CMPT 363 D100: USER INTERFFACE DESIGN

Group Project Part 1

Project Team 6

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Part 1: Heuristic Evaluation and Design Requirements Specification

Part 1.1: Heuristic Evaluation

#: 1	**Problem/Good:** Usability Problem
Name: There is no undo option for adding or deleting events to the Canvas calendar.	
Relevant heuristic: User Control & Freedom	
Evidence of issue: Figure 1 Figure 2 Figure 3 The Undo option does not appear when I add an event to the Canvas Calendar, and there is no Undo option for me to add the event back when I select to delete the occurrence I added.	
Detailed explanation: When students use Canvas Calendar to add the events they need, they may accidentally add or remove the wrong circumstances. Still, Canvas Calendar does not provide an undo option, so it violates the "User Control & Freedom" design principle.	
Severity or Benefit (minor, major, critical): 3 (Major) **Justification:** This issue is major, when students add an error event in the calendar, they can delete it. This may not have a significant impact on students' life. Still, when students are not careful enough, they delete the events wrongly that they may not remember, so it is hard to rebuild this event. It is likely to impact the student significantly. For example, a student happens to delete a group meeting, which will affect students' study.	
Possible solution and/or Trade-offs: Adding the option of "undo" after adding or deleting events can effectively prevent students from adding or deleting events incorrectly.	

#: 2	**Problem/Good:** Usability Problem
Name: Canvas Calendar cannot save items that students have checked in the Calendars Items column.	
Relevant heuristic: Recognition rather than recall	
Evidence of issue: Figure 4 Figure 5 When students click Canvas Calendars on the left side of the Calendars item bar to cancel part of the options and click Canvas Calendar again, the options bar returns to its default state. All the options are selected again by system default.	
Detailed explanation: When students use Canvas Calendar to see the project data of a specific course, they need to re-select the course they want to search when they click the Canvas Calendar again, which violates the design principle of "Recognition rather than recall."	
Severity or Benefit (minor, major, critical): 2 (minor) **Justification:** Students at SFU have about four courses each semester, so there are not many options in the Calendars item column. Therefore, it is a minor thing that Canvas Calendar does not save students' choices. However, if Canvas Calendar can remember students' options, students can view the corresponding course progress more efficiently.	
Possible solution and/or Trade-offs: Adding an option button for students to choose whether or not to remember their choices on the Calendars of Canvas Calendar，so that it satisfies the requirements of students who want to focus on some specific course and those who want to focus on entire classes.	

#: 3	**Problem/Good:** Usability Problem
Name: Entering a non-time number character in the time bar when adding an event to the Canvas Calendar will still successfully add the event.	
Relevant heuristic: Error Prevention	
Evidence of issue: Figure 6 Figure 7 When I input the non-digital time "TIME" and "ASD" in the time bar, although there is a reminder below that I made an error in time input, I can still successfully add this error event after clicking the "Submit" button.	
Detailed explanation: When students use the canvas calendar to add events with the wrong time or scrambled code on the time bar, these events can still be saved on the Calendar, which violates the design principle of "Error Prevention."	
Severity or Benefit (minor, major, critical): 2 (minor) **Justification:** This issue is minor because when students input the wrong time or scrambled code, there is attention under the time bar to change the time to the correct data. This design satisfies the principle of "Help Users with Errors," so that minor students will make this kind of mistake, but it will be better if the system does not allow saving the event with the wrong time or scrambled code.	
Possible solution and/or Trade-offs: Adds a procedure to determine whether the time is correct before submission. Submit is not allowed when the time is wrong.	

#: 4	**Problem/Good:** Good Usability

Name: After students finish their assignment, Canvas Calendar will cross out the content of that part, and the position will be lighter in colour. And the colour of today on the calendar is darker than any other date.

Relevant heuristic: Visibility of System Status & Recognition Rather Than Recall

Evidence of issue: Figure 8 Figure 9

When I did this part, it was the 13th, and you can see that the 13th is darker on the calendar than the 17th. The canvas calendar saved all the projects of this semester, and I have finished and submitted Quiz 1, so it was crossed out, and its colour was lighter than Quiz 2 and Quiz 3 that I did not finish.

