

Group Project Part 2

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2a Context of Use & Requirements Establishment

Every customer of a restaurant has the right to give a review on how they liked about the food, whether the customer service was good, or whether there need to be any changes to the menu or the restaurant. Customer can give their judgments at any time of the day and from wherever they want. Sometimes they can leave the review and share them in the restaurants after their meal or can be at home to write and share them. The users often can be university students or visitors such as the student's family or friends who came to the campus for an event. The user can use simple words such as hashtags to leave their reviews or be able to write lengthy reviews which help them to explain their experience such as bad customer service. They can favour someone's review by liking it, and if they disagree with certain points, they can dislike it. The user has the freedom to share their thought with their family or friends on any social media platform.

User Identification:

1. Andy Joe is a 20-year-old student at Simon Fraser University studying computer science. He enjoys playing outdoors and loves exploring different food cuisines. Before going to any new restaurant, he always checks the restaurant reviews and ratings. He is familiar with SFU campuses. Furthermore, he is also comfortable using different electronic devices. Hence, he is comfortable using a mobile phone or tablet application and can learn how to use the new application quickly. He usually brings his lunch and eats on campus with his friends. However, it is midterm season, and he does not have enough time to pack his lunch. Hence, using the Snap application, he searches the restaurants on the Burnaby campus. He finds various reviews about Gawon Korean, but he is unsure whether those reviews are reliable. Hence, he wishes there are upvotes or downvotes on each of the reviews to make a better decision when ordering food in Gawon Korean.
2. Bob Chen is a 19-year-old student at Simon Fraser University, studying Mathematics. He is always studying and likes to finish his assignments as soon as possible. Hence, he is sometimes careless but still receives good grades in his courses. He likes to play mobile games and video games. He always buys lunch on campus on weekdays. On Thursday, he only has 15 minutes to have lunch in order to make it to his next lecture on time. Hence, he opens the Snap application to find a restaurant nearby. He finds Starbucks, but is not sure whether they had good food. Hence, he tries to read the reviews and decides whether to get lunch there. However, there is just a long list of reviews. Hence he has to spend more effort and time reading all the reviews, which he finds a little frustrating to read all those long lists of reviews. As a result, he closes the application and

goes into Starbucks to grab anything he can find. Due to this, he is a bit late for his next class. He wishes that the application could provide a simpler review, such as hashtags about the food of the restaurant. So that he could quickly know which food the restaurant has and know how they are.

3. John Smith is a 20-year-old student at UBC studying computer science and likes to compete at Hackathons. He likes coding, and he has a positive attitude towards using any electronic devices. He is also a straightforward person and an honest person. Furthermore, he has never been to any of the SFU campuses, but he has some friends who are studying at SFU. One of his friend, told him to download SFU Snap application, so that he could easily find the Hackathon venue and the restaurants nearby.

Around 45 minutes before the Hackathon at SFU Burnaby campus, he wants to grab something to eat. He finds Dining Commons from the SFU Snap application and it is the only restaurant that is open on Saturday, hence, without even reading any reviews, he decides to go there since he does not have much time as well. However, after having a quick lunch there, he is not totally satisfied with the SFU Dining Commons due to its high price. On the way to SFU AQ, where the hackathon is happening, he finds Blenz Coffee in Student Union Building. He decides to grab a coffee and a muffin. He has a few sips of the coffee and a few bites of the muffin. He really likes the taste, and hence, he wants to share his experience at Blenz Coffee to his SFU friends and other people. At the same time, he also wants to share his honest experience at the SFU Dining Commons as well. However, he can not find any features to leave a review about the restaurants in the SFU Snap application. Hence, he wishes that the application could allow the users to write a review about the restaurant and have a button which could help him easily share the reviews about the restaurant with their friends.

Functional Requirements (FR):

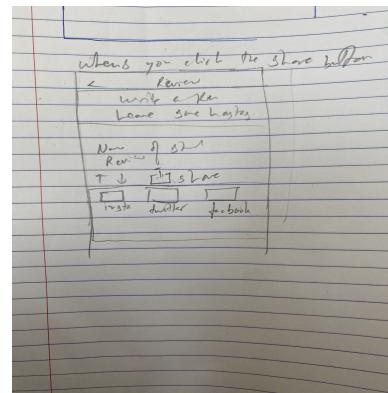
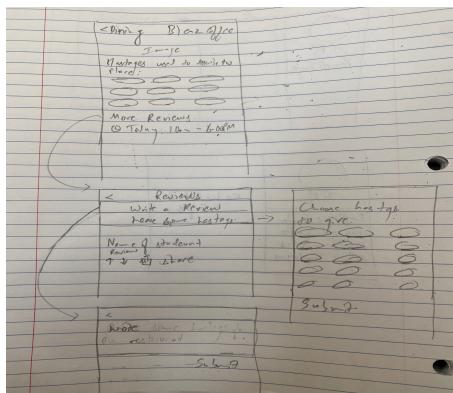


Image 1: LFP1 (FR & NFR 1&2)

Image 2: LFP2 (FR & NFR 3)

1. Each review should have an upvote and downvote button with a number of votes displayed.
 - 1.1 The interface should allow the user to upvote or downvote on the reviews, and it should automatically show an updated number of upvotes and downvotes of the reviews.
2. The interface should display a shorter review version in one word (E.g: Hashtag) related to the restaurant.
 - 2.1 The interface should allow the user to leave a review in hashtag form, and the hashtag word would be displayed on the restaurant page
 - 2.2 Tapping the hashtags on the restaurant page will display how many times it has been selected by a user.
3. The interface should provide a button for the user to share the review as an image form so that the user can share the reviews or feedback on social media.

