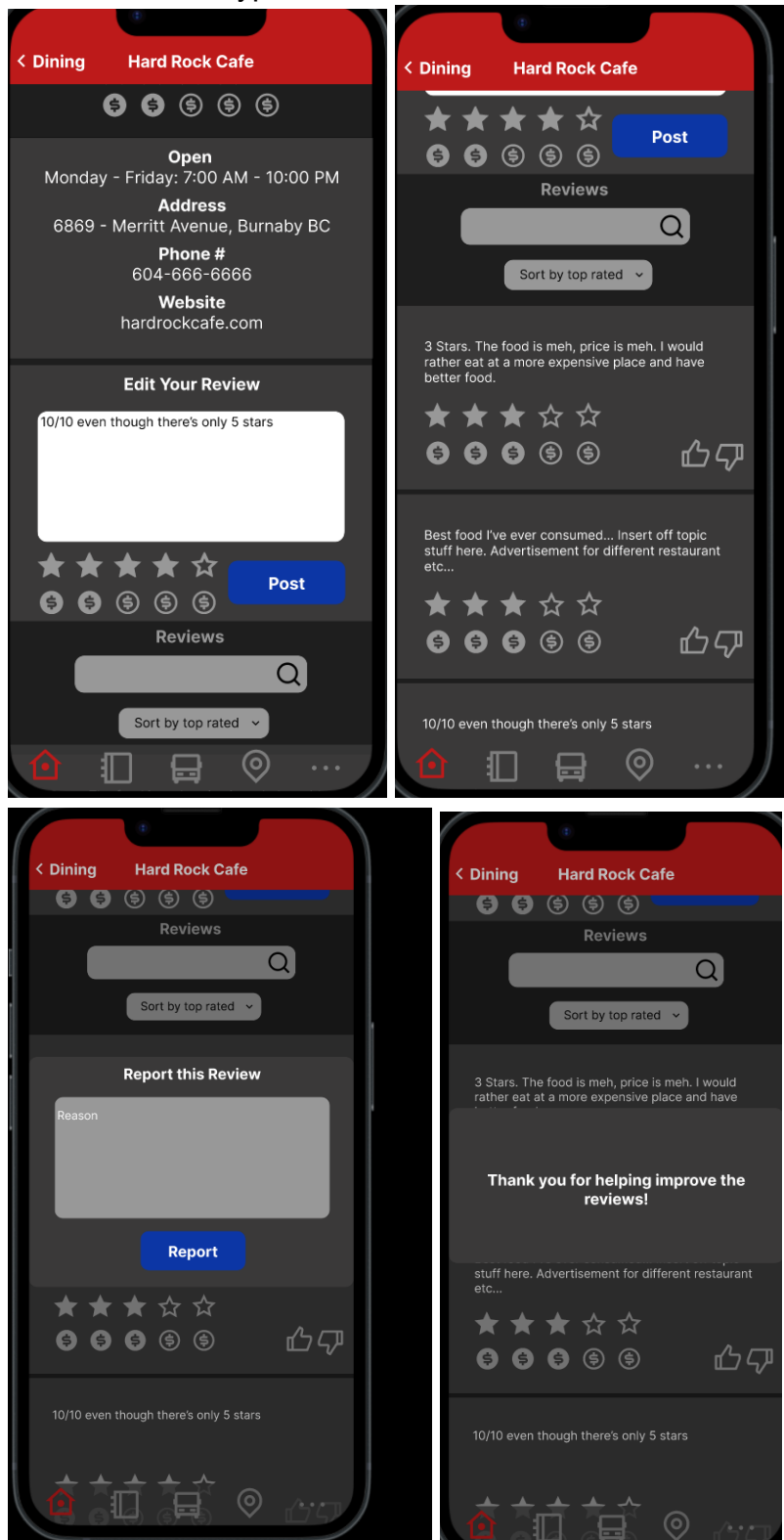
By following these steps, we learned a lot about usability evaluation methods and how they can help improve our interface design iteratively. We have also gained many insights into how our user personas may think and behave when interacting with the review feature of our app. These lessons will help us create a better final product that meets and hopefully exceeds user expectations and provides a great user experience.

Appendix

Horizontal and Vertical Combined Prototype Sketch

NOTE: 2 Types of Star
Reviews i neach Rating:
Taste and Pricing
can be represented by
Stars + Dollar Signs

Image of Restaurant

Average Star rating here

Info   Reviews

Have you dined here? Leave a review!

1 - 5 Stars   POST

SEARCH   Sort Reviews

Recommended Reviews

5 STARS. THE FOOD WAS EDIBLE

Star rating   10k

Insert Hate Speech Here   -5k

Scroll down to see more

Title of Restaurant

More reviews

If already reviewed then
It shows this

Your Review

Filled in review

1 - 5 Stars   Edit Review

Are you sure you want to
edit your review?

No   Yes

If not logged in with ID

Login to leave a review!

Opens overlay if tapped

Drop down menu with
options like most
relevant, positive rating,
recency etc.

If tapped

Expanded Review   FLAG

If flagged

Star rating   10k

Drop down menu for
report reasons: Hate-
speech, spam, off-topic
etc.

Report for:

Relevant comments   CANCEL

SUBMIT

Login Screen for SFU

ID/Email

Password

Login

Horizontal Prototype Screenshots

Vertical Prototype Screenshots