

Horizontal prototype:

For this prototype, we create one that includes all basic functions for a video-frame app. There are a total of 10 wireframes. They are the **main page, new meeting, join meeting, schedule, setting, help, recordings, participation, contacts, and feedback**. For each wireframe, there is a title that is used to indicate where users are right now in the app. Within this app, These functions both have linked wireframes correspondingly. Home page is the base page of all pages. Users will be navigated to other pages/ features by clicking the different button.

New meeting page, users can create their own meeting here with a specified date for the meeting. **Join the meeting page**, which has operations that are similar to the join meeting wireframe. **Schedule page**, users can view current meetings within weeks or months. **Setting page**, which can display basic settings for the application. Users can change it by any time. **Help page**, users can access the help page by clicking the bottom left “question” icon, help page contains frequently asked questions and a live chat.

For the last four main pages, **Recordings, Participation, Contacts, and Feedback**. They are almost the same design except for some minor changes. Recording page is used to store the past lecture meeting, Time and data are displayed clearly here, Users can view each meeting by clicking the “eye” right beside the “day” box. **Participation** will give users basic information, users can’t view other information. **Contacts**, users can check their friend's personal information at the contacts page. And users are allowed to start a text chat here. **Feedback**, users can write feedback to developers here.

Vertical prototype:

The feature that we choose to make the vertical prototype is **join meeting**, which implements the attendance or participation feature. The icon of participation is displaced on the meeting room screen(blue calendar). There are a total of 6 wireframes for the vertical prototype which are “joining meeting” , “check participation” “more information”, “learn more about reward” ” own rewarding design”. And some extra wireframes to describe the important features.

By clicking the “joining meeting” button on the home page, then this will start our vertical prototype. A list of meeting rooms will be shown. And users can choose any of them to join. After joining the chosen room, users will be asked to set up a name firstly, and users also can choose either default or input a name. Here, **we create an example of an error message**. When the name was set up, the detailed information about the room would be shown at the join page, such as: the room number, user name.

After users reach the main page, users can test each feature here. Clicking each function icon to testing, “Camera”, “Share screens”, “Mute”, “Participation Check(blue calendar) ” More detailed information would be shown once users click the “Participation Check”. Firstly the bar graph will inform the overall score, after clicking the more information, more sciatic data would be given, eg, which day you are missing, users’ current position compared with the whole class students.

We also create other features in this part too, like the “switch camera on” system would tell users the way to show an error message, “Share Screen” click the button to share users’ screen. “Mute” unmute/mute anytime.

Final and special design for our prototype is the rewarding system. To be aware, only the top 10% of students will receive the reward, and users are allowed to use or disuse it. For 10%, we do not mean the grade but the participation rate. The reward is split up with 3 stages. 10% - 5% - 1%. The first stage, When users reach the 10% top, a special, golden shining/twinkling star will be added to your profile top left, everyone can see it at any time. The second stage, users will get everything from 10% plus the same icon will be added to the camera, it means whether users' camera is on or not, a star will always be here. The final stage, users are allowed to create their own style, but remember, do not violate the user protocol. Eg, drawing out of the area, blocking the content and so on.

We create a few examples to show **error handling unexpected input or error messages** when users are at the meeting page and want to open the camera without actually having one. An error message would be shown on the screen. For unexpected input, when we join the meeting, we are being asked to choose/ create a name, you need to follow the system protocol to create your name, if the user enters the unexpected input, the system would reject the input, and inform the reason why the input is invalid. For example, at the name page, when the user writes down the name with some dash, the system wouldn't accept it, and would show "unexpected symbol ", and when we create our style at rewarding part, if users' design was blocking the content, the system would inform users," the content was blocked by the design"

The improvements compared with part 2 for the vertical prototype:

The whole feature of the participation and rewarding system we create is improved based on the last assignment's result. We would like to make our users, especially students, gain more interest to attend class and use the software. By trying to achieve it, we come up with an idea about a rewarding system based on Survey money result and group corporate, we believe people/students are more encouraged when putting them in a competitive environment. **By adding the rewarding system**, this will differentiate them from others once they have a higher rate. It will motivate students to attend class and participate more as they could potentially receive rewards for their contribution. We also **remove some of the redundancy icons** in order to make the UI design look more reasonable. Eg, color the participation rate icon, highlight the camera icon.

The improvements compared with part 2 for the horizontal prototype:

Compared with part 2 of the group project, we made some improvements to make the prototype more reasonable, then we made the correlation between the functions. For example, if the user has questions on doing tasks in the new meeting wireframe, users can jump to help wireframe by clicking on the help button. And **adding more necessary features**, eg. share recording, help, contacts and so on. Additionally we add more detailed information at each page, like the really room number, really contacts number. More importantly, we make the pdf interactive.

