

Meeting Mate: An APP Design for Students' Online Group Project Cooperation

Final Report for COMM6940

Group Yosaki

CAI, Wenwen 1155128405

CHEN, Xiaoxiao 1155130149

GAO, Yifan 1155128246

QI, Xin 1155128611

YAN, Fangqi 1155136937

ZHU, Xiaoxi 1155131658

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1 Introduction

In early 2020, the new coronavirus epidemic broke out throughout the world. Many schools and universities choose to conduct online courses in order to reduce the possibility of the spread of the epidemic. Staff in internet-based or related companies need to work and cooperate online at home.

2020年2月MAU超千万APP增速
TOP20

排名	二级领域	App名称	2月活跃用户规模(万人)	月活跃用户环比增幅
1	教育平台	腾讯课堂	1615.85	439.46%
2	中小学类教育	猿题库	1545.95	226.58%
3	短视频聚合平台	央视频	2410.95	210.95%
4	中小学类教育	乐教乐学	1368.34	124.22%
5	教育平台	学习通	1221.98	88.78%
6	企业级应用	钉钉	12674.07	66.54%
7	外语学习	流利说-英语	1143.30	51.01%
8	企业即时通讯	企业微信	1143.74	46.90%

This picture shows the situation in Feb. The apps with top growth are almost all about online cooperation or teaching.

Before the epidemic, people also use online cooperation tools in daily life, but the average time is limited. When they are forced to stay at home and started to work totally online, many new problems in the burgeoning online teaching and cooperation appear, which can not be solved by existing software or tools. For example, students who have group projects have to communicate with their group mates on the internet with no chances to see each other face to face.

They used to assist themselves with online tools, but most of the time they discuss and carry out the project offline.

New challenges like distraction and low efficiency during online courses, meetings, and cooperation process raise.

2 Initial Research

2.1 Current Situation

During the outbreak, the demand for online collaboration software soared in a short period, exposing many problems.

To capture, improvement of related issues, and to solve the problem through design products, before the product planning team, first to existing online collaborative product current situation to understand our target users in a product, namely student groups to do the relevant research, hope to can be found from the research of the existing online collaborative product improvement direction.

Team members took a quantitative and qualitative approach to understand the current situation and users' pain points. In the beginning, we collected users' pain points by questionnaire survey and integrated and classified them by Affinity Diagram.

In the process of qualitative side talk, we asked respondents to describe the process of their online collaboration with team members from beginning to end. In the process of their narration, the interviewers did not interrupt or lead, and integrated users' concerns and pain points according to the original interview materials.

After combining the relevant research results, we have obtained the following three improvement directions: Improving the sense of participation; Improving the efficiency of online meetings; Some countries are Improving the degree of concentration.

2.2 Support

Now, the main remote collaboration software on the market, including enterprise WeChat, Dingtalk, Lark, Zoom, and much other software with video conferencing function, user registration, and usage, has exploded.

At present, the main remote collaboration software in mainland China is

"Ding'talk", "Tencent conference", "Lark", "graphite document" and other products. During the outbreak, these Internet platforms launched a "free model" for schools, businesses, and organizations in need of support, and downloads surged.

According to data released by media consulting groups, more than 18 million enterprises in China have adopted the online telecommuting mode, mainly in the Internet industry, and more than 300 million users have used the telecommuting application during the Spring Festival return to work in 2020.

Most of this online collaborative software serves the needs of remote working and learning, and it is very accurate to segment the audience. As an efficiency tool, its user stickiness is very high, because users study and work long hours every day, and work relatively fixed hours every week.

Besides, the software has basic communication functions, such as verbal and video calls. If these functions need to be stable and low, the network bandwidth of the enterprise needs to be large, which reflects from the side that the operation of online collaborative software needs to be supported by a large amount of capital.

The advantage of this software is that they meet the needs of users for remote communication and collaboration during an outbreak. The disadvantage is that there is no emphasis on how to improve the fluency of group collaboration, besides, there is still a lack of improvement in work focus and efficiency.

Our product will focus on the above three levels to capture the pain points of online group collaboration and optimize the online collaboration software on the market.

2.3 Objective

Our product's name is "Meeting mate". It may sounds like a dating app at the first glance, however, "Meeting Mate" is a group Meeting management app aimed at assisting online learning activities.

The functional design of our product corresponds to three levels of users' pain points they are namely: improving the sense of participation, improving the efficiency

of online meeting and improving the degree of concentration. Based on that we developed five main functions, each of them corresponds to a level of user's demand.

2.4 Target Audience Segment

Potential Customers

Based on the background, we made a prioritized list of the most influenced groups during the lockdown as our target customers:

1. Students and teachers who need to take online courses for public health concerns;
2. Group members or colleagues in internet-based or related industry who are forced to cooperate online with no chance to see each other face to face.

Target Customer

According to the list, we finally selected university students as our target customer and narrowed it to Chinese university students with bachelor's degrees or above who need group cooperation during the coronavirus epidemic.

2.5 Business Strategy

Business Strategy

Current business environment

In mainland China, there are no systematic online cooperation tools like Google. Big Internet companies like Tencent and Alibaba have developed some tools like Tencent meetings and DingTalk. However, these platforms mainly focus on companies, especially those in business and Internet sectors as their target customers.

When university students are asked to use these platforms by their institutions or seek them by themselves, they complain a lot because of the inconvenience, and products like DingTalk even use the negative comments from customers to carry out their marketing plans.

Also, in the questionnaire research we conducted, many participants complained about these tools and were not actually satisfied with them.

