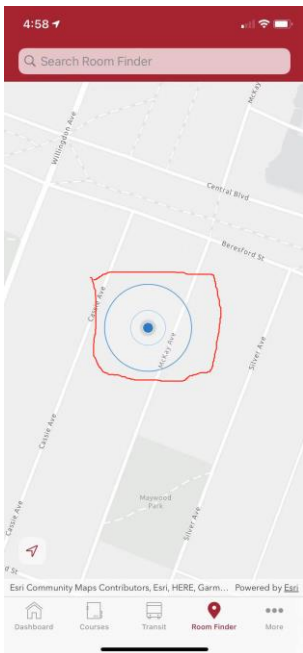1.Three problem statements that describe what key problems/opportunities this system is trying to address for students.

- [Students who just study in SFU] need [to quickly search the classrooms] in order to [attend class on time].
- [Students in SFU] need [to quickly search the courses and the course details] in order to [decide which course should they take].
- [Students in SFU] need [to quickly search the textbooks online] in order to [prepare the course materials].

#: 1	
Name: "Room Finder" online map without direction shown.	
Relevant heuristic: Visibility of system status	
Evidence of issue: The map only shows the location of the user. The direction is invisible. *Figure 1. SFU Snap Room Finder page, with the user location highlighted.*	
Detailed explanation: When students wish to find the classroom via the Room Finder map on the SFU Snap, they cannot see the current working direction. This violates the heuristic of system status visibility because it does not keep users informed about their direction. Moreover, since the direction is not shown on the map, users need to walk in different directions to check whether they are in the right direction.	
Severity (minor, major, critical): 4 - Critical	

Justification:

Frequency

This issue comes with relatively high frequency. Since new students are not familiar with the classrooms, they are highly likely to use the Room Finder functionality. Therefore, the Room Finder is often used.

Impact

This issue is hard to overcome because students have to walk in different directions to see whether they are in the right direction.

Persistence

This is not a one-time problem because new students will be continually bothered by the undirected Room Finder map. If new students want to use the map to find the room, they have to walk in different directions to see whether they are in the right direction.

Weighting

This issue has a high degree of frequency, impact and persistence. Therefore, this issue is deserving of a severity rating of four.

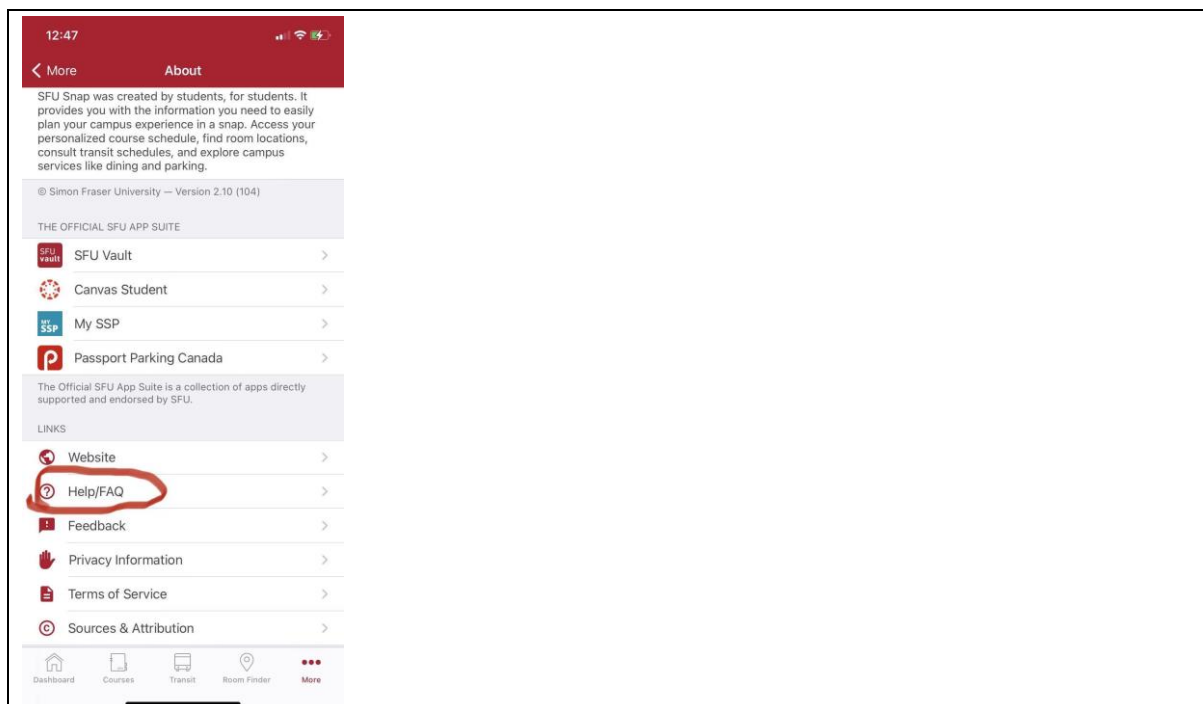| #: 2	
Name:	
"Help/FAQ" is hard to find.	
Relevant heuristic:	
Help and documentation.	
Evidence of issue:	
The "Help/FAQ" functionality is hided in the corner.	
The path of "Help/FAQ" is:"More"-> "About"-> "LINKS" -> "Help/FAQ."	