Non-Functional Requirements (NFR):

1. When the user upvotes or downvotes the review by clicking the up arrow or down arrow icon, the interface must instantly highlight the arrow button icon to acknowledge the user about their vote. Also, upvoting and downvoting the review must only require one touch from the user.
2. When the user writes a review on the review page, the user is going to be presented with options to give the review in hashtag form or in short answer form. The user can only write the review in a few sentences if the user chooses the short answer form. The user will only have a few limited hashtag choices if the user decides to leave the review as a hashtag. The clicked hashtag will be displayed on the restaurant's information page immediately, and the user can only decide on one hashtag at a time.
3. The interface must provide a share button next to the review and once the user press the share button, the interface must display a pop-up window which includes different social media platform options that the user can share. The user could decide on any social media option to share with one touch. If the review is being shared on social media it will be shared as a picture.

2b Medium-Fidelity Prototypes

Decisions in generating the overall MFP from LFPs

We created the LFPs before creating the MFPs to get a general overview of how our designs could satisfy all the functional and non-functional requirements. From *Image 1*, we can notice that our reviews (Hashtags) were placed before any general information about the Restaurant. However, the design was changed in our MFPs because we thought more important information (E.g: opening hours of the restaurant) should be shown first to the user. Also, instead of creating more frames for error messages like in our LFPs, we instead displayed the error message as an overlay in our MFPs so that the user does not have to navigate a lot of pages.

Horizontal MFP:

The first FR and NFR were satisfied by creating an upvote icon and a downvote icon in each of the reviews on the review page of the restaurant. Also, next to those icons, the interface shows how many votes were selected by different SFU Snap application users. Once the user clicks either of the votes, it will instantly update the number of votes (either upvote or downvote) with the highlighted arrow. To upvote or downvote, it will only require one click from the user by pressing either of those upvote/downvote icons.

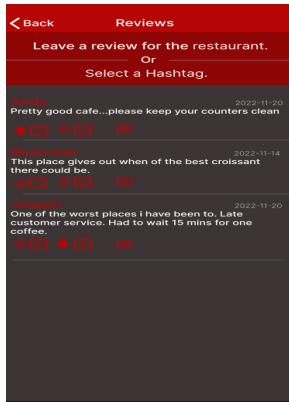


Image 3: Reviews Page

The second FR and NFR requirements were satisfied by creating an interface that includes options for the user to choose whether they want to leave a short answer review of the restaurant or in a hashtag form. If the user selects to leave the review in short answer form, the interface will navigate the user to write a review. If the user selects to leave a review as a hashtag form, the interface will navigate the user to choose various hashtags. The interface would only allow selecting one hashtag at a time, and once the user submits their chosen hashtag, it will immediately show the chosen hashtag on the restaurant information page.



Image 4: Reviews page

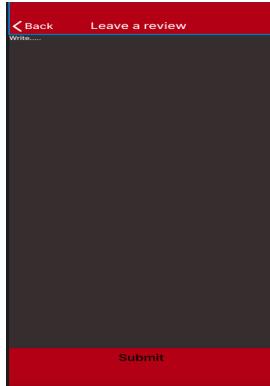


Image 5: Text Review page

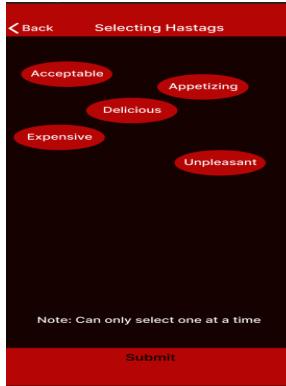


Image 6: Choosing Hashtag Page

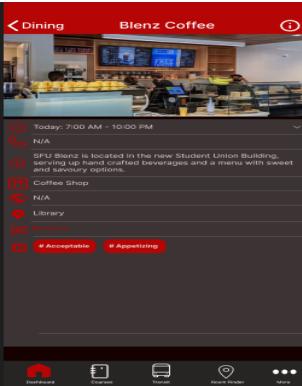


Image 7: Displaying Hashtags

The third FR and NFR were satisfied by providing share button icons in each review, which could be pressed by the user with one touch and shows a pop-up window which includes various social media platform options for the user to share.

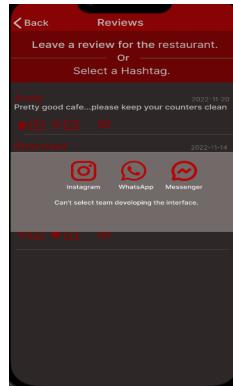


Image 8: Pop-up window to select social media options

Vertical MFP:

The first FR and NFR were satisfied by creating an upvote icon and a downvote icon in each of the reviews on the review page of the restaurant. As shown in the below images, if the user clicks either upvote/downvote, the arrow of the corresponding vote will be highlighted with an animation, and the number in the box will increment. This way, the user would know that their vote has been successfully performed.

Upvoting/downvoting only requires the user to click the arrow.

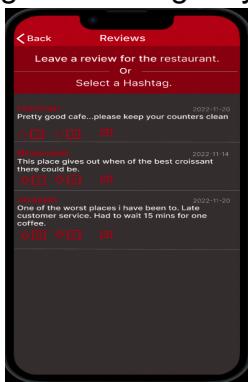


Image 9: Reviews Page Before Voting

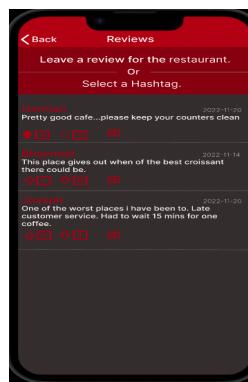


Image 10: Reviews page After Upvoting

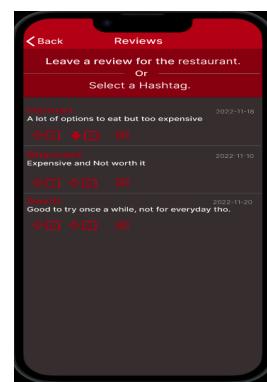


Image 11: Reviews page After Downvoting

From the images below, we can see that the user has two options to leave a review: short answer form or hashtag form. If the user selects to leave in a short answer form, the submitted review will immediately appear on the review page (at the bottom of the page). If the user chooses to leave a review in a hashtag, the user will be navigated to the page, which will ask the user to choose 5 different hashtag options. The interface would only allow the user to choose one hashtag (highlighted in grey), and the chosen hashtag will be immediately displayed on the restaurant page.