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2020年3月19日 - 钉钉, 阿里巴巴出品, 免费的智能移动办公平台, 专为中国企业和组织打造。统一、森马、优酷、魅族、海底捞、外婆家、复星、壹基金、分众传媒、大 ...

Real-world constraints the team faces

Then I will say something about the real-world constraints our team faces: How we attract customers as our early adopters; Lack of technology on programming; How to make users active after the epidemic.

Opportunities you believe exist

Next part is on opportunities we believe exist. We design a tool developed especially for university students who need to do group assigns.

Product like Tencent meetings or Dingtalk have too many functions that most customers do not need and some simple but useful functions are ignored.

It is simpler, lighter with a direct focus on group assigns.

Many Chinese university students hate group assigns because of poor project management and communication problems no matter if they do it offline or online, which is a longtime issue. In fact, the problems on university students' group assigns have existed since we enter college or university (for 5 years or longer).

We offer an application for them to track their schedules and improve online meeting efficiency, only developing the functions of their most concerns. This application could be useful even if they come to cooperate offline.

Rationale for how and why your chosen target customer fit into that overall picture

The last part explains the rationale for how and why your chosen target customer

fits into that overall picture.

How:

We observe our peers using online cooperation tools and find that many of them are not satisfied, leaving negative comments on them and even using rude words when complaining. In addition, we carry out an online questionnaire survey to discover more. As we predicted, there are still needs for new tools with functions for efficiency and focus.

Why:

It is difficult for us to develop a complicated tool and it is better to focus on small groups like student groups for course assignments as our customers. Also, students are willing to try new applications as they have many complaints about existing Business products.

3 Data Gathering and Synthesizing

3.1 Data Gathering

3.1.1 Video Interviews (QUAL+SUB)

For the data gathering part, first, we use qualitative and quantitative research methods to collect data. We conducted in-depth interviews with 12 target customers through WeChat video and voice based on the characteristics of each target customer, we record their video and voice. Specifically, we asked two questions for each of them, first, please describe the process of dealing with an assignment once it has been assigned in the offline situation; second, please describe the process of dealing with an assignment once it has been assigned in the online situation. According to the record content of the interview, we put forward our preliminary insights and hypotheses.

User 1	以前在线下的时候，月开会的次数相对少，而且约定好时间地点后，几乎每个同学都会记得，不记得也会互相提醒。 转为线上授课之后，我们小组成员开会全凭自觉，首次是因为线
--------	---

	<p>上会议的沟通频率比较高，如果没有记日程表的习惯的话，很容易忘记什么时候开会。再加上没有同学在身边，互相提醒的作用也发挥不出来。</p>
User 2	<p>小刘同学的学习小组在确定好步骤，分工和ddl之后，我们就各自开始开展工作，如果有不明白的地方就会在微信群组里讨论，如果遇到要分享一些资料的时候，我们也会直接发到微信群里。群里闲聊的内容，分工情况，作业文件，资料链接都有，一个小组也有时候可能不止开一次会，每次开会之后可能会调整内容，调整过后的內容和之前的内容都会发在群里。每次自己要做作业了，或者小组要再开会的时候，找起关键的文件会很麻烦，有不少时间都花在了微信群的爬楼上。</p>
User 3	<p>某同学的学习小组在一门课程的第一项作业布置下来之后，开了一个协作云文档A，记录大家的想法和分工，在提交这项作业之前的两天，某同学小组内的其他成员在微信群提议开一个新文档整理，得到了大家的同意，于是他们开了一个协作的总文档B，某同学此时刚刚做好自己的那个部分，误将内容又粘贴进了原本的协作云文档A，负责整理文档B的同学发现其中没有某同学的部分，误将内容又粘贴进了原本的协作云文档A，负责整理文档B的同学发现其中没有某同学的部分，随着课程越来越多，该学习小组同时在用的文档有8.9个，曾经使用过的文档更是有二三十个，经常出现粘错文档，或者找不到以前做过的内容的情况。</p>

3.1.2 Questionnaire QUAN+OBJ

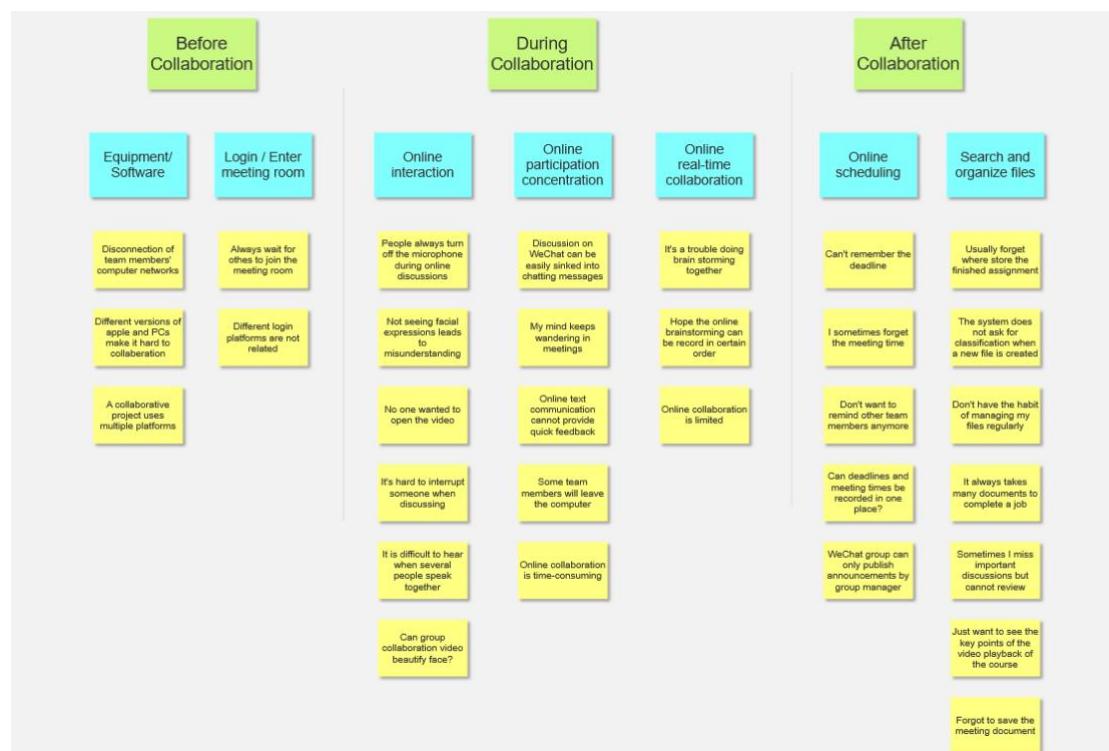
Second, we verified the assumptions and understood the basic attitudes of the target population through a questionnaire survey distributed in the WeChat moment and received 114 valid responses. The questions are designed as 1. Are you student currently? as we need to make sure the respondents' social background. 2. Do you