Figure 2. SFU Snap "About" page, with the "Help/FAQ" highlighted.

Detailed explanation:

When students download the SFU Snap and wish to discover the functionalities of SFU Snap via "Help/FAQ," they need to access the "More" and click "About" and under "LINKS" to find the "Help/FAQ" functionality. This violates the heuristic of help and documentation because it is not easy to search and not focused on the user's task.

Severity (minor, major, critical): 3 - Major

Justification:

Frequency

This issue comes with relatively low frequency. Students are not likely to access the "Help/FAQ" frequently besides this functionality is hard to find. They are likely to give up using the "Help/FAQ".

Impact

This can be a difficult problem to initially overcome as the only way to find the "Help/FAQ" is to access the "More" and then click "About" and under "LINKS" to find it. It is not seemingly possible for students who need "Help/FAQ" to find it.

Persistence

This is a one-time problem because once students remember the "Help/FAQ" location, they can overcome this issue in future uses of SFU Snap.

Weighting

This issue has a high degree of impact. Even though the issue occurs with low frequency, this is only because the location prevents new students from using the "Help/FAQ." Therefore, this issue is deserving of a severity

rating of three.

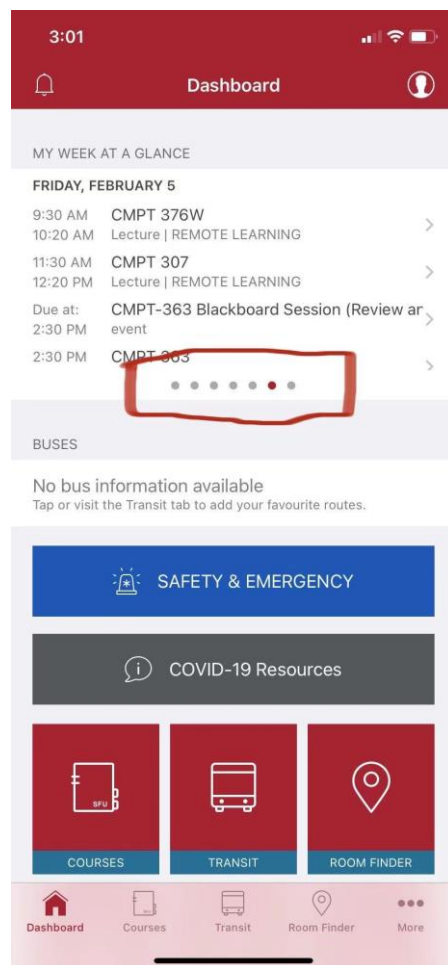| #: 3	
Name:	
No method to jump to particular day on Weekly Schedule.	
Relevant heuristic:	
Recognition rather than recall	
Evidence of issue:	
Students need to slide the scroll window to find the day. *Figure 3. SFU Snap "Dashboard" page, with the scroll bar highlighted.*	
Detailed explanation: When students wish to check the schedule of a particular day via the weekly schedule, they have to remember the date shown on the current page. This violates the heuristic of recognition rather than recall, because it forces students to remember the current date.	
Severity (minor, major, critical) 3 - Major	

Justification:

Frequency

This issue comes with relatively high frequency. Students will encounter this issue every time they are using the weekly schedule. They are forced to remember the current date since they cannot jump to a particular day.