Detailed explanation: Today's colour is darker than that of other dates on the Canvas Calendar. The colour of the completed assignment is lighter than that of the unfinished project, which conforms to the design principle of "Visibility of System Status." The canvas calendar saved all the events of this semester to satisfy the requirement of “Recognition Rather Than Recall.”

Severity or Benefit (minor, major, critical): 4 (critical)

Justification: As a calendar designed for students, it shows which assignments have been completed, which can help students plan their learning projects. Meanwhile, it saves all courses this semester, which is also helpful for students to review before the exam, so it is critical.

Possible solution and/or Trade-offs: If assignments of different courses can be expressed in different colours on Canvas Calendar, it will be more intuitive and helpful for students to plan their studies.

#: 5	**Problem/Good:** Good Usability
Name: There are multiple ways to add an event to the Google Calendar.	
Relevant heuristic: Flexibility & Efficiency of Use	
Evidence of issue: Figure 10 Figure 11 Users can add events by clicking the Create button in the upper left corner of Google Calendar or directly clicking the calendar to the right of Google Calendar.	
Detailed explanation: When adding an event to the Google Calendar, users can select the date to add the event in the upper left corner and click the Create Button, or they can add an event by directly clicking on the exact date on the right-hand calendar. Google Calendar provides users with various ways to add events, which meets the design requirements of "Flexibility & Efficiency of Use."	
Severity or Benefit (minor, major, critical): 2 （minor） **Justification:** Google calendar provides a variety of ways to add an event. Still, most users prefer to directly click the date on the right side of the calendar because it is easy to edit, and they do not need to select a date on the left side of the calendar and then click the button to create an event.	
Possible solution and/or Trade-offs: Cancel the method which adds an event by clicking on the calendar in the upper left corner. This will save some space for other features and align with the Aesthetic & Minimalist Design principle.	

Part 1.2: Summary

Canvas Calendar is more suitable for SFU students, as it automatically adds items related to the course for students and helps students plan their learning process. However, the Canvas Calendar still has some shortcomings. It does not have the recall function of Google Calendar, affecting those students who like to add their calendar to Canvas Calendar. If accidentally deleting something, they may miss out on something important to them. This instance breaks the criteria of "User Control & Freedom."

When students click the course item bar on the left of the Canvas Calendar to select the course events they want to check, when they click Canvas Calendar again, Canvas Calendar cannot remember their previous choices. Each time it returns to the default state, contradicting the principle of "Recognition rather than recall."

When accidentally inputting non-time numbers or messy codes in the time column, the system will prompt students to have an error in time input. However, if students ignore the prompt, the event can be established on Canvas Calendar. It disobeys the "Error Prevention", and students may miss this event since they enter the illegal time.

Part 2: Improvements to The Interface You Evaluated

Part 2.1: Context Identification

(1) When: this calendar will be used and this interface will be accessed when users want to check events and dates in the calendar. The date and the time zones of the calendar will be set based on the time zone in the computer system, so the current date in this calendar will be updated automatically.

(2) Where: since this calendar is designed for students, students can access it at school or home via the Internet, log in and view the calendar.

(3) Who: this calendar is designed for students who are currently studying in universities and colleges.

(4) What: this calendar is designed to help students to add, modify and check their events, including lectures, assignment due dates and extracurricular activities.

(5) How: users can open and view this calendar on browsers, so the UI interface of this calendar will be designed based on the browsers. Users can also view and access this calendar via the client desktop.

Part 2.2: User Identification

This online calendar is designed for students who are currently studying in universities and colleges. Their course schedules will be integrated into the calendars, and students can also add new events into the calendars. The calendars will send notifications in case students miss any important events.

The first persona is students. Students can use our online calendar, and students can log in to the calendar App via the student portal. Students can only view and edit their calendars for the protection of privacy. Students can recommend some academic activities which will be held on campus.

The second persona is professors. Professors can add academic meetings that they will take or hold in the calendar. Professors can send news and notifications of academic activities, which include invitation links that students can RSVP to these events.

Part 2.3: Functional Requirements

(1) If students accidentally add or delete events they need, Canvas Calendar does not have the option to undo, so it needs an undo button to reverse the operation.

(2) Students can also send messages to other users, or receive information from other students and professors. Furthermore, if students accept invitations sent from professors, corresponding academic activities will be added to the calendars.