have the group collaboration during the online classes? as this is the thing that we want to analyze. 3. Your current education level? this is designed to be the independent variation that may affect the result. 4. what do you think that need to be improved of the online meeting tool such as WeChat, QQ, Tencent meeting, etc. we set 5 attributes for people to choose, as we hope to gather some improving ideas from them. The last one we set an open-end question for respondents to fill out, as we need some new ideas that stand out of our thoughts.

3.2 Data Synthesizing

3.2.1 Affinity Diagram

We distinguished respondents' demand to several segmentation, we firstly set three parts as before collaboration, during collaboration, and after collaboration. then, in the before collaboration part, it has two typical questions as equipment software problem and login meeting room problem. In the during collaboration part, it has online interaction, online participation concentration, and online real-time collaboration problem. Third, in the after collaboration part, it has online scheduling and search and organize files problem.



For the needs and insights part, we got seven stories that are based on the

interviews and former questionnaire's responses.

story 1 intends to get an online group calender, for all members to quickly check all deadlines and schedules for different group projects.

For story 2, we designed to get a Cloud for materials storage for us to set different parts of assignments and other materials to a fixed cloud place, because sometimes we can not find the materials I need in our group chats instantly.

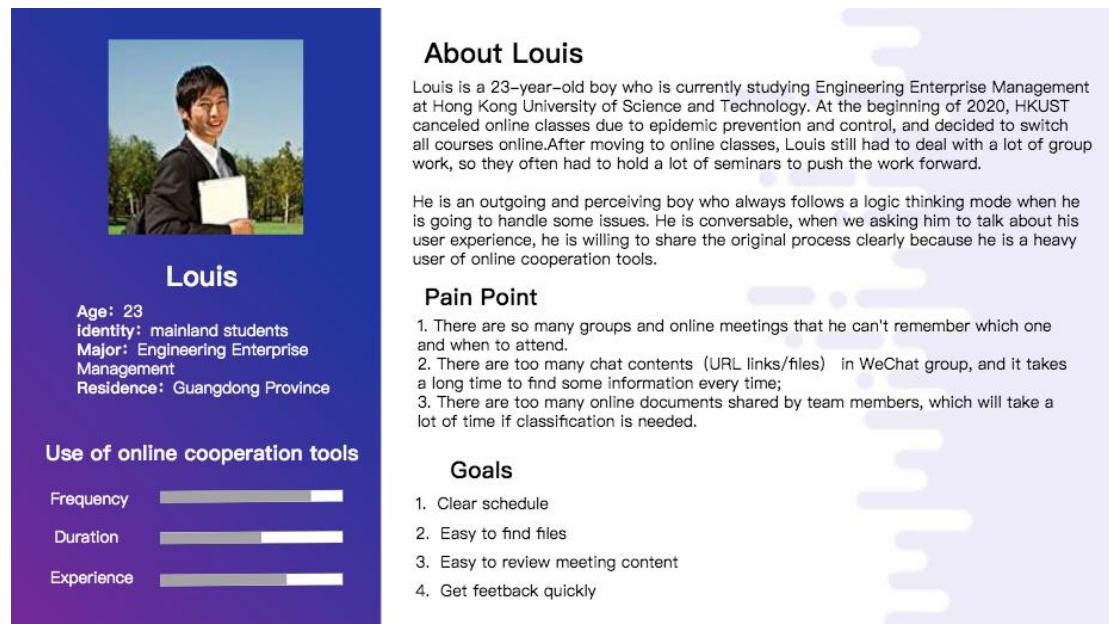
Story 3 set an auto online document classifier, to help us automatically put docs in different folders base on its title's key words or tags; or when I create a new doc, ask me the folder I wish to put it into.

For story 4, we set online focus, as we often get distraction when sit ahead of laptop, we need a force to push us work on the materials and screen.

story 5 and 6 require an instant communication and a platform, therefore we can get a way to communicate with each other instantly.

Last one, story 7, request an online cooperation platforms, allow us to work on the same doc simultaneously.