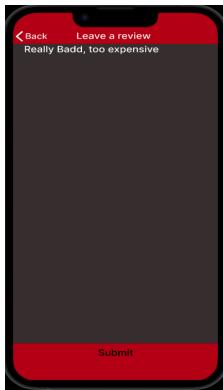


Image 12: Writing Review

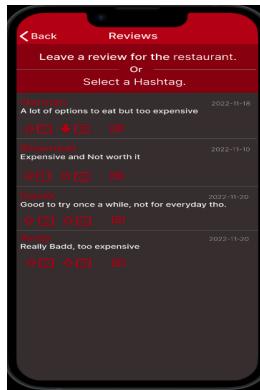


Image 13: Reviews Been Added



Image 14: Choosing One Hashtag

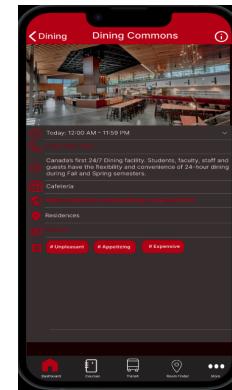


Image 15: Added Hashtag

The third FR and NFR were satisfied by providing share button icons in each of the review, which could be pressed by the user with one touch and shows a pop-up window which includes various social media platform options for the user to share. As shown in the second image below, if the user decides on either of the social media options (in this case, WhatsApp), it will navigate the user to the corresponding social media application and shares the review as an image.

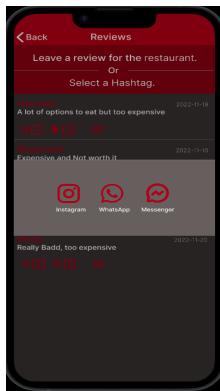


Image 16: Pop-up window to which shows social media options to share



Image 17: Sharing the review as an image on WhatsApp

Meaningful Features:

1. Upvoting or downvoting a review with animation. Also, the number of upvotes/downvotes selected increments immediately after the click. The

highlighting, animation of the arrow, and the instant increase in the number of votes could clearly inform the user that their action has successfully been taken.

2. Our interface provides freedom for the user to leave the review not only in a short answer format but also in a hashtag format.

Interaction Steps:

1. Writing Reviews for Blenz Coffee: Dashboard → Select Dining Feature → Select 'Blenz Coffee' → Click the 'Reviews' keyword on the information page → Click 'Select a Hashtag' → Select 'Delicious' hashtag and click submit → Click '#Delicious' hashtag on the information page → Click the 'Reviews' keyword again → Pressing the up arrow of the first review to upvote → Select 'Leave a Review For the Restaurant' → Click the word 'Write..' → Press enter → Click submit → Click share button icon of the first review to share → Select WhatsApp as the choice of social media → End of page

2. Writing Reviews for SFU Dining Commons: Dashboard → Select Dining Feature → Select 'Dining Commons' → Click the 'Reviews' keyword on the information page → Click 'Select a Hashtag' → Select 'Expensive' hashtag and click submit → Click '#Expensive' hashtag on the information page → Click the 'Reviews' keyword again → Pressing the down arrow of the first review to downvote → Select 'Leave a Review For the Restaurant' → Click the word 'Write..' → Press enter → Click submit → Click share button icon of the first review to share → Select WhatsApp as the choice of social media → End of page

Learning from Designing the Medium-Fidelity Prototypes

Trade-offs: From the user's perspective, displaying all the reviews on the restaurant's information page will require the user to perform fewer actions to read the reviews of the restaurant. However, the design will not have a minimalistic design. Therefore, we created a clickable link with the word 'Reviews,' which the user could click to navigate to the review page. Doing this allows the user to perform one extra step to view the reviews, but it will still maintain the minimalistic design.

Considerations: Considering the consistency, for each restaurant review page, we only allowed the first review to perform upvote/downvote and allowed the user to choose options to share the review. Also, considering the general logic of upvoting or downvoting a review, we only allowed the user to either upvote or downvote a review but not both simultaneously.

What we couldn't do: We could not allow the user to input the text they wanted due to Figma's limitation. Also, we only could provide a few hashtags for the user to choose.

Strength and Weakness: We created and showed an animation when the user upvotes/downvotes the review so that the user will acknowledge their vote instantly. However, our design lack choices for hashtags and social media.

2c Analytical Evaluation

Context and Scenario

You are John Smith, a 20-year-old UBC student who is studying Computer Science and who is an honest and straightforward person. You are currently at the SFU Burnaby campus to attend the hackathon on Saturday afternoon. This is your first visit to the SFU Burnaby campus, and you don't know any restaurants on the campus. You are hungry right now, so you want to eat something quickly before entering the hackathon. You open the SFU Snap application, which your SFU friend Cherry told you to download to find restaurants or bus loops on the campus. As SFU Dining Commons is the only open restaurant, you decide to go there. However, after having a quick lunch there, your experience at SFU Dining Common was not satisfying because of its high price. On the way to SFU AQ, where the Hackathon is happening, you find Blenz Coffee in Student Union Building. You decide to grab a coffee and a muffin. You had a few sips of the coffee and a few bites of the muffin, and you like the taste. Hence, you decide to share your experience at Blenz Coffee with other users and Cherry. At the same time, you also want to share your honest experience at SFU Dining Commons.