(3) Strong reminder button. Users can select the events that need to be

strongly prompted and design the prompt advance time and frequency. The system will automatically send a reminder email to remind users to participate in important events.

Part 2.4: Non-functional Requirements

(1) Users can change background colours, from white to black, or from black to white.

(2) Users can scroll to view other months and years which are not shown in default pages. Students can also view past and future events.

(3) Users can change the font sizes and languages.

Part 3: Illustrate Your Idea by Including One Sketch

The sketch of the functional requirements is shown in the figure: Figure 12. Ideas are as follows.

(1) Add an undo button for users to reverse operations.

(2) Add a bold message symbol. Users can send emails by clicking this button.

(3) Add a strong reminder button. When the user selects an event and clicks this button, it will turn to a solid colour and a new window will pop up for the user to select. The user will select the advance time and frequency of the alert, which will be associated with SF.

Part 4: Describe the Next Step

First, we specify the context of use. As a web-based calendar, it faces college or university students (secondly for professors). The calendar changes the specific time according to the time zone, and the user can add, modify, and delete events at will. Users can access the calendar through a browser or desktop client.

Next, we specify requirements. Apart from automatically adding course events, manually adding, modifying or deleting events, the calendar needs an Undo button, an invitation function, and a reminder function.

Then, we create design solutions. We add a “create” button for creating events and click on existing events to modify and delete functions. The system obtains the schedule of the user taken courses to create events automatically. We provide an Undo button to store the latest 5 operations to avoid accident event deletion or other wrong operations (the number of storages can be increased). An email button is used to send and receive event invitations. The calendar can send it by filling in the date, the event name and the receiver account. If receiving an invitation, the system adds the event matching the event time by clicking the accept button. A reminder button allows users to set by entering how long before the reminder, the importance level and selected events. The system decides the repeating times of the reminder by email based on the importance (the lowest level will be reminded once, and the highest level will be reminded at regular intervals until the event). After completing these designs, some LFPs are done to make these designs more flexible and convenient.

Finally, we will evaluate our design and invite college and university students to do some surveys. Then we will revise our design based on the results.

Appendix I: Figures

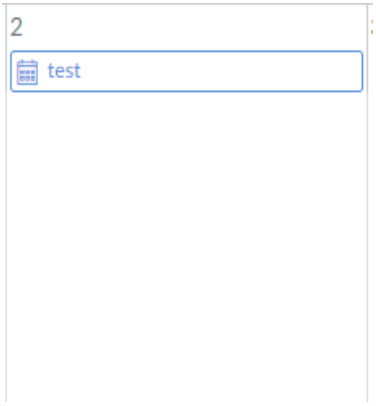

Figure 1: Heuristic Evaluation #1.

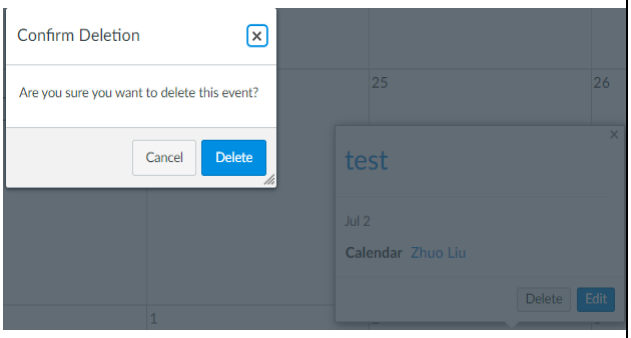

Figure 2: Heuristic Evaluation #1.

Figure 3: Heuristic Evaluation #1.

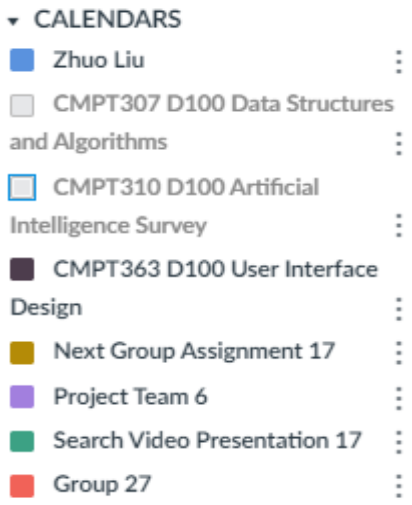

Figure 4: Heuristic Evaluation #2.