3.2.2 Persona



In order to make the data that we collected meaningful and help the whole team build empathy for the real-world lives of our target consumers, we created our Persona: Louis is a 23-year-old boy who is currently studying Engineering Enterprise

Management at Hong Kong University of Science and Technology. At the beginning of 2020, HKUST canceled online classes due to epidemic prevention and control, and decided to switch all courses online. After moving to online classes, Louis still had to deal with a lot of group work, so they often had to hold a lot of seminars to push the work forward. He is an outgoing and perceiving boy who always follows a logic thinking mode when he is going to handle some issues. He is conversable, when we asking him to talk about his user experience, he is willing to share the original process clearly because he is a heavy user of online cooperation tools. His pain point is that, first, there are so many groups and online meetings that he can't remember which one and when to attend. Second, there are too many chat contents (URL links/files) in WeChat group, and it takes a long time to find some information every time; third, there are too many online documents shared by team members, which will take a lot of time if classification is needed. Finally, his goals are to get clear schedule, easy to get files, easy to get meeting contents, and get feedback quickly.

4 Problem Framing

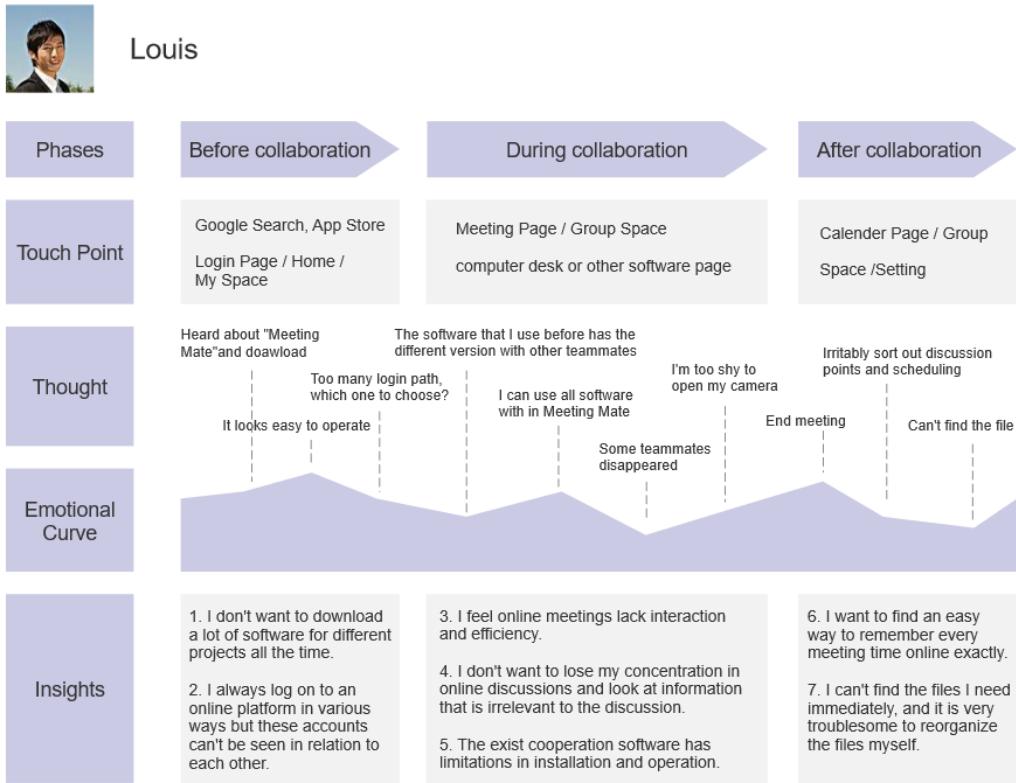
4.1 Big & Small Stories

According to the persona and insights we have so far, we use a top-down approach to build the story hierarchy. Including a big story by using user journey map and 7 small scenario stories. This gives our team the focus the product needs and to make clear and efficient decisions



4.1.1 Big Story - User Journey Map (Vision-level story)

We used a User Journey Map to set the big story, which is basically a regular flow of Louis doing a group project during the epidemic prevention.



4.1.2 Small Scenario Story (Task-level story)

Then, we zoom those aspects within the big story into seven small stories. One insight, one scenario. We writing specific stories for Louis relies on some representative cases. We also create corresponding metrics for 7 small scenarios, including performance metrics and perception metrics to measure whether each story is successful or not.

Insight 1

I don't want to download a lot of software for different projects all the time, which also leads to different contents due to different equipment of team members.

Scenario1

Saturday night is very busy for Louis. He has two groups of online discussion meetings. First, he discussed with group1 teammates and spend 20 minutes to download a software that can create a mind map. He had to familiarize himself with the software and complete the tasks assigned to him within a week. He feels a bit worried. Then, he realizes that he needs to download another design software for the

project of group 2. With great difficulty, he finally succeeded in downloading the software. However, he found that parts of the file shared with him by team members could not be displayed. For him who is not very good at computers, he is about to crash.

<Magic Happens>

He can open "software" for a project with a single click and see the same screen information as to his teammates.

Successful Metrics:

Perception Metrics:

"He can open 'software' for a project with a single click and see the same screen information as to his teammates."

Degree of agreement: 1 -5; goal: 4 or higher.

Performance Metrics:

Does the required software work with the collaboration platform?

Insight 2

I always log on to an online platform in various ways, but these accounts can't be seen in relation to each other.

Scenario2

During the group discussion time through a daily social software, Louis and his teammates use this social software account to log in an online collaboration document to edit collaboration. In the progress of his writing, he thought of another project whose content was relevant to the current project. He wants to show his teammates some content of that project, but couldn't find the file. He realized he was logging into the collaboration platform through his email account while working on another project. He first needs to log out of his current account, then log into the collaboration platform with his email account and save the target content locally and log out. Finally, log into the collaboration platform again with the social account and share the content with the team members. It is too complicated.

<Magic Happens>

He could always find the content he had created and share it with his team. He

doesn't have to remember which content is in which account.

Successful Metrics:

Perception Metrics:

"He could easily find the content he had created and share it with his team. No worry about several accounts."