Impact

This is not difficult to overcome since remembering the date of current page is not hard.

Persistence

This is not a one-time problem, because students will have to remember the current date every time they are using the weekly schedule.

Weighting

This issue has a high degree of frequency and persistence. Therefore, this issue is deserving of a severity rating of three.

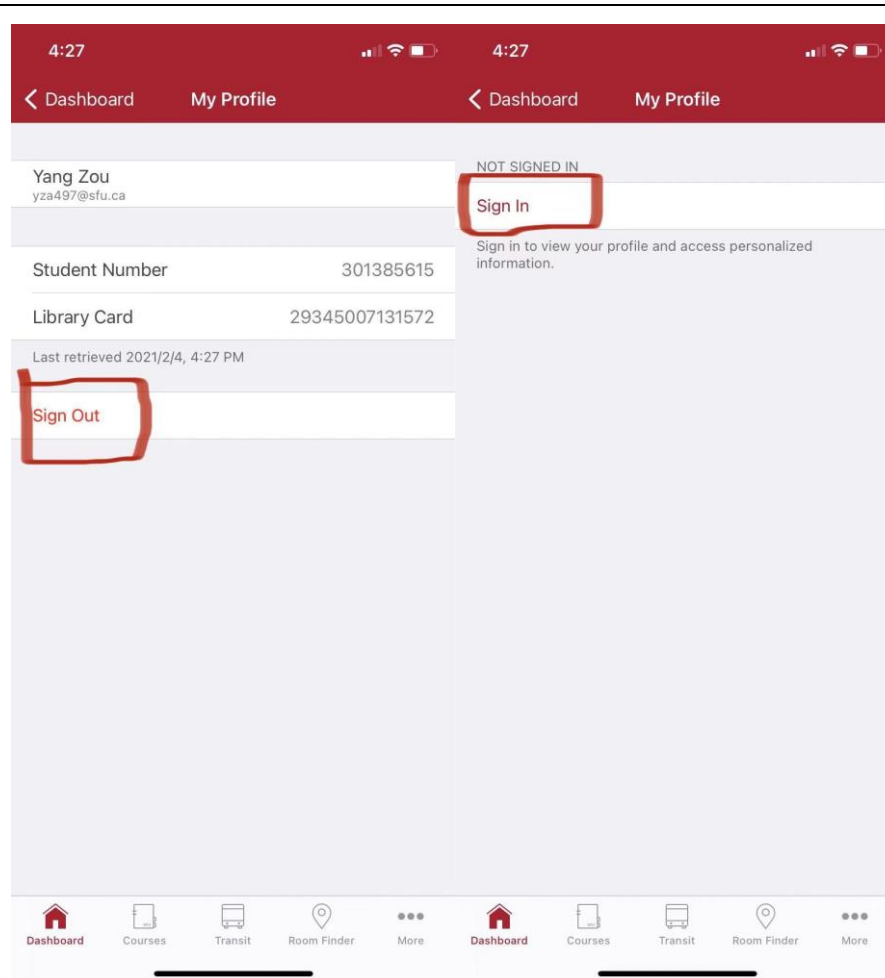| #: 4	
Name:	
No warning when sign out.	
Relevant heuristic:	
Error prevention	
Evidence of issue:	
When students carelessly touch the Sign Out button, there is no warning to check if they really want to sign out.	

Figure 4. SFU Snap "My Profile" page, with the sign in/out buttons highlighted.

Detailed explanation:

When students carelessly touch the Sign Out button, there is no warning to check if they want to sign out. This violates the heuristic of error prevention because it should check or warn students when touching the screen mistakenly.

Severity (minor, major, critical): 4 - Critical

Justification:

Frequency

This issue comes with relatively low frequency. Students are not likely to sign out frequently.

Impact

This is a difficult issue to overcome because it is easy to mistakenly touch the small Sign Out button on a small screen.

Persistence

This is not a one-time problem, because students will sign out directly every time they tough the button.