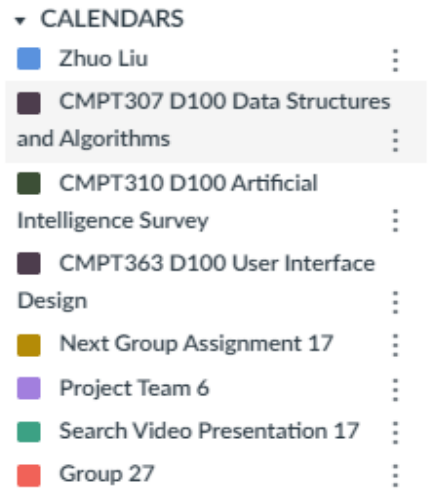

Figure 5: Heuristic Evaluation #2.

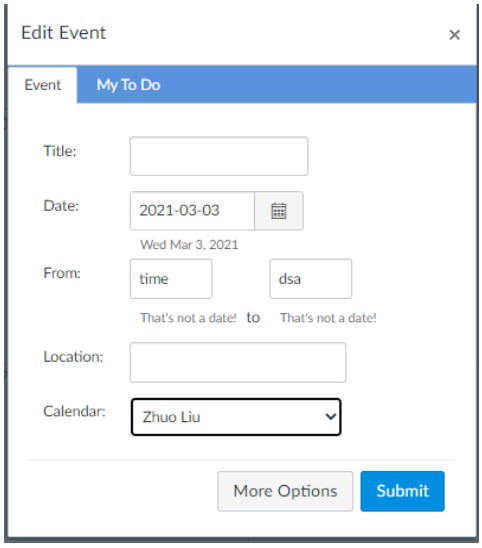

Figure 6: Heuristic Evaluation #3.

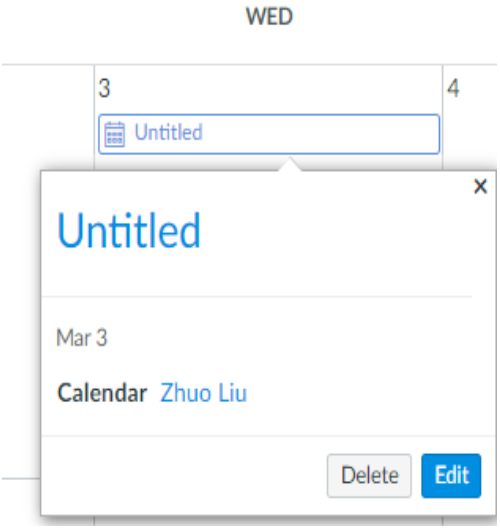

Figure 7: Heuristic Evaluation #3.

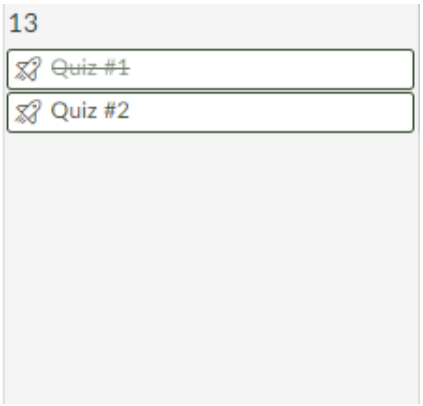

Figure 8: Heuristic Evaluation #4.

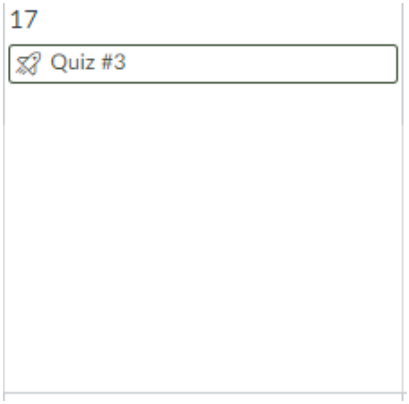

Figure 9: Heuristic Evaluation #4.