Degree of agreement: 1 -5; goal: 4 or higher.

Performance Metrics:

Do they use only one platform in their collaboration?

Insight 3

I feel online meetings lack interaction and efficiency.

Scenario3

When Louis takes online classes or meetings with group members, he always thinks there is little interaction with each other, and as a result, he feels he was just watching normal videos. And even he turns on the microphone and talks, he is like talking to the air. The chatbox is messed up with useless information like 'yes', 'got it', 'thank you', and 'bye-bye'. Even worse, when taking a group online discussion, some members may choose to mute their microphones and even not in front of the computer.

<Magic Happens>

Everybody actively takes part in the online discussion and doesn't miss any information. Louis can get his group work done easily and quickly. And his group gets a good score.

Successful Metrics:

Perception Metrics:

"Most of the class or group members take part in the discussion and the discussion is very efficient."

Degree of agreement: 1 -5; goal: 4 or higher.

Performance Metrics:

How many people participate in the discussion?

How efficient is the discussion?

Insight 4

I don't want to lose my concentration in online discussions and look at the information that is irrelevant to the discussion.

Scenario 4

Louis has an online group meeting this evening, after discuss for half an hour, the phone's screen lights up and someone sends him a message. He naturally mutes his microphone and picks up the phone to answers the message. Then he opens his WeChat Moments and keeps scrolling. After 15 minutes, his teammates started calling his name loudly because of long-term disappearance. Then he recovered, he unmutes his microphone and put his phone down. However, he cannot follow up with the progress of the discussion. He keeps asking questions about previous content. He is very confused.

<Magic happens>

Louis keeps his attention on the screen and ignores the messages on his phone. He can easily keep up with the discussion progress. He has a thorough understanding of the tasks assigned to him. His teammates were sure of his involvement and contribution to the project.

Successful Metrics:

Perception Metrics:

"I can keep attention on the online discussion and keep up the pace."

Degree of agreement: 1 -5; goal: 4 or higher.

Performance Metrics:

How long can we focus on the discussion without doing anything else?

Insight 5

The existing cooperation software has limitations in installation and operation.

Scenario 5

Louis has an assignment that needs the group members to draw a prototype together. But group members have different types of computers, they cannot cooperate with each other at the same time when group members install different versions of the software. The cloud storage space and fonts are all different. Also, he has a group assignment which is making a video but he cannot find any software to do it together with his group members.

<Magic Happens>

All the group members can take part in cooperation without any obstacles. His group gets their work done smoothly and gets a good score.

Successful Metrics:

Perception Metrics:

"I can use the cooperation software very well to do my group assignment"

Degree of agreement: 1 -5; goal : 4 or higher.

Performance Metrics:

Does the computer itself have enough memory and can it quickly drive the video editing software?

Insight 6

I want to find an easy way to remember every meeting time online exactly.

Scenario 6

When Louis doing work offline, there was not so much meeting time, and every member can remember to attend on time or remind each other. When it turns to the online one, the meeting is depending on self-control, as the frequency increased and he probably will miss it if he did not mark it, and there is nobody around him to remind him. As a result, he missed several meetings and it makes his teammates began to have an opinion about him. Therefore, he demands the function of schedule synchronization.

<Magic Happens>

He can be reminded of the meeting time of 10 min in advance. He would never worry about missing any.

Successful Metrics:

Perception Metrics:

"I can punctually get the meeting and DDL reminder."

Degree of agreement: 1-5; Goal: 4 or higher.

Performance Metrics:

The computer was always by Louis's side.

Insight 7

I can't find the files I need immediately, and it is very troublesome to reorganize

the files myself.

Scenario 7

Louis, a 23-year-old post-grad, has discussed the project framework online with his five teammates. A teammate opened cloud document A to record everyone's thoughts and division of labor, also ask every teammate to post their responsible content before DDL. With the step-by-step follow-up of multiple course projects, there are more and more online documents. When Louis tried to post and organize the content 2 hours before DDL, he cannot find the document A and all the documents are mixed up. He is very anxious and tries to search the file. Unfortunately, he forgets the file's name.

<Magic Happens>

Now he can easily and quickly find out the file that he needs from a specific folder. He could follow a clear idea to locate the file and avoid mistakes.

Successful Metrics:

Perception Metrics:

"I can easily find the file I need in a related folder and avoid mistakes."

Degree of agreement: 1 -5; goal: 4 or higher.

Performance Metrics:

How fast of the web speed and how quickly Louis target the related folder?