This issue has a high degree of impact and persistence. Although the frequency is relatively low, the consequence is that they need to type the id and password again to sign in. Therefore, this issue is deserving of a severity rating of four.

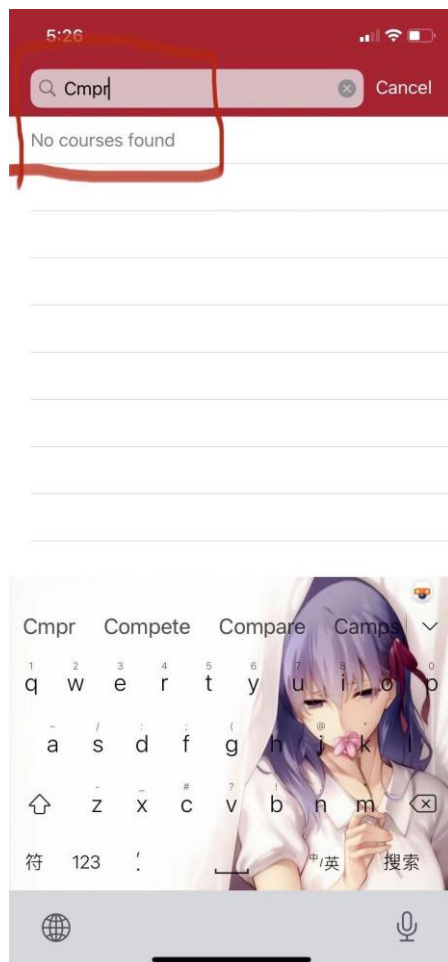| #: 5	
Name:	
No error message in searching box of Course Explorer.	
Relevant heuristic:	
Help users recognize, diagnose, and recover from errors.	
Evidence of issue:	
No error message indicates whether the input is a typo, or the input is not found in the course.	

Figure 5. SFU Snap "Course Explorer" page, with the search box highlighted.

Detailed explanation:

When students wish to search the course via the search box of the Course Explorer, they might type wrong word without any warning. This violates the heuristic of help users recognize, diagnose, and recover from

errors, because error messages are not presented with visual treatments.

Severity (minor, major, critical): 4 - Critical

Justification:
Frequency
This issue comes with relatively high frequency. It is likely for students to type wrong word since the screen is small and finger is relatively big.

Impact
This is difficult to overcome because it is easy to touch the keyboard on a small screen mistakenly. Not only that, if students type the wrong word, they do not know whether it is a typo, or the course does not exist.

Persistence
This is not a one-time problem because typing the wrong word is often happens, especially when using the phone.

Weighting
This issue has a high degree of frequency, impact and persistence. Therefore, this issue is deserving of a severity rating of four.

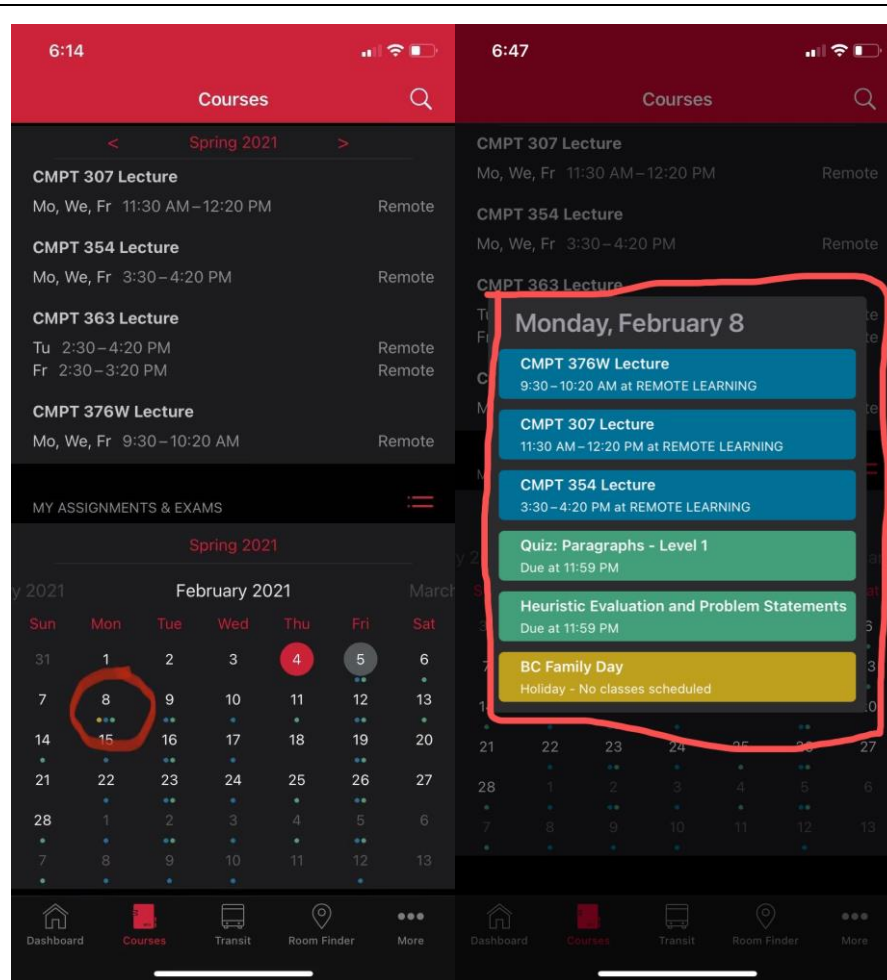| #： 6	
Name:	
Unclear icons of the schedule	
Relevant heuristic:	
Match between system and the real world	
Evidence of issue:	
The meaning of the dots and different colors are not clear.	