Potential/target user

You are a visitor who has never been to the SFU Burnaby campus. You are not familiar with the restaurants on the SFU campus. Also, you like to leave honest feedback about the restaurant and share the reviews with your family/friends.

Representative Tasks

1st Task: Navigate to Blenz Coffee's review page, upvote the best review about Blenz Coffee, and then share the best review as an image with your friend on WhatsApp.

Action Sequence	Does the user know what to do given the action?	Can the user find the right interface component to perform this action?	Can the user associate the feedback from the interface to the correct action they perform?	Does the user understand the feedback so that they know where they are in the task after performing the correct action?	Comment
Action 1: Navigate to Blenz Coffee's review page	Yes, the user instantly knew he had to find Blenz Coffee's	Yes, because the clear text 'Blenz Coffee' and 'Reviews'	Yes, because after clicking the 'Blenz Coffee' on the restaurant page, and 'Reviews', the	Yes, because after clicking the 'Blenz Coffee' and then 'Reviews', the interface displayed the	Suggestions: Use a lighter colour other than

	review page from it's information page.	on the restaurant page were easy to find.	interface displayed the review page of it.	review page of Blenz Coffee	white for 'Reviews' for users with colour deficiency
Action 2: Proceed to upvote the best review of Blenz Coffee	Yes, the user instantly knew he had to find the best review with the highest upvotes and click the arrow button to upvote.	Yes, the up arrow icon and the number of upvotes were clearly visible to the user to perform the correct action	Yes, because after upvoting the best review, the arrow was highlighted and the number of upvotes increased by one.	Yes, because once the user clicks the upvote arrow, it instantly highlights the arrow with an incrementing number of upvotes, so he knew he has successfully upvoted the review.	No Comment
Action 3: Proceed to share the best review on WhatsApp	Yes, the user knew he had to click the share icon button on the review to share	Yes, the familiar share icon button and the WhatsApp logo helped the user to perform the action	Yes, the pop-up window and the WhatsApp interface helped him to know he did the right action	Yes, the pop-up window to select the social media options and the WhatsApp interface page helped the user to know they finish the task	No Comment

2nd Task: Upload an 'Expensive' hashtag review to the SFU Dining Commons information page. Then, leave an honest short answer format review on the SFU Dining Commons review Page.

Action Sequence	Does the user know what to do given the action?	Can the user find the right interface component to perform this action?	Can the user associate the feedback from the interface to the correct action they perform?	Does the user understand the feedback so that they know where they are in the task after performing the correct action?	Comment

Action 1: Navigate to Dining Commons' review page.	Yes, the user instantly knew he had to find Dining Commons' review page.	Yes, because the clear text 'Dining Commons' and 'Reviews' on the restaurant page were easy to find.	Yes, because after clicking the 'Dining Commons' on the restaurant page, and 'Reviews', the interface displayed the review page of Dining Commons.	Yes, because after clicking the 'Dining Commons' and then the 'Reviews', the interface displayed the review page of Dining Commons	Suggestions: Use a lighter colour other than white for 'Reviews' for users with colour deficiency
Action 2: Proceed to upload the hashtag	Yes, he instantly knew he had to find a page to submit a hashtag	No, the user was not sure whether 'Select a Hashtag' was a button to navigate the user to the hashtag page.	Yes, because after submitting the "Expensive" hashtag, the 'Expensive' hashtag was displayed on the SFU Dining Commons' information page.	Yes, because once the 'Expensive' hashtag appears on the restaurant's information page, the user knew he had to proceed to submit the written format review.	Suggestions: Make the 'Select a hashtag' look more like a button. It looked like plain text instead of a clickable button
Action 3: Proceed to write and submit a short answer review on the review page	Yes, the user knew he had to find a page to write the review and submit it.	No, the user was not sure whether 'Leave a review for the restaurant' was a button to navigate the user to the review writing page.	Yes, after the user wrote the review and submitted it, the written review was displayed on the review page of Dining Commons.	Yes, after submitting the review, the interface navigated to the restaurant page and showed the review. Hence, the user knew it was the last action to take.	Suggestions: Make the 'Leave a review for the restaurant' look more like a button.

Results Summary

Throughout the Cognitive walkthrough with my classmates, we could identify various strengths and weaknesses of our designs. The strengths of our design were user acknowledgement and familiarity. On each action from the cognitive walkthrough, the user was always aware of where they were during the task after performing each action. This is because we focused on creating designs that the user could easily follow and keep users informed about what is going on with the system. For instance, when the user clicks the up arrow button of the review, it instantly highlights the arrow button and displays the increment value of the upvote. Furthermore, by using the commonly used icons and images, the user could easily spot what each button would expect to do without further explanation. We also found some weaknesses in our design from the cognitive walkthrough. For selecting the options to leave the review as a hashtag form or short answer form, the design of the buttons was not clear enough. Hence, the user was confused about whether it was clickable and whether it could direct to the right page due to its design. Therefore, instead of only displaying plain text, we should include familiar button designs along with the text to improve on this. Also, our design lacks some details, which could bring more frustration for some specific type of users. For instance, from the cognitive walkthrough, we got feedback that the colour of the word 'Review' on the restaurant's information page might not be clearly visible to users with colour deficiency. In addition, users familiar with mobile applications would quickly know how to escape from the pop-up window overlay. However, beginner users might find it a little difficult to find a way to escape the pop-up window overlay. Hence, to improve on this, we should change the colour of the text with links, with different colours, so that users with a colour deficiency can easily spot the link. Also, we should add a clickable 'X' icon on the top of each pop-up window. Hence, even users who are unfamiliar with mobile applications would still be able to escape from the pop-up window.