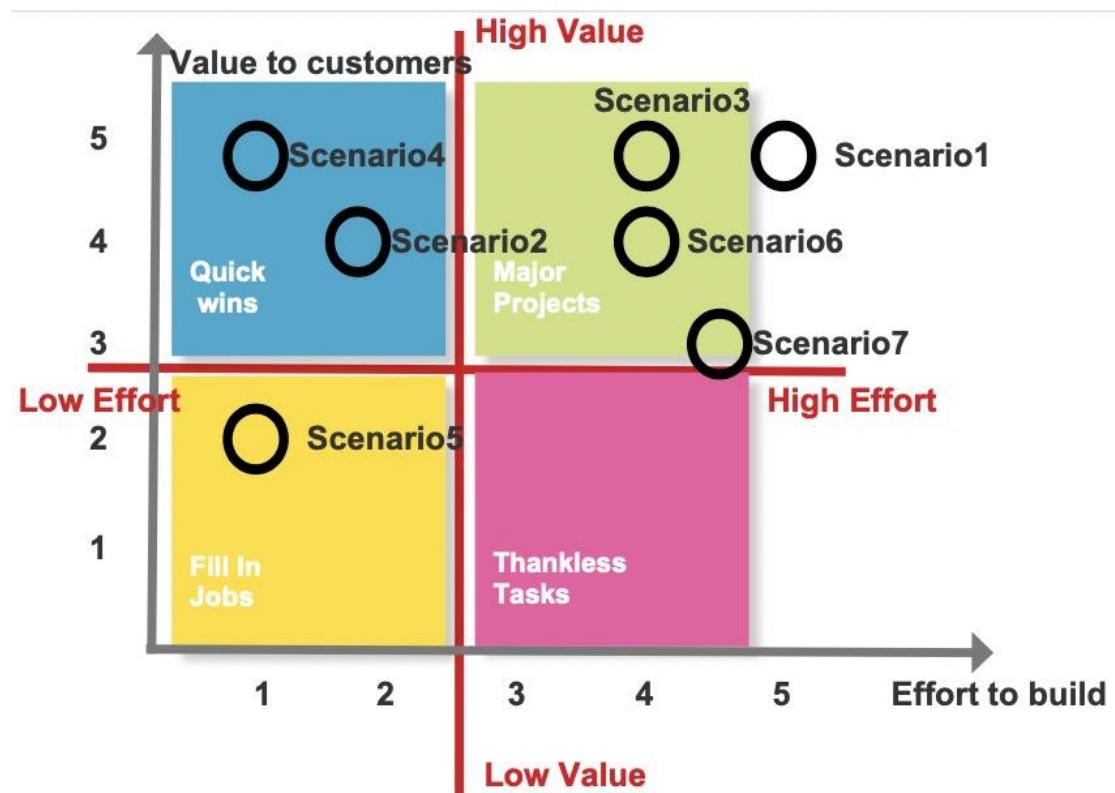
4.2 Prioritizing stories

Since the team resources are limited, in order to get the desired product, we must control the priorities. It's like I can go home from school in a variety of ways, each with different costs and benefits. After created our story hierarchy and find the successful metrics, we use both Efforts vs. Value and Kano Analysis methods to prioritizing our stories. We believe that the tentative priorities will change as the product continues to iterate, and both of these methods can only help to understand and provide advice. In practice, we also need to consider the product life cycle, impact range, input-output ratio, and boss demand.

4.2.1 Effort vs Value

In order to cut low-priority stories, we adopted the Effort vs. Value analysis

method to evaluate the efforts to realize the stories and the value thus brought and build consensus. Each member of our team gives our own evaluation. After discussion and calculation, the fine effort vs. value result is shown in the diagram (See Figure 1). Stories that fall into the second quadrant indicates that it can be built with little effort while bringing much value. It would be better to focus on those stories first and then tackle those in the first quadrant - which are valuable to customers but take many efforts to build.



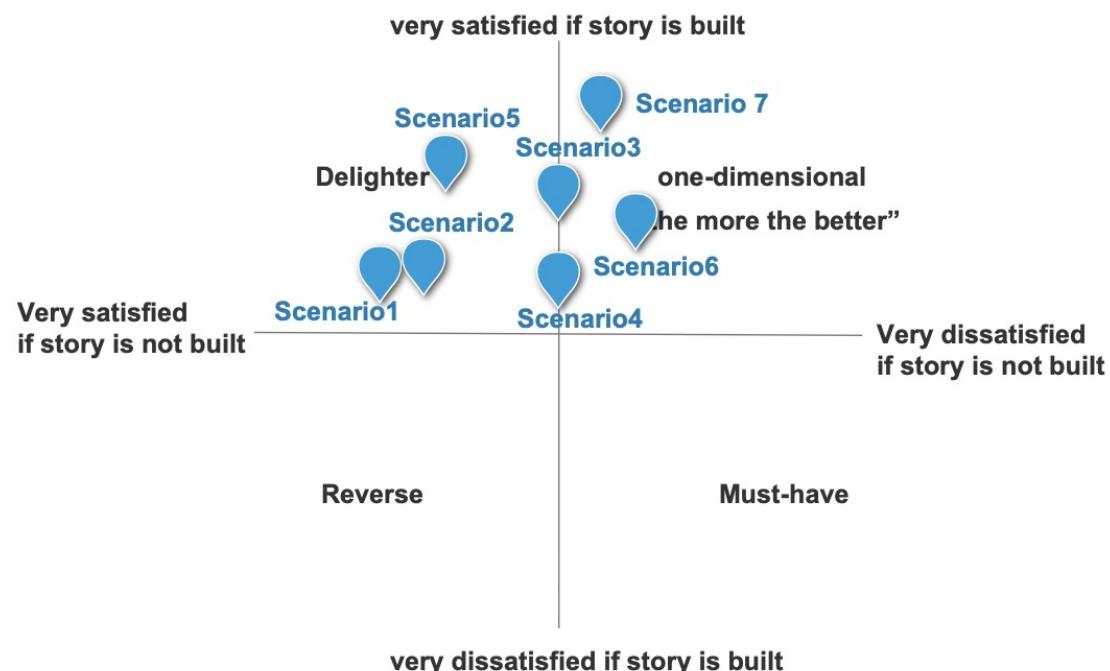
(Figure 1. Effort vs. Value)

The result is shown in Figure 1 that Scenario 2 and 4 with high value and low effort (blue part) should be taken into consideration in the early times. But indicated the scenario 2 needs to negotiate with multiple platforms, it might be better to do it later. The the Scenario 1,3,6,7 are located in the first quadrant (green part), suggesting these stories that are also prioritized to build. We excluded Scenario 1 because of the excessive high effort.