Figure 6. SFU Snap "Course" page, with the unclear icons and the corresponding meanings highlighted.

Detailed explanation:

When students first use the SFU Snap schedule, they have no idea what those dots and colors mean. This violates the heuristic of the match between the system and the real world because it does not use the concepts familiar to the user and does not have any explanations. Only when students click the date to see the details, they are able to know the meaning of different colored dots.

Severity (minor, major, critical): 3 - Major

Justification:

Frequency

This issue is very common as users will encounter this issue every time, they enter the schedule view and are not able to understand the meaning of the dots and colors.

Impact

This can be difficult to overcome as the only method to understand the meanings of colors and dots is by clicking on the date. If this aspect is not realized, then it is not seemingly possible to understand the meanings.

Persistence

This is a one-time problem because once users learn the meanings of colors and dots, they can overcome this issue in future uses of SFU Snap.

Weighting

This issue has a high degree of frequency and impact. Even though the persistence is relatively low, it cost time for students to understand the meaning of colors and dots. Therefore, this issue is deserving of a severity rating of three.

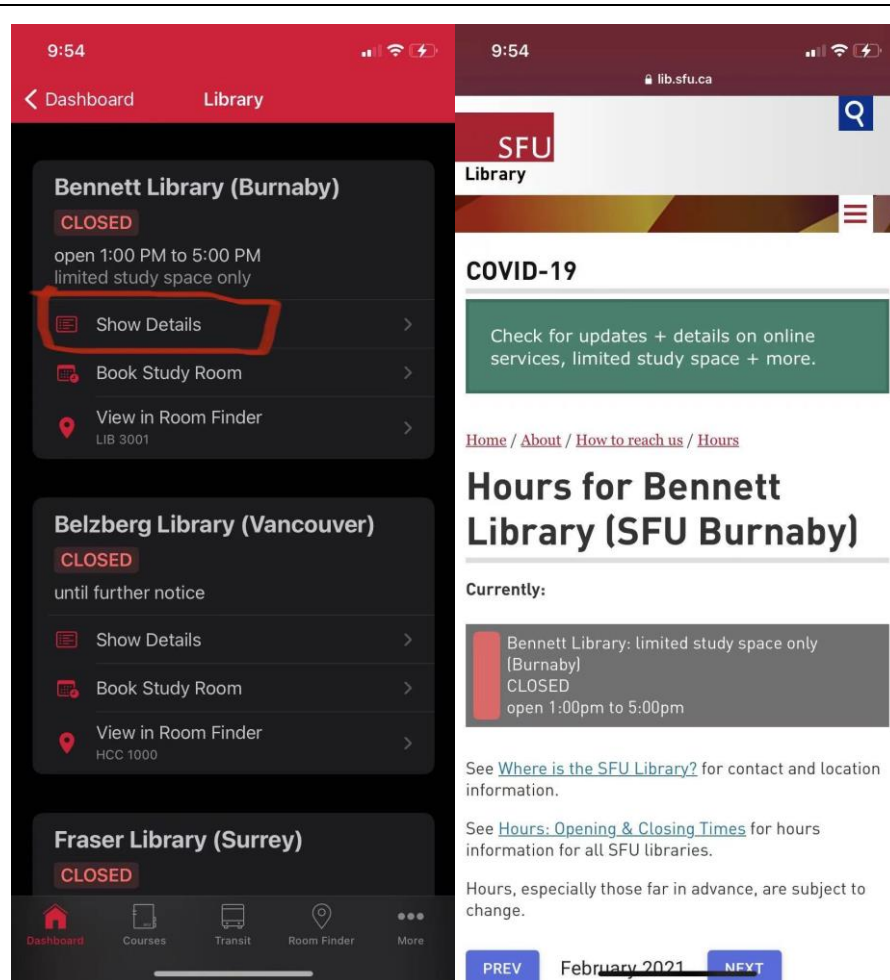| #: 7	
Name:	
Unclear how to return to the Library page from Show Details results page.	
Relevant heuristic:	
User Control and Freedom	
Evidence of issue:	
There is no button to return to Library page, the only way back is to scroll the window to left.	

