CMPT 363 E100

Group 6 Project Part 1

Guangfeng Lin, gla69@sfu.ca, 301312131

Guangfeng Zhu, gza29@sfu.ca, 301379080

Yifan Zuo, yzuo@sfu.ca, 301354273

Yufan Zhao, yza384@sfu.ca, 301307606

Yurong Tao, yurongt@sfu.ca, 301342492

Heuristic Evaluation

- Usability problem:

#: 1	Problem/Good: Problem in Bb Collaborate Ultra
Name: Don't support undo when possible.	
Relevant heuristic: User Control and Freedom	
Evidence of issue: In the chat section of the Bb Collaborate Ultra, chat messages inputted cannot be withdrawn, modified, or deleted. Please check figure 1 on the appendix for this finding.	
Detailed explanation: This state violates the rule of user control and freedom, and there is no undo option as well. When users input chat messages, they cannot withdraw or correct messages if the message has a typo. Users can not even delete the message they input for any reason. After users send a chat message, they have no control on that message anymore.	
Severity (low, medium, high,): 3 (major) **Justification:** When users use this online video-conferencing application to collaborate with each other on projects, message input is an important complementation for some critical sections. This problem may affect the accuracy of decisions that the whole group makes during the discussion. The inaccurate message will be kept persistently because users cannot correct or delete it.	
Possible solution and/or Trade-offs: Adding a function that can withdraw, modify, or delete messages sent will be a good solution to solve this problem. The possible trade-off for this solution may increase operation to the database that stores the related data, such as reading and writing databases, and this may affect the fluency to run this online video-conferencing application.	

#: 2	Problem/Good: Problem in Bb Collaborate Ultra

Name: Don’t follow real-world conventions for showing information
Relevant heuristic: Match between System and The Real World
Evidence of issue: On the step of leaving session, the buttons of “Submit and Exit” and “Skip” make users confused. Please check the figure 2 on the appendix for this finding.
Detailed explanation: This state violates the rule of match between system and the real world. The step asks users to evaluate the performance of this application before users leave the session. If the information shown are “Evaluate and Exit” and “Exit Directly”, that will make more sense and follow real-world conventions.
Severity (low, medium, high,): 2 (minor) **Justification:** The severity for this problem is minor because users can leave session without serious impact. When users use this on-line video-conferencing application for a while, they will know the meaning of each button, and this problem affects mainly the new users.
Possible solution and/or Trade-offs: The possible solution is to change “Submit and Exit” to “Evaluate and Exit”, and change “Skip” to “Exit Directly”. Users will get clear information in this way, and there is no bad trade-off. There is less cost for this solution.

#: **3**	**Problem/Good:** **Problem in Zoom**
Name: Don’t provide history of visited meetings	
Relevant heuristic: Recognition Rather Than Recall	
Evidence of issue: In the zoom application users are not able view their meeting history record of meetings.	

Detailed explanation:
After leaving a meeting users are not able to view that meeting's information anymore, there is no meeting history record option in the zoom application. If there is a meeting history record users can easily join that meeting after they mistakenly leave the meeting for some reasons.

Severity (low, medium, high,):
3 (medium)

Justification:
This is a medium problem in zoom, if users are able to view the history records of meetings then this application can help users to review the history meeting that they had attended, this will provide a convenient way for users to plan out their schedules for meetings.

Possible solution and/or Trade-offs:
Add a history model in the meetings tap as shown in figure 4 on the appendix page.

#: **4**	**Problem/Good:** **Problem in Zoom**

Name:
Don't Support Viewing Internet Status

Relevant heuristic:
Visibility of System Status

Evidence of issue:
Zoom doesn't support viewing internet information and status for users.

Detailed explanation:
In the Zoom application users are not able view their internet status for their meeting quality. If users can know their internet latency for the meeting they can adjust to change their connection if the current internet connection is bad, in order to improve their meeting quality.

Severity (low, medium, high,): 4 (Critical) **Justification:** This is a critical problem in Zoom, if a user are connecting the meeting with a bad internet, but he is not aware of it, if he is asking questions, answering questions or even having a face call with somebody else, then the people he is talking to may receive crack voice deal to the high latency because of the bad internet connection.
Possible solution and/or Trade-offs: Possible solution such that adding a “Viewing Internet Status” model in the meeting window.