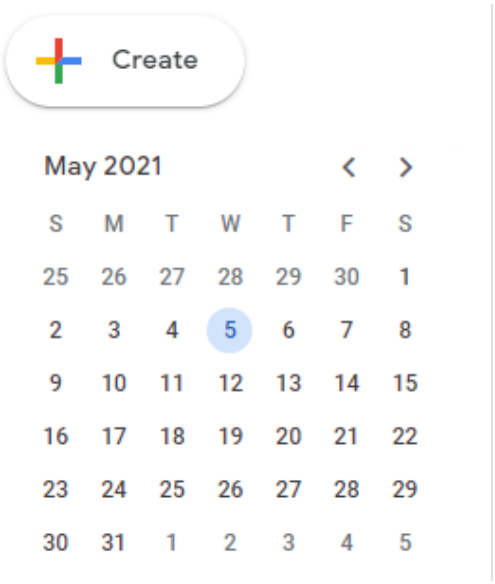

Figure 10: Heuristic Evaluation #5.

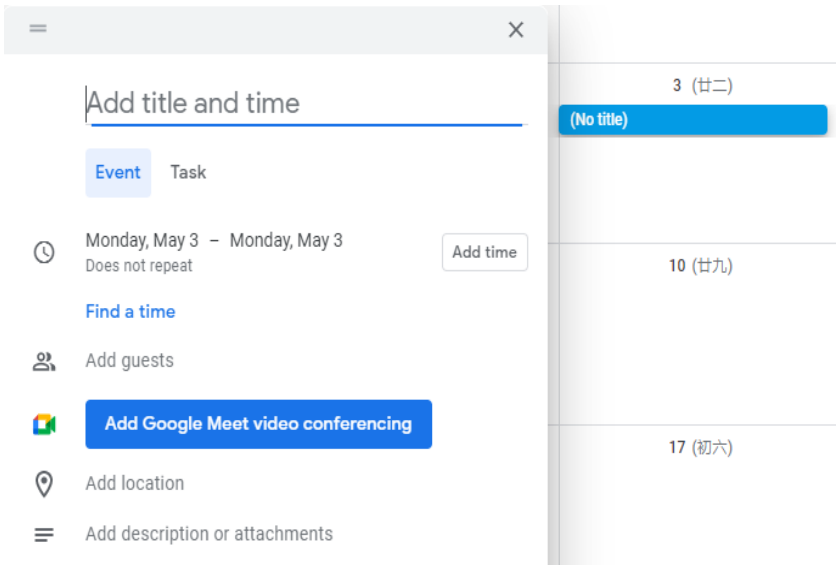

Figure 11: Heuristic Evaluation #5.