Figure 7. SFU Snap "Library" page, unclear how to return to the Library page from Show Details results page.

Detailed explanation:

After reading the details of library information, students will often want to further chech the details of other library, however there is no button to do so. This violates the heuristic of User Control and Freedom, as users are then seemingly stuck on this page.

Severity (minor, major, critical): 3 - Major

Justification:

Frequency

This issue is very common as users will encounter this issue every time they click the "Show Details" to jump to the library result page and must rely on scrolling the screen to the left to back to the Library page.

Impact

This can be a difficult problem to initially overcome as the only method to return to the Library page is by scrolling the screen to the left. If this aspect is not realized, then it is not seemingly possible to return to the Library page.

Persistence

This is a one-time problem because once users learn how to return, they can overcome this issue in future uses of SFU Snap.

Weighting

This issue has a high degree of frequency and impact. Even though the persistence is relatively low, it is hard for new users to overcome if they do not notice hoe to return. Therefore, this issue is deserving of a severity rating of three.

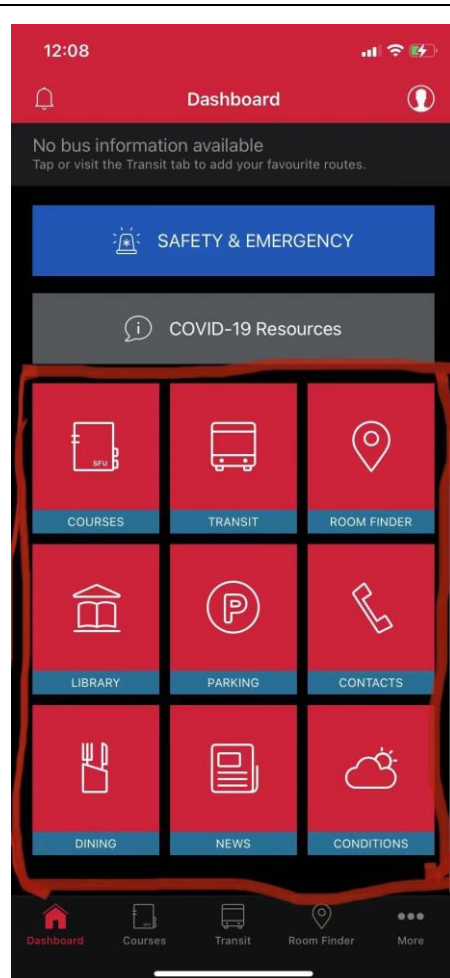| #: 8	
Name:	
The functionality icons cannot be customized.	
Relevant heuristic:	
Flexibility and efficiency of use	
Evidence of issue:	

Figure 8. SFU Snap "Dashboard" page, with functionality icons highlighted.

Detailed explanation:

SFU Snap does not allow students to customize the functionality icons in the "Dashboard" based on the most frequently used functionalities.