2c Reflection

Lessons learned from designing for the specific application Interface

Lesson 1:

We have learnt that when designing a new feature for an existing application or a system, it is best to conduct a heuristic evaluation on the existing application or a system. Conducting a heuristic Evaluation could help the designer identify the usability problems of the existing application/system and come up with some solutions. Also, from the heuristic evaluation, the designer can find some good usability and decide whether to maintain the good usability on the new features or identify whether that good usability can be further improved on the new system with the new features. When conducting the heuristic evaluation, it is better to evaluate while considering what version of the application/system it is, who is the expected users of the application, where the users would use it, when the users use it, and how they will use the application/system. Hence, the designer can better identify the usability problems and the good usability since the designer is also experiencing similar experiences as the users. Therefore, the first lesson we learned is that we should first start with a heuristic evaluation of the existing application/system when designing a new feature for an existing application/system.

Lesson 2:

Also, we have learnt that after identifying the usability problems and the good usability of the existing application/system's interfaces, we have to identify and understand the context of use and the users for the new system and gather the requirements and specify them. Before starting the project, we always thought providing a fancy and easy-to-use interface design is the only thing that mattered. However, after working on this project, we have learned that even with a fancy interface design, it is not a good design interface if the design does not consider the user and its context of use. Hence, I learned that we should first understand the context of use and the users. This could give us a better insight of the design. When identifying the context and the user, we should consider the general uses of the system but also the specific use cases depending on the user personas we have identified. Doing this could help the designer to know what to consider when designing the new feature and get some idea of how the users (general users or special types of users) would perform different tasks. After identifying and understanding the context and the users, we should state the functional and non-functional requirements for the new features of the existing application/system. Stating the requirements can help us understand the new features better and how it should work. I learned that specifying the requirements gives us a specific goal when designing

the interfaces for the new features. For instance, if we are designing a discussion feature for an existing application, the functional requirement should specify what the discussion feature should do, and the non-functional requirement should specify how the discussion feature should work.

Lesson 3:

Last but not least, we learned that creating prototypes which satisfy the functional and non-functional requirements is important because it can help us to test out the feasibility of the requirements and also be able to visualize how the new features are expected to behave in the existing application/system. I think it is better to create the LFPs at the beginning by sketching or using a Balsamiq tool to get the general look of the design. We also learned that creating LFP helps in getting a big picture of the new features. For instance, if creating the discussion feature, LFP could show how the design could satisfy all the requirements in a simple sketch. Based on the LFPs, we can create MFPs to have more detailed implementations of the design interfaces. From creating the MFPs, I learned that it is best to create both Horizontal and Vertical MFPs. This is because we can get general insights into how the new features will combine with the existing application/system. For instance, how the discussion features will look like with the existing system. Also, with the Vertical MFP, we can implement detailed interfaces for some specific requirements and check the feasibility of the requirements. Most importantly, from designing the interfaces for the new features, I learned that doing a cognitive walkthrough with a person or people who have general knowledge on designing could help improve the design. A cognitive walkthrough is like an evaluation, which can help to identify the design's weaknesses that I could not find by myself.

Tools/Methods used and how they helped to create a better design

From conducting the Heuristic Evaluation (Method) on the existing interface of the SFU Snap application, we learned that we could identify various usability problems and good usability. Those aspects were able to be identified by conducting the evaluation by considering what version the application is, who the user is, where the user uses the application when the user uses the application, and how the user uses the application. This helped us to make a better design because it helps us to identify the usability problems and find the solution to it. Also, it helps us to identify the good usability and able to maintain the good usability on the new feature or find improvements on the good usability.

From gathering and specifying the functional and non-functional requirements for the SFU Snap application's Dining feature, we learned that these could help us to get an insight of what the new features are and how they should work on the interface. Hence, this helps us to create a better design since it can give us a clear goal to design