Strength:

- Increase participation by earning the rewards(create your own style).
- Remove some duplicate icons

- Show each function button clearly to the users

Weakness:

- The rewarding system only works on part of students (if the students don't care about the rewarding, then our whole design wouldn't work so well)

The rewarding system is actually both a strength and weakness for us, if the students are interested in rewarding and being competitive, the rewarding system will work pretty well. Students will enjoy getting rewarded by doing the thing we are supposed to do. And they are able to do their own design. We should consider how to make the reward more attractive since participation is not mandatory. We believe this design will work pretty well once we have a full design about the rewarding system.

The design rationale of the whole prototype:

Based on the responses of SurveyMonkey, we added all the essential features at the home page, split all of them at a good distance, and separated the features into two parts: “Actions” and “Data record”. All the action features would be placed at the action section like joining meetings, starting a new meeting, searching for help and so on. And data feature in the data sections like rate check, contact check. Each section has their own background page. Data section would follow with the home page, they shared the same page. But features in the action section are all different, the action section’s feature needs more user control is the reason we make all the background difference. That's all for the horizontal prototype.

And by analysing the repose from survey money and suggestions from TA, **we think adding participation and feedback in a video-frame app is a good way to improve the participation of a class for students.** The whole vectriacal prototype is designed by the rewarding system, we choose the right place to develop the vertical prototype, then discuss the details, read the note, and fix any existing bugs finally.

We believe the percentage points about the participation within this class could be around 10% of total per cent. In this way, the students can be motivated to participate in class.

4 key areas of improvement we found were

- Better placement of buttons to be clearer and more noticeable.
- Provide more context to our rewards system by adding more features in the prototype.
- Reorganization of some components to be more intuitive.
- Adding one fundamental feature to engage student participation

Part III: Cognitive Walkthrough

Task description:

1. Check user their participation statistics
2. View their reward settings (viewing and designing the style of their reward)

Actions to complete task:

From the Meeting Room page, users can click the blue calendar icon located in the middle right of the page which will navigate them to the participation page.

In the participation page, users can view the attendance rate of their meetings. On this page, users can also navigate to the more information page that lists more detailed information regarding their attendance, and they can share their current participation results.

After clicking on the “More Information” button, users will be navigated to the page where they can view more detailed information regarding their participation. Statistics like “Average time in class”, “Average class attendance”, and average time in class compared to other students are displayed in the middle of the page for users to reference. At the bottom of the page, there is a “Check here for reward setting” that allows users to set and view their rewards.

After clicking on the “Check here for reward setting”, users will be navigated to the rewards page where they can view the current rewards for the top 10%, top 5%, and top 1%. At the bottom right there is a design button that lets users design their current available rewards.

After clicking the design button, users will be navigated to a page where they can edit their design for their current rewards and save it. If any of the designs are blocking the text and users attempt to save it, an error will pop up informing the users that designs are not allowed to block the text.

Problems encountered when performing a task:

A. Encountered difficulties finding the blue calendar icon to view participation details.

Placement of the button is inconspicuous.

B. Encountered difficulties finding the “Design” button to navigate to the edit design page.

Placement of button is inconspicuous.

C. Confusing order of the “Top 10%”, “Top 5%”, and “Top 1%” in the rewards contents page.

Potential solutions to problems encountered:

A. Place the button in a more noticeable location and change the icon to portray the concept of “participation” intuitively. Placing it beside the buttons on the bottom right is a potential solution.

B. Place the “Design” button in a more noticeable location rather than the bottom right and make the button larger. Can place it at the bottom centre and increase the size to make it more noticeable.

C. Experts were confused about the ordering as things placed at the topmost level are associated with the best. Since Top 1% is the highest level, the order should be reordered to be, from top to down, “Top 1%”, “Top 5%”, and “Top 10%”. This way users will not be confused by the level rewards.

Summary:

According to our findings, the main components of our task description are well implemented. We found that what worked well in our prototypes was the portrayal of purpose in each of the pages. The experts were able to understand the purpose of each page intuitively. The main issue we found was with navigation. Some buttons were not placed in a clear manner which made navigating to the next page or to proceed to the next step more difficult. But some students don’t get comfortable with our rewards. They think as long as the participation wouldn’t count in final grade then they never care about it no matter how good the design is. So we believe the best way to make our system work as we expect is to add one restoration which is that anyone who gets 50% participation or less would get one letter grade down.