Severity (minor, major, critical):2 - minor

Justification:

Frequency

This issue comes with relatively low frequency. Since SFU Snap does not allow students to customize the icons, they have to give up customizing the functionality icons.

Impact

This issue cannot be overcome by the users since the SFU Snap does not allow this functionality.

Persistence

This is a one-time problem because once users notice that SFU Snap does not allow user to customize the functionality icons, they are forced to give up this idea.

#： 9	
Name:	
No direct return method in the course detail result page.	
Relevant heuristic:	
User control and freedom	
Evidence of issue:	

Students need to click "Sections", "Courses" and "Courses" to go back to the Course Explorer page.
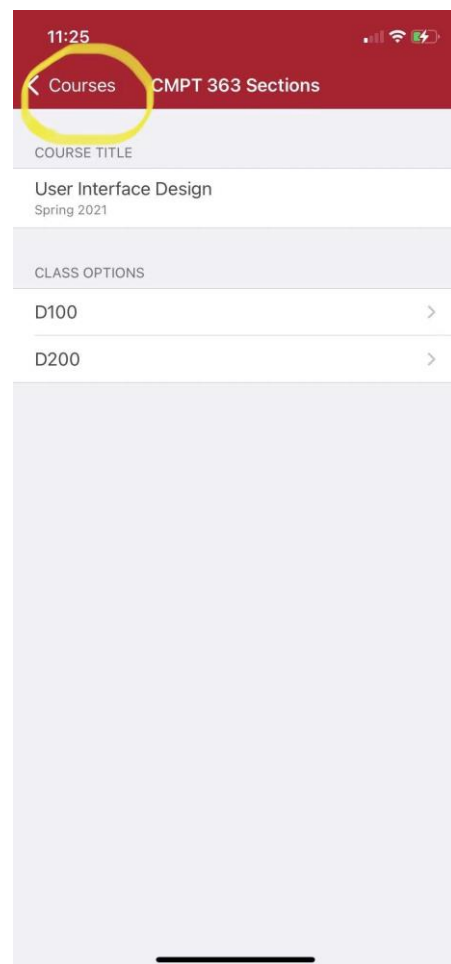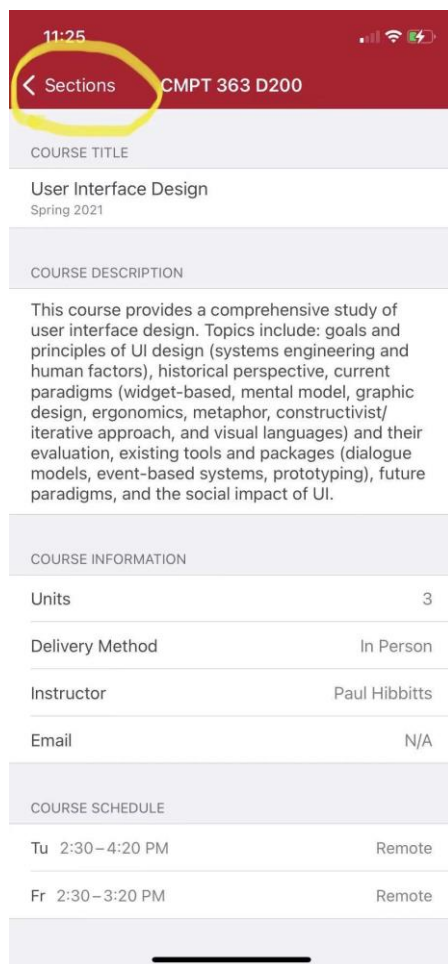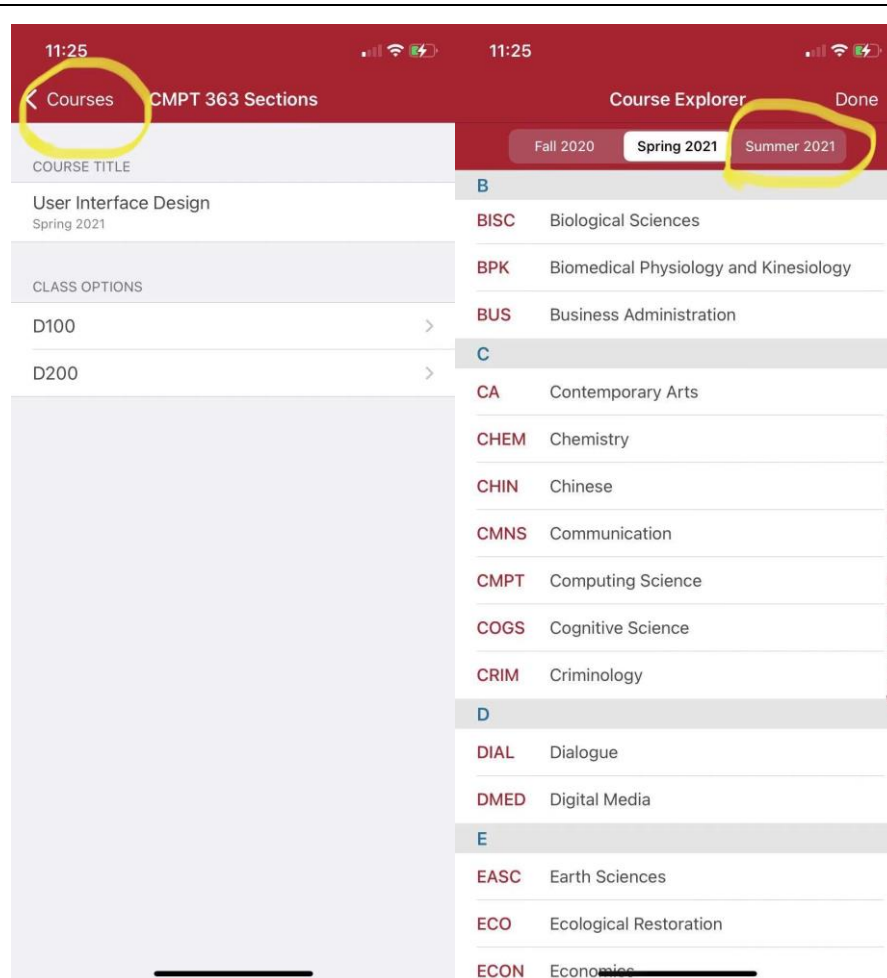
Figure 9. SFU Snap "Course Explorer" page, with the return icons highlighted.