- Good usability:

#: **1**	**Problem/Good:** **Good in Bb Collaborate Ultra**
Name: Focus on window of video conferencing	
Relevant heuristic: Aesthetic and Minimalist Design	
Evidence of issue: When users join the online video-conferencing, the main focus is the window of video conferencing. Please check the figure 3 on the appendix for this finding.	
Detailed explanation: This interface design meets aesthetic and minimalist design. The window of video conferencing occupies most of the screen, and other options are designed in a pattern of stretch and hiding. All components are relevant to the content needed.	
Benefit (low, medium, high,): 4 (critical) **Justification:** The concise design is easy to learn and use, and the users can also remember easily where the components are. During the video conferencing, users don’t need more operations on this application so that they can totally focus on the conferencing.	

Possible solution and/or Trade-offs: Not applicable

#: **2**	**Problem/Good:** **Good in Zoom**
Name: Schedule Meeting With Google Calendar	
Relevant heuristic: Flexibility & Efficiency of Use	
Evidence of issue: Zoom provide scheduling meetings for user	
Detailed explanation: Users can use the scheduling function in zoom to plan out their meetings for the time they want. This schedule function is connected to the google calendar API, with the powerful usability of good calendar, zoom schedule will provide a same level usability for users.	
Benefit (low, medium, high,): 4 (Critical) **Justification:** This function is a critical pro in zoom, users can plan out their meetings easily through google calendar, and the future meeting will appear in the right side schedule in the opening page of zoom as shown in figure 5 on the appendix page. This is a great reminder for the users to not miss every single meeting they are going to join.	
Possible solution and/or Trade-offs: Not applicable	

- Summary and Finding:
  We implemented the heuristic evaluation of Bb Collaborate Ultra application and Zoom application based on Jakob Nielsen's Ten Usability Heuristics. We simulated basic tasks that university students may perform every day for collaborating with each other on projects. For the type of user, we assumed that the user was a third year or fourth year student at University. Because this Bb Collaborate Ultra application and Zoom are related to the educational systems, this user already has a student account and enroll course in the current semester so that this user can use Bb Collaborate Ultra, Zoom application and implement some related operations. We also found both positive and negative findings during the process of heuristics valuation. These two applications have several problems

where the rules of Nielsen's heuristics were not conformed, and we list four of them on the above forms. This application conforms to Nielsen's heuristics in several areas as well, and we also list two of them on the above forms. As a conclusion, these applications can satisfy the requirement for university students to collaborate on projects.

Design Requirement Specification

- Context identification:
  For some university students who have group projects and need to take remote video conferences with group members sometimes. There are several reasons to hold a video conference, group members cannot meet each other for special time such as quarantine; Group members may be at different physical locations; Taking video conferences is time-saving and convenient. They might firstly create an account and also create a group meeting room if there isn't one, then inviting their group members to the virtual meeting room. After this, any team members could hold a conference at any time, and other team members can attend or absent the conference. There are some etiquettes the user should adhere to. They typically hate network delay and expect smooth communication; They could do it any time with their device; They could reconnect to the conference if they lose their connection.

- User identification:
  - Jim is a 19-year-old first year university student in Computer Science major. He is new to the university and yearn to learn new stuff. He is an outgoing and passionate person who likes to communicate and share ideas with other students. He treats study quite seriously and expects high grades for his group project.

  - Flora is a 21-year-old third year university student in Economy major. She is familiar with the university system and knows how the courses work. She loves parties and would like to know different people. There are numbers of group meetings and presentations in her university life, she is satisfied as long as she achieves average grades.

- Functional requirements:
  - **Users can log in using their organization-related account**
    In the login page of the video-conferencing app, there should be a click button directing users to the login page of their organization-related account. Users just need to click the button and log in their organization-related account to use the video-conferencing app, without the need to register a new account.

  - **Users can record their meeting and watch recordings later**
    A recording button should be clearly visible in the main meeting interface to allow meeting holder and participants to record the meeting after getting everyone's permission. After that, the recorded meeting should be automatically uploaded to the recording section of the app. Users who are meeting holder or participants can use their account to login the app and watch recordings of their previous meetings.