4.2.2 Kano Analysis

Through effort vs. value analysis, we found that the scenarios are prioritized. Then, we also used Kano analysis to evaluate our customer's satisfaction and dissatisfaction towards the scenarios on a 5-point scale. We selected 6 representatives and asked them satisfied or dissatisfied questions.

1. How satisfied would you be if we build this story?
2. How dissatisfied would you be if we did not build this story?



(Figure 2. Kano Analysis)

It takes some time to show our potential users all of the stories and give us their answers. They say that they've been through a lot of those scenarios and they gave us their real opinions. We didn't see any basic need in the third and fourth quadrant. But it is obvious that Scenario 3,6,7 are considered to be "the more, the better", and scenario 4 is right on the middle line. So combining the effort vs. value analysis and kano analysis, it can be concluded that scenario 3, 4, 6, 7 are representatives of the most prominent problems and should be prioritized.

5 Solution

In the last chapter, we chose scenario 3, 4, 6, 7 as prioritized stories. All 6 members in our group started to brainstorm on each scenario, participated in drawing solution affinity diagram based on the results of brainstorm, initial and solution storyboard.

We followed the same procedure for each solution: Firstly, all members read the scenario in 5 minutes and then write down ideas separately. Then, when all of us finished writing, we gathered the insights together. Next, these results of brainstorm are put in a table. We concluded some aspects for solution affinity diagram after discussion, put these insights in an ordered way and drew affinity diagram.

What's more, our initial storyboards are drawn to present the scenario and solution storyboards are based on the affinity diagram. Finally, prototypes are drawn based on all efforts mentioned above.

5.1 Solution 1 for Scenario 3

5.1.1 Brainstorm

Name	Ideas
CAI, Wenwen	<p>Answer questions by roll call.</p> <p>Turn on microphone and answer in a fixed order one by one</p> <p>Host can force everyone to turn on their microphone.</p> <p>Automatically generated meeting report with every participants' names, contents they posted, total speaking time to show everyone's contribution.</p>
GAO, Yifan	<p>Rank for speaking times. Those who speak many times are at the top while those never or seldom speak are at the bottom, who also have to say something for conclusion at the end of meeting.</p>
QI, Xin	<p>Important information are selected.</p> <p>Highlight the key points from important participants such as the host(professor) , TA or group leader.</p>

	<p>Or when I type a message I can choose to highlight it, which will also be shown with highlights in other members' chatbox.</p> <p>Message filter for key points.</p> <p>Enhance the feedback effects when cooperating, for example, when your microphone is turned on but you do not speak, there will be a notice showing on the top of your screen: waiting for you to speak.</p> <p>A live report on everyone's participation: the total speaking time of every member, the messages numbers and the length of test. When the meeting ends, the report will be automatically saved in the meeting history documents. Host can refer to this report to evaluate the participation of meeting for everyone.</p>
CHEN, Xiaoxiao (Shadow)	As people stay home they have poor peer pressures, and less motivations that come from the environment to push them work as hard as in the physical classroom.
YAN, Fangqi	Use stickers. Voting system.
ZHU, Xiaoxi	Turn on the camera at any time and any place. Choose different facial effect. No need to worry whether I make up or not, e.g. iOS system's animal faces.

5.1.2 Solution Affinity Diagram

With some initial insights of brainstorm, we grouped the ideas in five aspects after discussion. They are namely: Force to give an opinion, Speech to text, Rank by distribution, Classify the messages and Simplify the interaction.

Force to give an opinion

Speech to text

Rank by distribution

Classify the messages

Simplify the interaction

Roll call the members to present or present their ideas in order (force to turn on the mic)

as people stay home they have poor peer pressures, and less motivations that come from the environment to push them work as hard as in the physical classroom.

Use the tech of speech to text to form meeting record automatically. And put name and the speech time to calculate their contribution.

Add the rank information to the meeting record.

Rank by time of speech. Member who rank the last need to conclude the discussion

Count the times, length of the speech and the number of messages to rank the activity of the members.

Filter the important information. Highlight the information delivered by key members like group leader, or choose to highlight the message when texting.

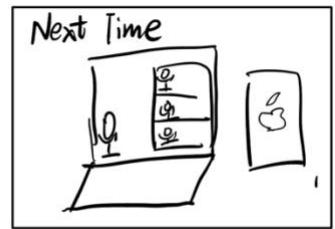
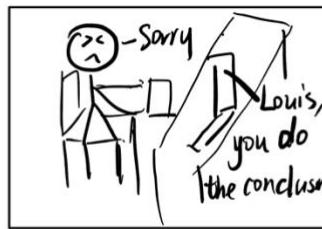
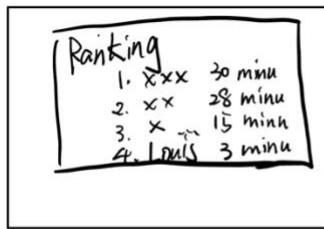
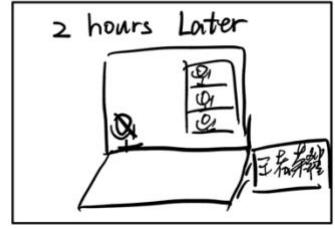
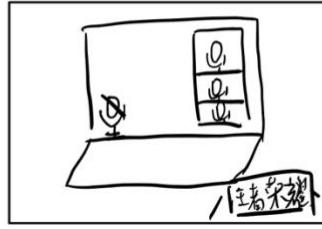
Enhance the feedback of cooperation, like show the message "waiting for XX to speech" when someone is turning on the mic but not talking.