Detailed explanation:

When students checked the details of a course via Course Explorer, they will often check the same course for other terms, however there is no direct return button to go back to the Course Explorer page. This violates the heuristic of user control and freedom, because students need to click "Sections", "Courses", "Courses" and "Summer 2021" to check the same course in another term.

Severity (minor, major, critical): 3 - Major

Justification:
Frequency
This issue comes with relatively high frequency. Students are likely to check the course in another term after checking a course. Every time they do so, they will encounter this issue.

Impact
This issue is not difficult to overcome since it requires users three or four seconds to return.

Persistence

This is not a one-time problem since students are likely to check the course in another term after checking a course. Also, this could happen multiple times if users search various courses at different terms.

Weighting

This issue has a high degree of frequency and persistence. Although the impact is small, it might cost lots of time to click the return buttons. Therefore, this issue is deserving of a severity rating of three.

#: 10	
Name:	
Unclear abbreviation in course page.	
Relevant heuristic:	
Match between system and the real world	
Evidence of issue:	
The meaning of Mo, We, Fr is not clear. It requires users to search.	
Figure 9. SFU Snap "Course" page, with the jargons highlighted.	
Detailed explanation:	

When users click the Course page and see those jargons, some of them do not know the meaning of "Mo", "We", and "Fr". It violates the heuristic of match between system and the real world, because it requires users to go look up the word's definition.

Severity (minor, major, critical): 3 - Major

Justification:
Frequency
This issue is very common as users will encounter this issue every time. Users click the Course button and those jargons are under the course name.

Impact
This can be a difficult problem to overcome as users do not know the meaning of the jargons. If they do not search those jargons online, then it is not seemingly possible for users to understand.

Persistence
This is a one-time problem, because once users learn about the meaning of those jargons they can overcome this issue in future uses of the SFU Snap.

Weighting
This issue has a high degree of frequency and impact. Although the persistence is low, it might cost lots of time to search. Therefore, this issue is deserving of a severity rating of three.