  - **Users can share their screen on a real-time basis**

A screen sharing button should be clearly visible in the main meeting interface to allow meeting holder and participants to share their computer screen in real-time during presentation and information sharing process. Users can click the screen sharing button and select the part of their computer screen to be shared. Users can choose to share the entire screen or a part of the screen, and can stop the screen sharing at any time by clicking a button named “Stop Sharing.” The “Stop Sharing” button should appear once users slide their cursor.

- **The system allows users to chat in the chat box, with a support of undo function**
  A chat button should be put in the meeting menu as shown in Figure 1. Users can click the chat button to chat publicly or privately in the chat box. In addition, an undo function should be implemented so that users can right click their sent message and select “undo” to remove it if they find a typo or mistake immediately after they sent the message.

- Non-functional requirements:
  - **The application can work on all platforms**
    The application can work on mobile phones, iPad, PC and web, which means it is compatible with all systems, such as Android, IOS, Windows and MacOS. Users can use this application with any equipment.

  - **The application has a low demand for network quality**
    The application can run with smooth voice and the video without lag when the network is not good, then users can still have a smooth meeting and chat.

  - **The application will provide HD quality**
    The application provides HD quality during the meeting, then users can see other people’s screen more clearly to make sure they have a better experience.

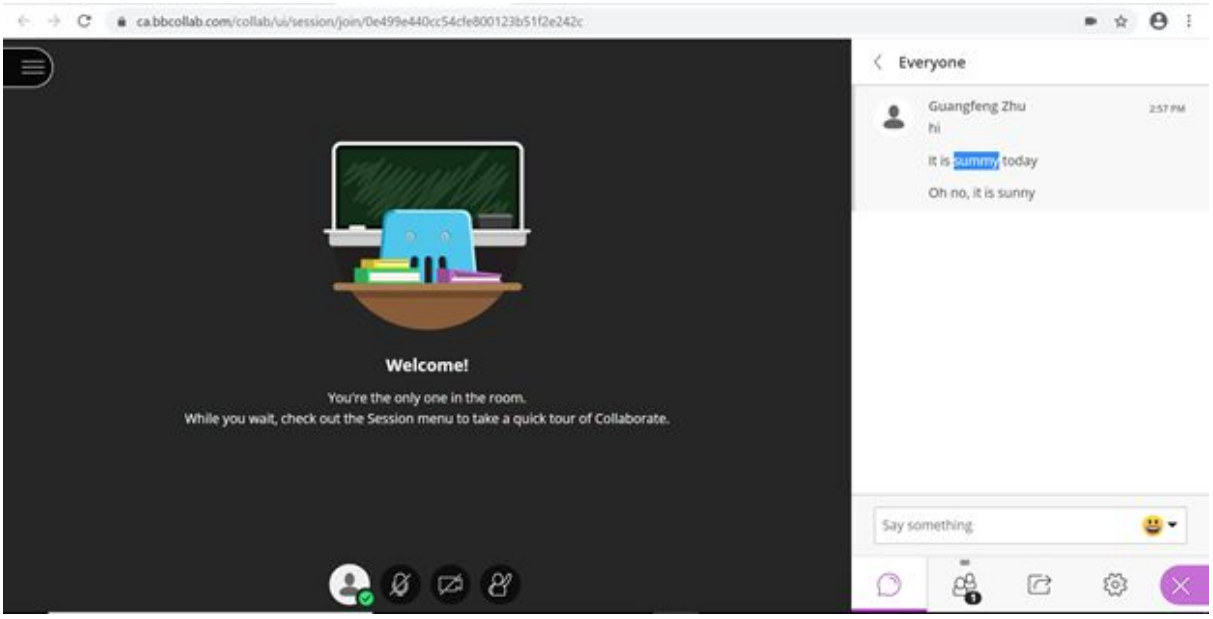
  - **The application will eliminate environmental noise**
    The application will weaken the user's environmental noise automatically when it detects other noises in the speaker’s environment to protect and highlight the speaker’s voice.

