

IT351 LAB Assignment 8

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1. Write the description for your prototype

- Text should be of appropriate size
- Controls like left swipe, right swipe, bottom left, bottom right, bottom middle swipes can be used to operate.
- Users should be able to access as many as possible all kinds of options irrespective of device used. All desktop features should be available on the wrist watch
 - join the call and should be able to talk, present his screen.
 - mute or unmute
 - to see all participants.
 - see the screen presented by others
 - chat with the persons
 - see their past chat history

All operations have to be clearly stated so that users can make decisions faster and reduce their cognitive load.

2. Define multiple screens and their contents (at least 5). For example, the Home page will have a join button.

- **Home screen** – Will have all teams with each team name and join button for each team. Users can search for a team using voice assistant or scrolling down.
- **Before the call screen** – Users can adjust their volume, mute, or unmute while joining the call and turning the camera on or off. Users can also leave without entering the call by clicking on cancel; hence the user will recover from his error of trying to join the call by mistake. Finally, the user can enter the call by clicking the join button.
- **Call screen** – This is the immediate screen after joining the call. If there are few members in the call, it shows their name and their profile pic. It also has options like mute, camera, present their screen, see participants list, open chat, raise a hand, gallery view of all participants, record the call, turns off the incoming video.
- **Participant's screen** - opens when the user clicks on the member's icon on the call screen. It shows all the presenters and attendees in the call and their respective counts. Users can search a particular participant through voice assistant or by scrolling down. The link to share the meet link is present on this screen.
- **Chat Screen** – This screen is open when clicking on the call screen's chat icon. Here, the user can type the message he wants to convey. It contains all the chats that take place in the call. Chat with a particular person can be accessed by clicking on the participant's name in a group chat or in the participant's list. It has many options to attach a link in chat or send emojis, GIFs, or stickers to make conversation look excellent and user-friendly.
- **Presentation screen** – This is when the user presents his screen by clicking on the present icon on the call screen and selecting whether to present the whole device or a particular screen. The presenter's screen would be visible to all others in the meeting.

3. Design controls to switch from one page to another and justify them. For example, Left swipe to open chat

- **Bottom swipe** – Used to end the call if the person is incall or bout to join it by swiping up from the bottom of the screen in a straight line, then stop and lift a finger. If the person is not in a call, this can go back to his previous screen from the present screen.
- **Lower right swipe** – Used to turn the camera on or off. If the camera is on, then the lower right swipe camera would be turned off, and if it is off, it will turn on the camera by swiping from the lower right of the screen towards the center of the screen.
- **Lower left swipe** - Used to mute or unmute the user in the call. If the user is on mute, he will unmute by a lower left swipe, and if unmuted, it will mute him. (swiping from the lower left of the screen towards the center of the screen)
- **Right swipe** – Used to open the chat screen by swiping from the right side of the screen towards the center.
- **Left swipe** - Used to open the participant's screen if the person is incall or else open the user's history of his past calls by swiping from the left side of the screen towards the center of the screen.

All the functions related to swipes are mentioned in the user guide in settings so that if the user forgets about parts, he can recall them, and for the first-time user, the tour guide provides about all functions and swipes. First-time users or rare users may not find it appropriate to use controls as they might find it difficult to recall functions related to each swipe and increase their cognitive load. Users who use it often can find it helpful as it reduces action time and reacts quickly.

4. List and apply any of the HCI guidelines or laws that you have studied in the HCI course in designing the prototype

HCI Design Guidelines are intended to assist system designers in evaluating existing interfaces or developing new ones. I will apply Shneiderman's eight golden rules.

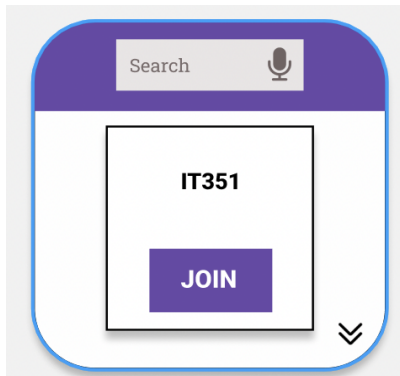
Shneiderman's eight golden rules

I have applied Shneiderman's eight golden rules.