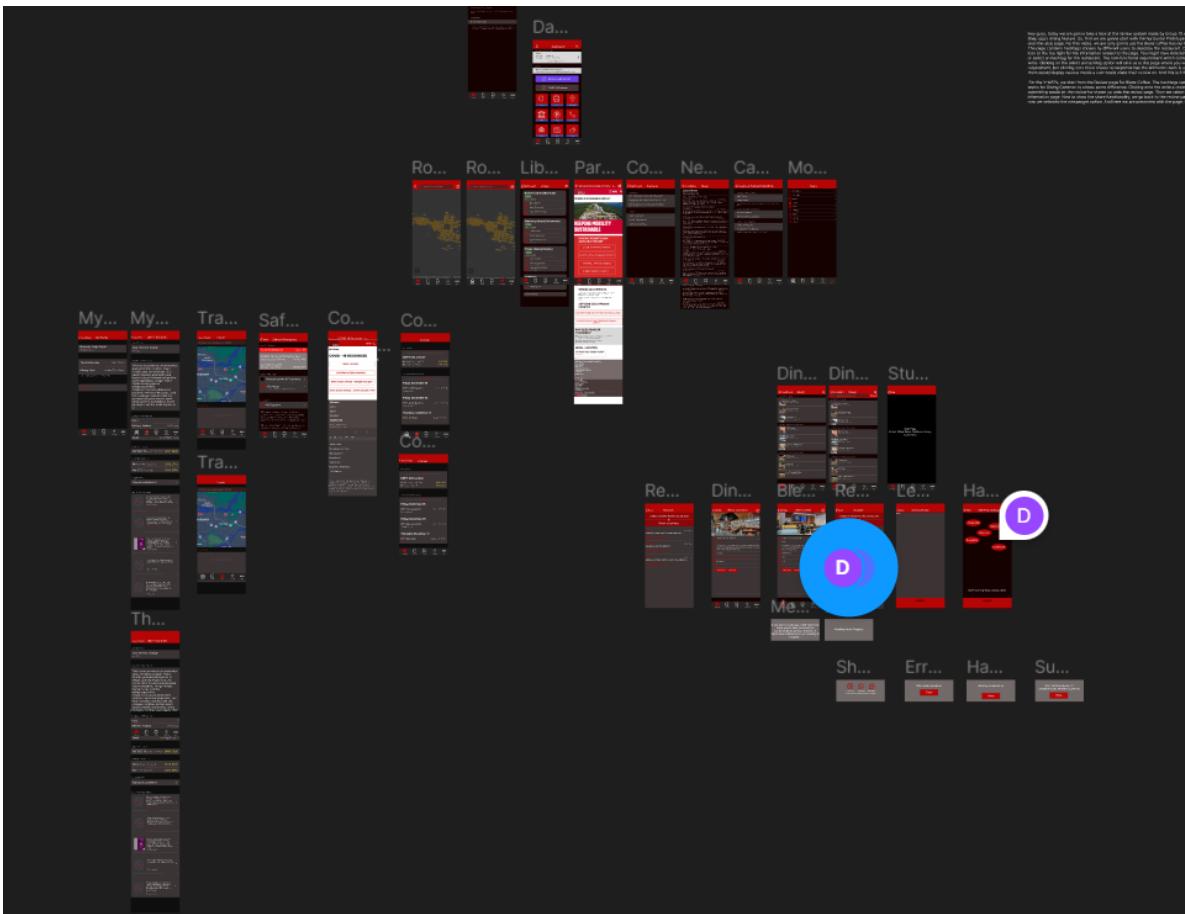
interfaces which could successfully satisfy all the requirements. Hence, it will reduce confusion.

From creating LFP prototypes using Balsamiq tool, we learned that LFP could help us visualize the functional and non-functional requirements in a simple graph and able to obtain a general idea of how we should create the designs to satisfy the requirements. Also, from creating MFPs (Horizontal and Vertical MFPs) with Figma, we learned that Horizontal Medium-Fidelity prototyping could illustrate how the new feature will expect to work with the existing system/application. Furthermore, we learned that Vertical Medium-Fidelity prototyping could show us how the specific tasks/important features could expect to work and able to identify the weakness and the strength of the design. Prototyping can help us to create a better design because it can help us to get a clear illustration of how it could satisfy the requirements and help us to find problems with the interfaces, which ultimately allows us to create high-quality designs with minimized usability problems.

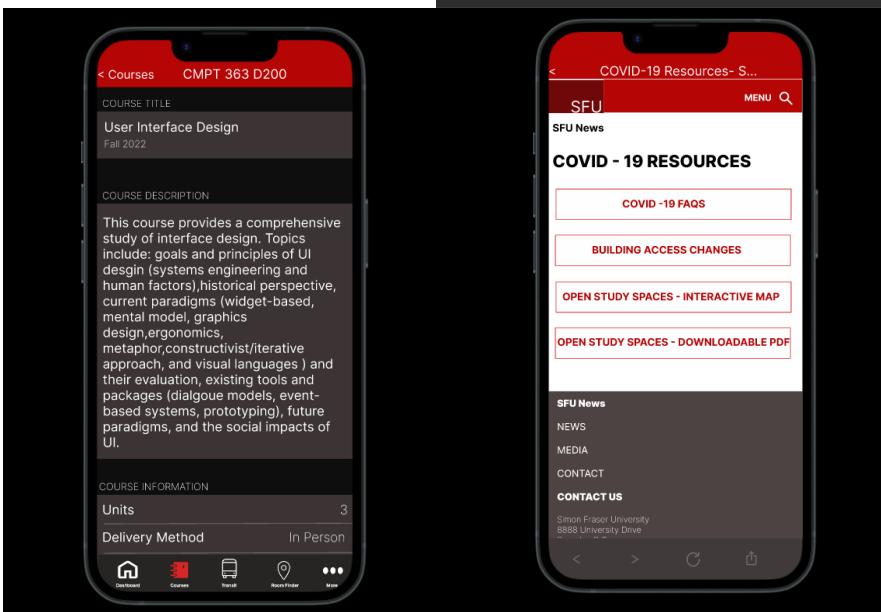
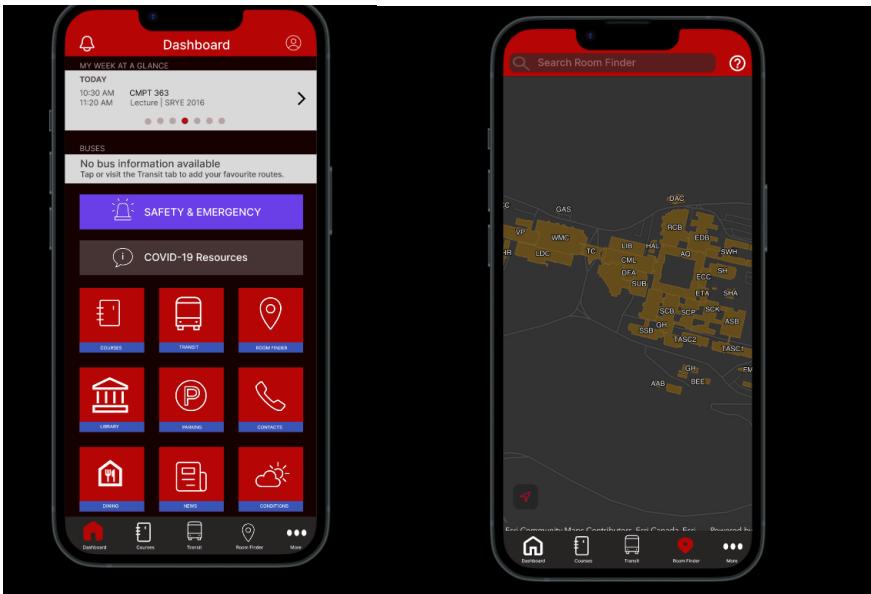
From conducting a Cognitive Walkthrough with a classmate, we learned that it could help us identify the problems that we could not identify while designing the interfaces. From observing how the evaluator performs every action to achieve a specific task, we could identify what we have missed on our design and also from the evaluator's feedback, we could further identify our design's strengths and weaknesses. Hence, this can help us to create a better design because it helps us to reduce interface problems and help us to create high-quality design interfaces.