Next Step

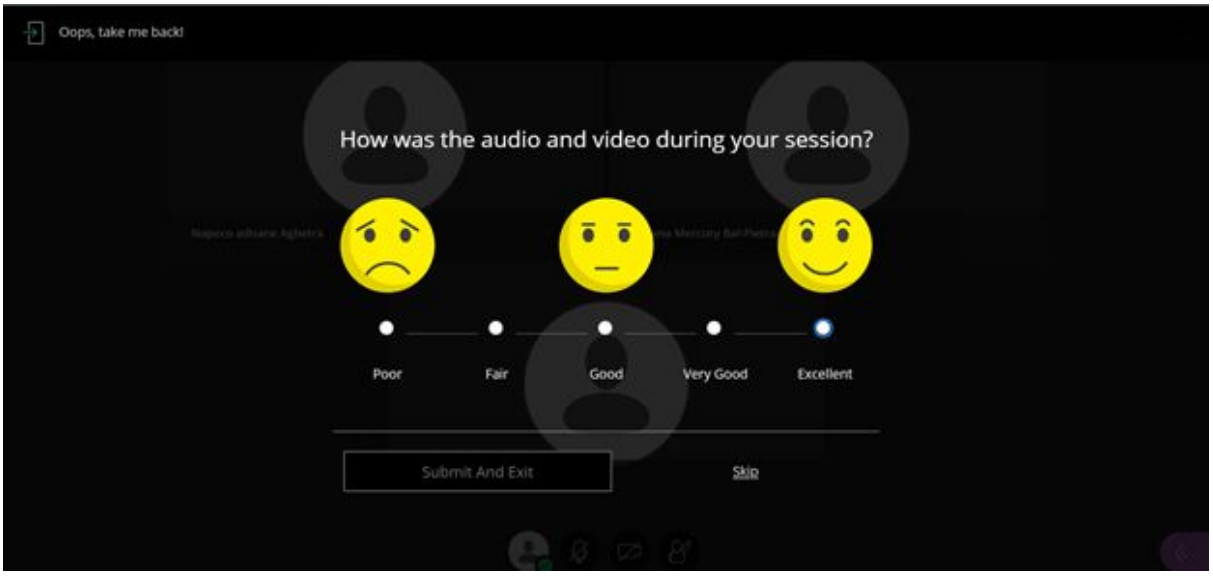
- Which steps:
  Create design solutions and Evaluate designs.
- How to accomplish:
  We will firstly draw the low-fidelity paper prototype of our application interface that includes some functionalities and several features. Then interview 5 target users, asking them some questions about our prototype, meanwhile, taking notes about pros and cons of that. After that, managing the notes and specifying new requirements about what we should add, delete and change to our previous prototype. Then we create a new prototype based on our new requirements. Interviewing different users and repeating our processes until we finalize our application.

Appendix

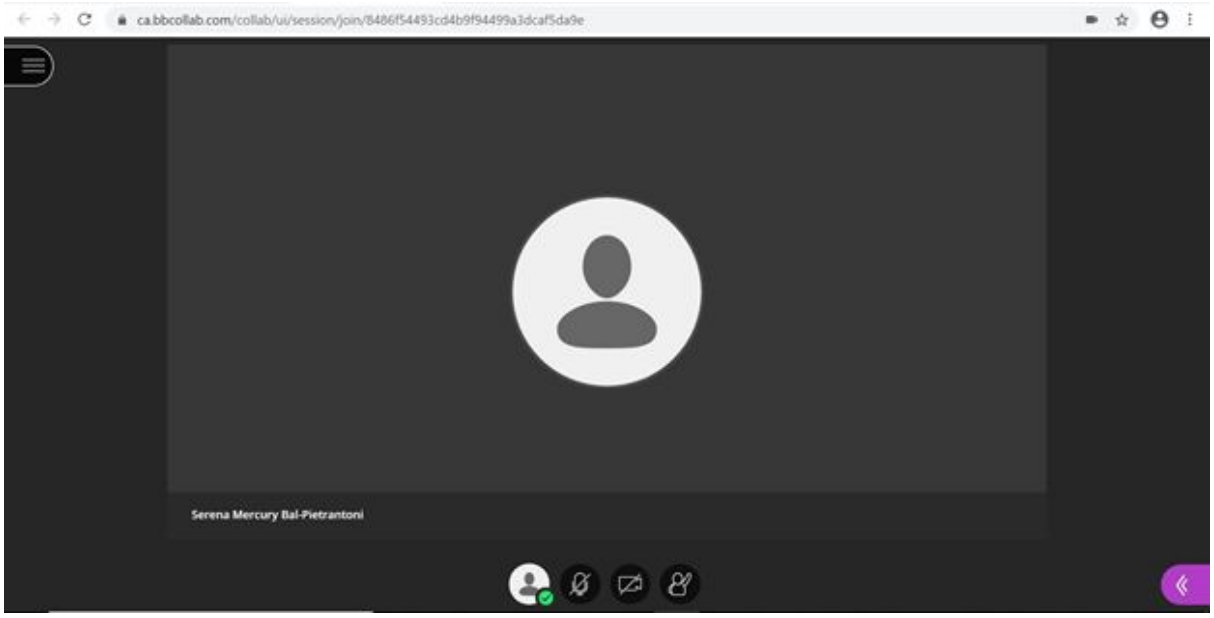
- Figure 1:



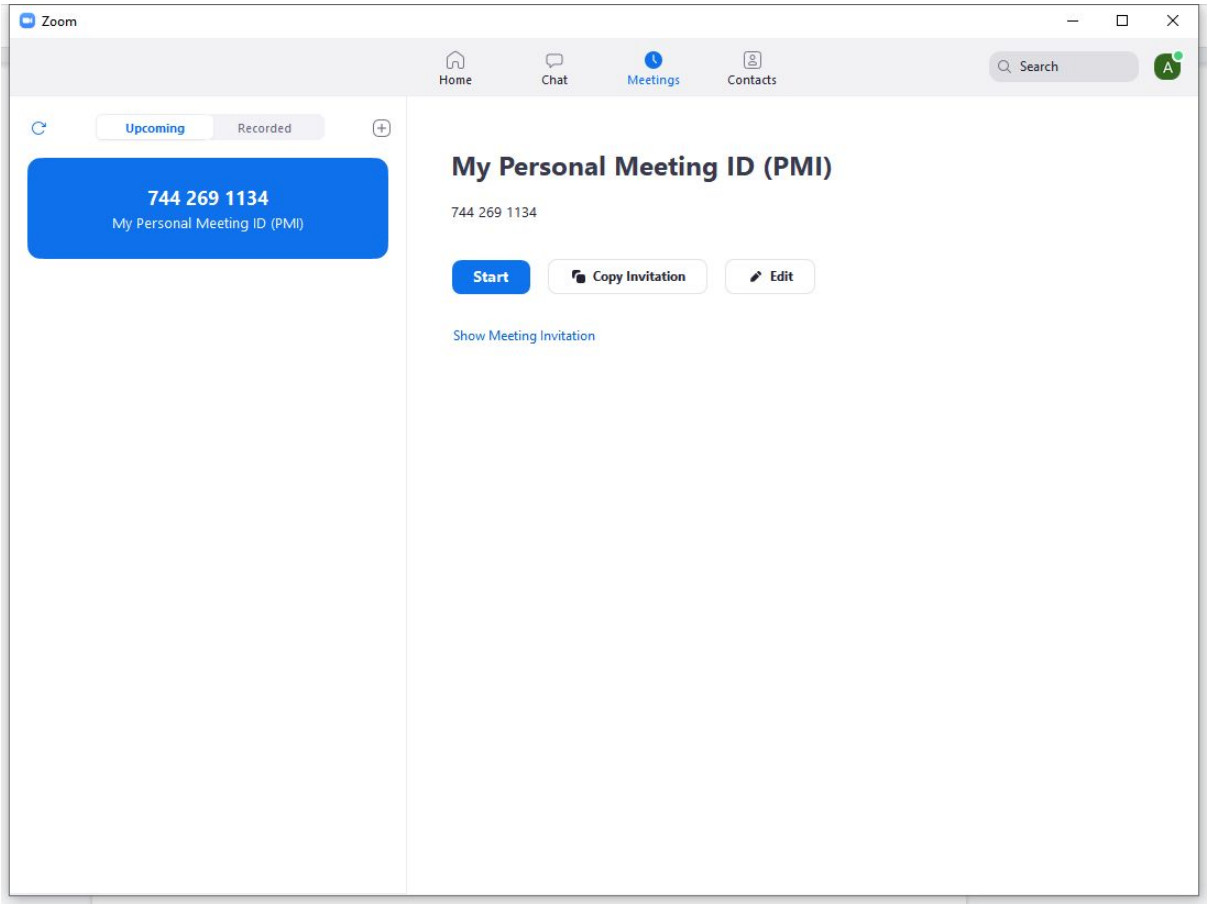
- Figure 2:



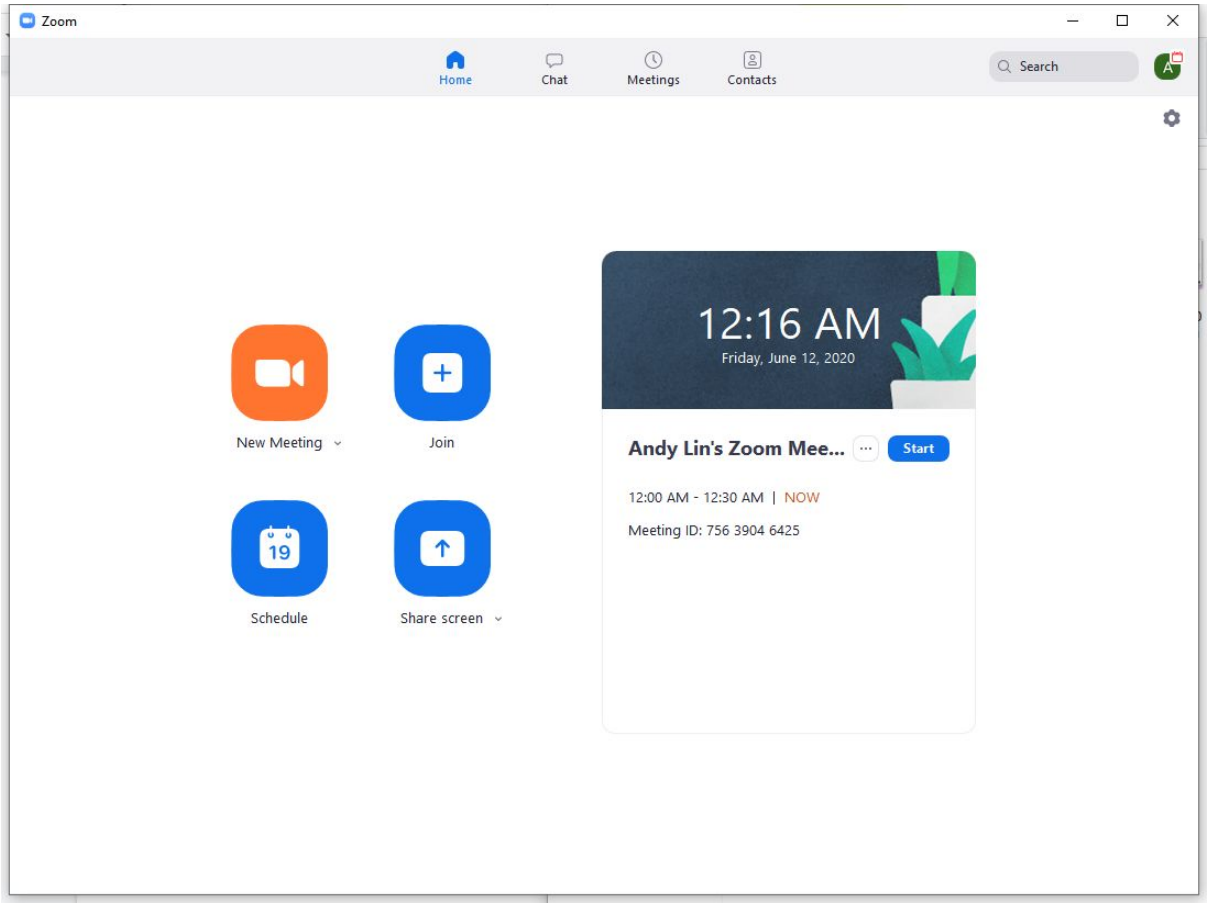
- Figure 3:



- Figure 4:



- Figure 5:


Zoom
Home
Chat
Meetings
Contacts
Search
New Meeting
Join
Schedule
Share screen
12:16 AM
Friday, June 12, 2020
Andy Lin's Zoom Mee...
Start
12:00 AM - 12:30 AM | NOW
Meeting ID: 756 3904 6425