- 1. Strive for Consistency** - Users must perform the same thing in the same way they have always done it. It makes the interface simple to learn.
- 2. Cater to Universal Usability** - With a single design, the universal design aims to appeal to a wide range of human users with various characteristics like age, culture, educational level, disability.
This interface caters to all levels and all the classification of users from novice to expert. Experts are more likely to use fewer actions faster.
- 3. Offer Informative feedback** - Interfaces must be communicative and provide information to the 'user' in learning and feedback.
When the user is on the call, speaking something on mute, 'You are Muted' will pop up. After clicking on the join button, it doesn't directly enter into the call but gets confirmation from the user and then joins.
- 4. Design Dialogs to yield closure** - A closing that the user recognizes as the end of an action is required in an interaction.
If the user has dropped out of call due to network issues, then dialogue that "Network is bad and trying to get back on call" is shown. If the user ends the call, a dialogue of "Exited from the call Rejoin?" is displayed.
- 5. Prevent Errors** - When the user clicks on the join button by mistake, the user can leave the call without joining by clicking on the cancel in before call screen.
- 6. Permit easy reversal of actions** - A retractable path backward for all activities for cancellation is present.
The bottom swipe is provided to go back to the previous state from the current.
- 7. Support internal locus of control** - Users can feel in control by increasing the number of opportunities for 'interactions.'
Suppose when the user is presenting his screen, the screen under presentation is highlighted with a red border, and it helps the user orient or reorient the interaction.
- 8. Reduce short term memory load** - Recalling several sequences, actions are not required if users find it inappropriate to a particular activity; they can quickly come back to the previous state just from the bottom swipe.

5. Screenshots of prototype

Home screen



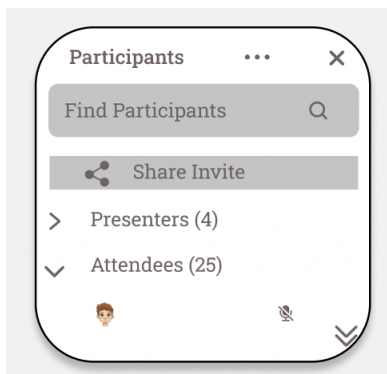
Before the call screen



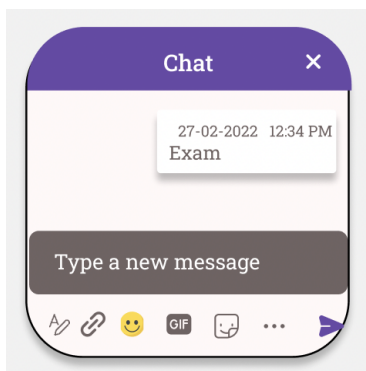
Call screen



Participant's screen



Chat Screen



Presentation screen and miscellaneous options



6. If you were to evaluate design, what evaluation guidelines will be used in this context. List 3 evaluation guidelines used in this context and explain why they were used

I want to use Nielsen's Heuristic Principles to evaluate the interface. Jakob Nielsen presented a set of 10 principles for designing a new interface, which he called Principles of Designing a New Interface.

Consistency and standards

Users shouldn't be confused due to all the options presented to them. They shouldn't be in any question about what they should do next.

All the icons for their function are the same on all screens, and word meanings are the same so that the user wouldn't be confused to use this interface.

Match between the system and real world

Instead of using system-oriented terms, the system should speak the user's language, using words, ideas, and concepts known to them.

Followed real-world norms to present information in a logical and natural arrangement. All the terms are user's language terms like join, cancel, settings, participants. All the symbols used to represent words are identifiable by any user, like audio, camera, microphone, screen present symbols.

Flexibility and efficiency to use

Both beginner and expert users should benefit from the system. Shortcuts might be encouraged as the user gains experience. As a result, efficiency improves. Allowing the user to rearrange the screen elements is another option.

When a beginner user gains proficiency with an interface, they are promoted to a higher-level user. Such users will always want to accomplish the task as quickly as possible. Such users seek shortcuts. This will necessitate the use of an interface. It must be adaptable and allow the user to use shortcuts to adopt faster conversations. The user feels efficient and competent. For experienced users, shortcuts like swipe controls are provided for shorter talks.