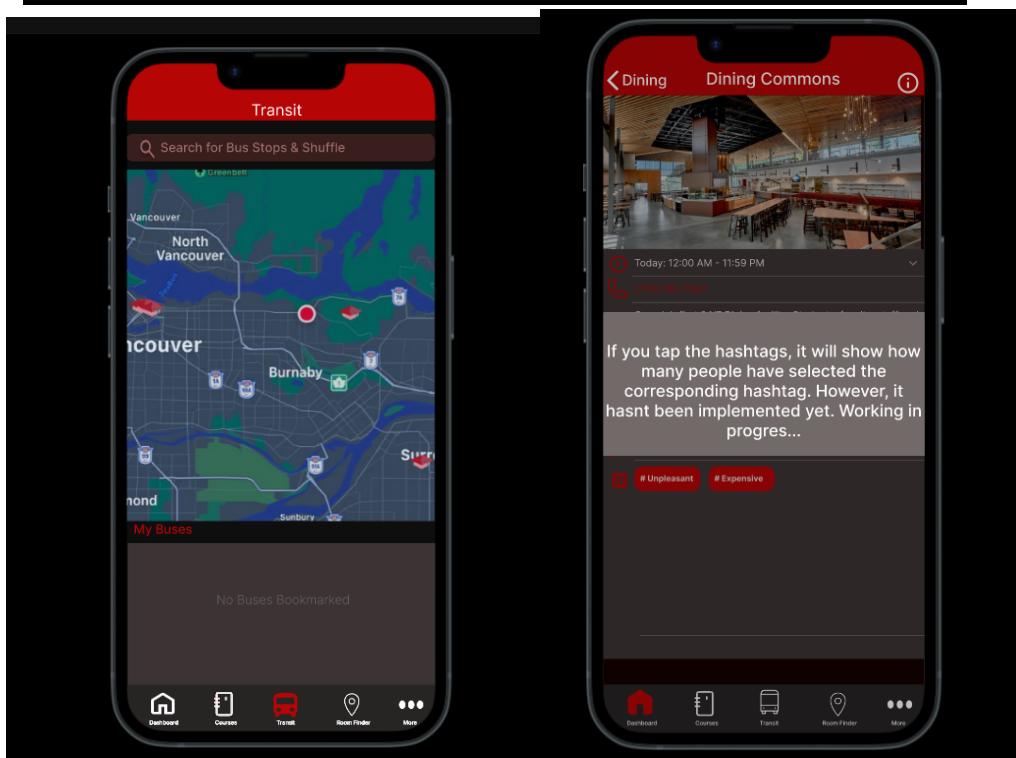
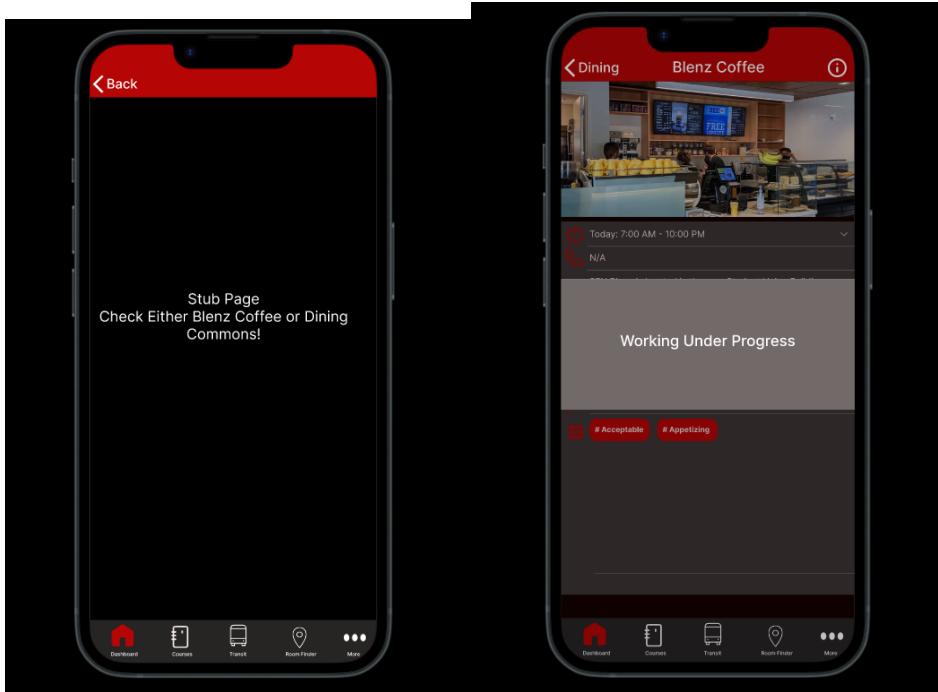
Appendix