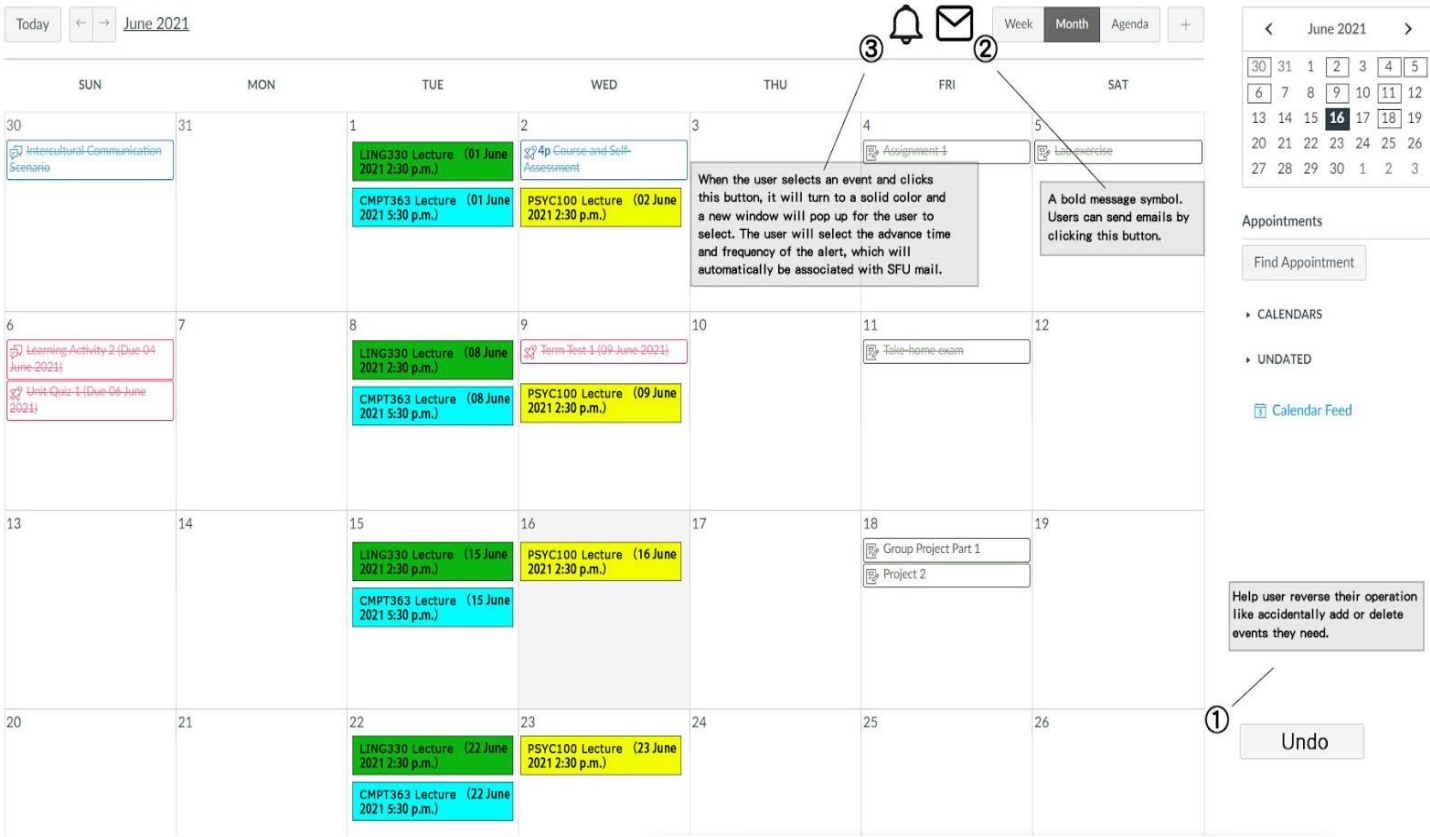

Figure 12: One Sketch of Part 3.

Appendix II: Team Contract

CMPT 363 Project Team Contract

Team Name:

Project Team 6

These are the terms of group conduct and cooperation that we agree on as a team.

Participation: We agree to....

maintain the attendance rate of the group. Each team member is responsible to attend every team-wide meeting, puts forward his critical thoughts or ideas toward each topic, and contributes to a productive outcome of the meeting.

Communication: We agree to...

use WeChat, a Chinese communication application, to communicate with each team member during the project. Each team member is responsible to reply the message within two hours to ensure the progress requirement is met.

Meetings: We agree to....

have a regular team-wide meeting once a week. During the process, each teammate is encouraged to hold a small-scale meeting with other team members. If half of the team agree to have a meeting during two regular meetings, an additional team-wide meeting would be held.

Conduct: We agree to...

be respectful and positive toward each teammate, and put forward constructive ideas.

Any kind of discrimination or assault toward others commits a serious violation of the

Team Contract and would be reported to the instructor.

Conflict: We agree to...

be polite and empathetic to all others to avoid conflict. If a conflict occurred, all sides of

the conflict needs to communicate respectfully and try to figure out a solution. The final

decision should be made by a two-thirds majority.

Deadlines: We agree to...

set harsh deadlines when assigning tasks to each teammate. Each member should

start the task as soon as possible. If someone met some issues and could not finish

the task on time, he is responsible to notify the team at least one day earlier than

the deadline. All teammates are responsible to help others.

Date: June 12th, 2021

Team Member's Name (Type your full official name here)	Team Member's Signature (Type your initials here)
Qi Dai	Q. D.
Zeyong Jin	Z. J.
Zhuo Liu	Z. L.
Guiyi Su	G. S.
Feifan Wang	F. W.

Template adapted from
https://www.cmu.edu/teaching/designteach/teach/instructionalstrategies/groupprojects/tools/TeamContracts/teamcontracttemplate.docx