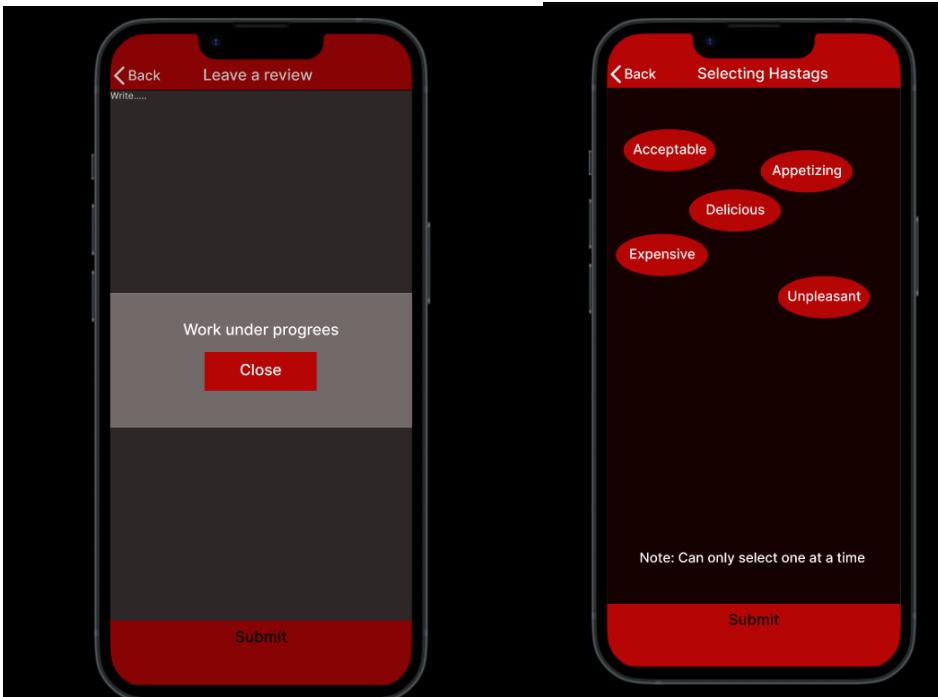
H-MFP:



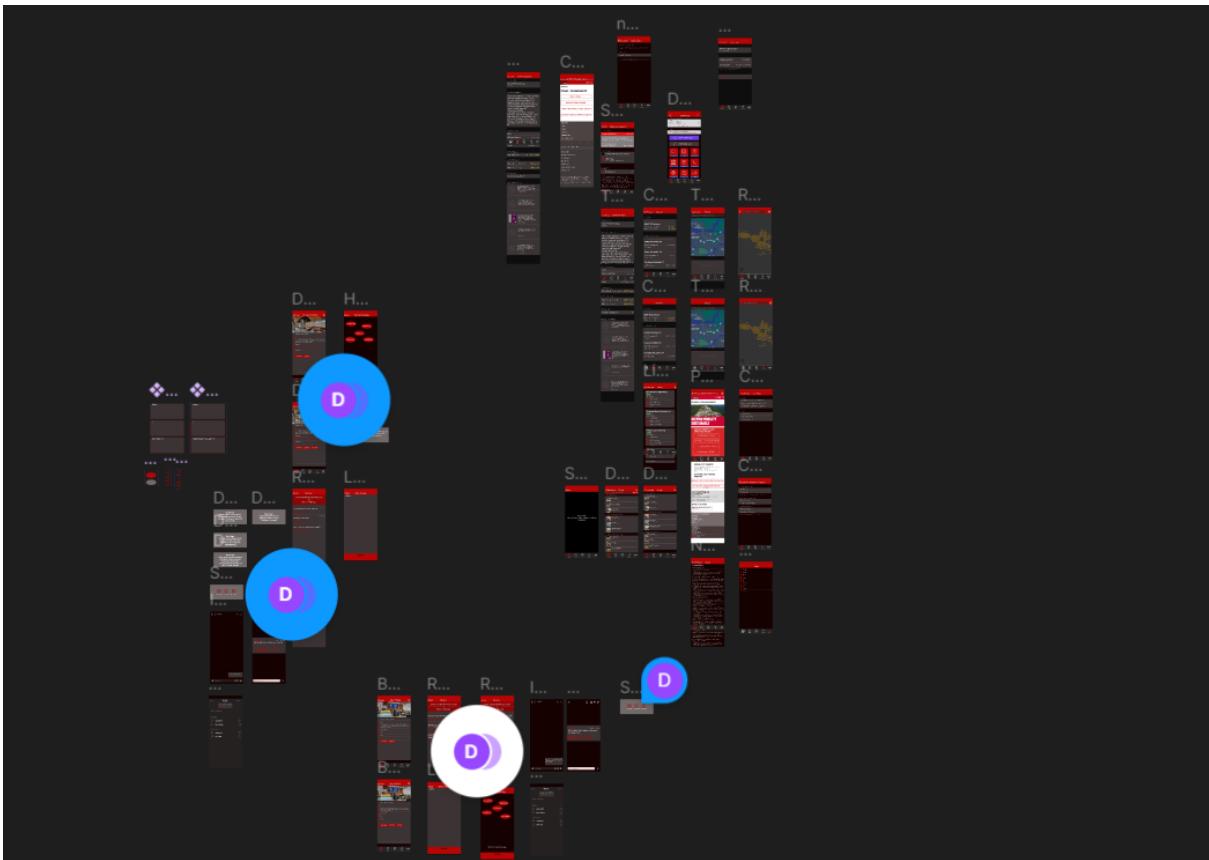
overview of H-MFPs







V-MFP:



Overview of V-MFPs