Add voting system

Add more emojis

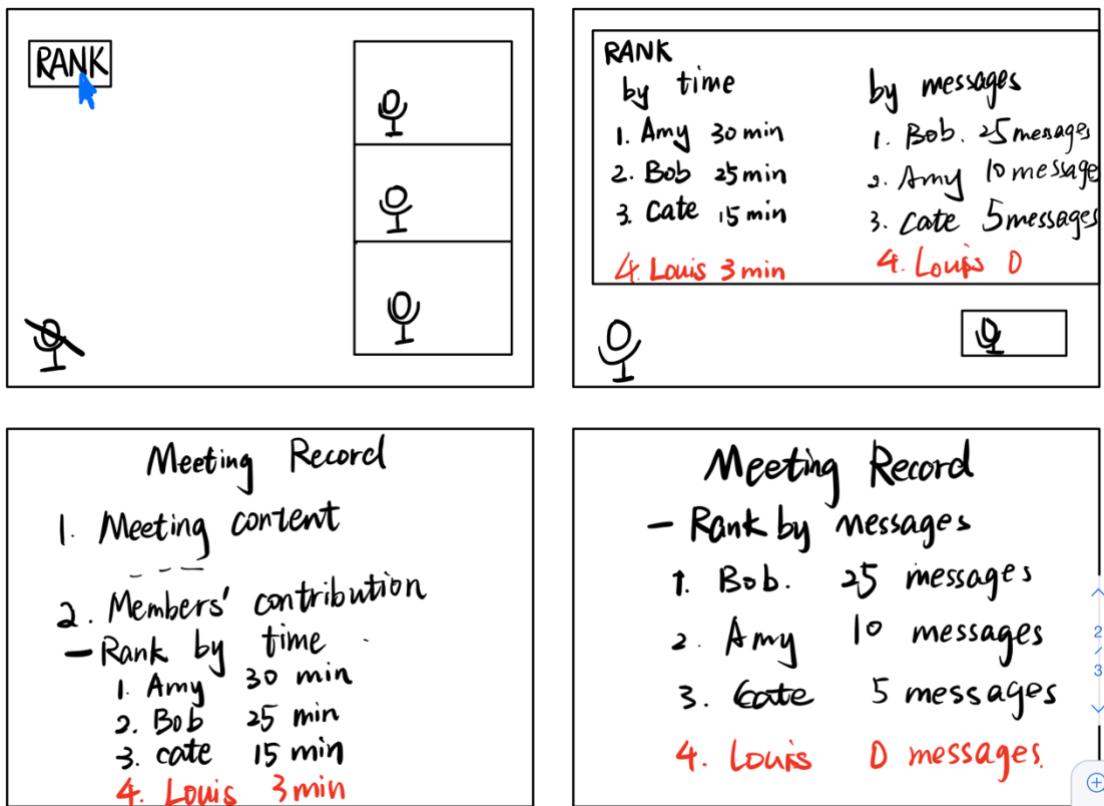
Use face catching to show the emoji face so that members can turn on the camera everywhere without worrying they didn't wear make-up

5.1.3 Initial Storyboard



1

5.1.4 Solution Storyboard



5.1.5 Prototype



RANK	
By time	By messages
1 Amy 25 min	1 Amy 20 messages
2 Bob 15 min	2 Bob 15 messages
3 Cate 10 min	3 Cate 10 messages
4 Louis 3 min	4 Louis 0

⊗⊗

⊕ AMY

Meeting Record	
① Speech to Text	② Chatbox
Amy : --- (2 min)	Amy : ---
Bob : --- (1 min 25 sec)	Bob : ---
Cate : --- (2 min)	Amy : ---
Amy : --- (3 min)	
③ Members contribution	
by time	
1. Amy 25 min	1. Amy 25 messages
2. Bob 15 min	2. Bob 15 messages
3. Cate 10 min	3. Cate 10 messages
4. Louis 3 min	4. Louis 0

5.2 Solution 2 for Scenario 4

5.2.1 Brainstorm

Name	Ideas
CAI, Wenwen	<p>A notice on the screen: Are you still listening to the meeting/dicussing?</p> <p>There is similar function on function on live streaming platforms: if you do not response or interact in 10 minutes, there will be a notice asking whether you are still watching the video to decrease inefficient usage.</p> <p>We can adopt the logic and if the meeting window is not at the front, there will be a push notice to remind the user to go back to the meeting on the top of screen.</p>
GAO, Yifan	Notes for discussion: record the key points at real time

	A function for meeting review and play the recording with X speed.
QI, Xin	<p>Focus Mode.</p> <p>When the meeting begins, host can choose to force everyone to enter full-screen and can not exit. This function can be combined with the contribution rank and a real-time reward system for cooperation.</p>
CHEN,Xiaoxiao (Shadow)	That's the thing that can not be avoided as having virtual class, and working from home, but, ask students to open the camera might be a good solution.
YAN, Fangqi	<p>Connect multiple screen(Mobile devices, PC)</p> <p>Ban some softwares such as games or social media during meetings</p>
ZHU, Xiaoxi	Before the meeting, remind the users to turn off notification push of computer or other devices, or authorize the meeting software to do so.

5.2.2 Solution Affinity Diagram

With some initial insights of brainstorm, we grouped the ideas in three aspects after discussion. They are namely: Push notification reminder, Meeting recordings and reviews, Mandatory and disabled.

**Push
notification
reminder**

If the software is not at the front of the window bar, push notifications to keep users focused.

If you find that the user has not operated for a long time, take the initiative to push the prompt, asking whether the user is still online.

**Meeting
recording and
reviews**

In the function of meeting playback, add the function of playing at double speed

Team members will automatically generate notes during the discussion and record the key content in the discussion in real time.

**Mandatory and
disabled**

Force each member's camera to be turned on

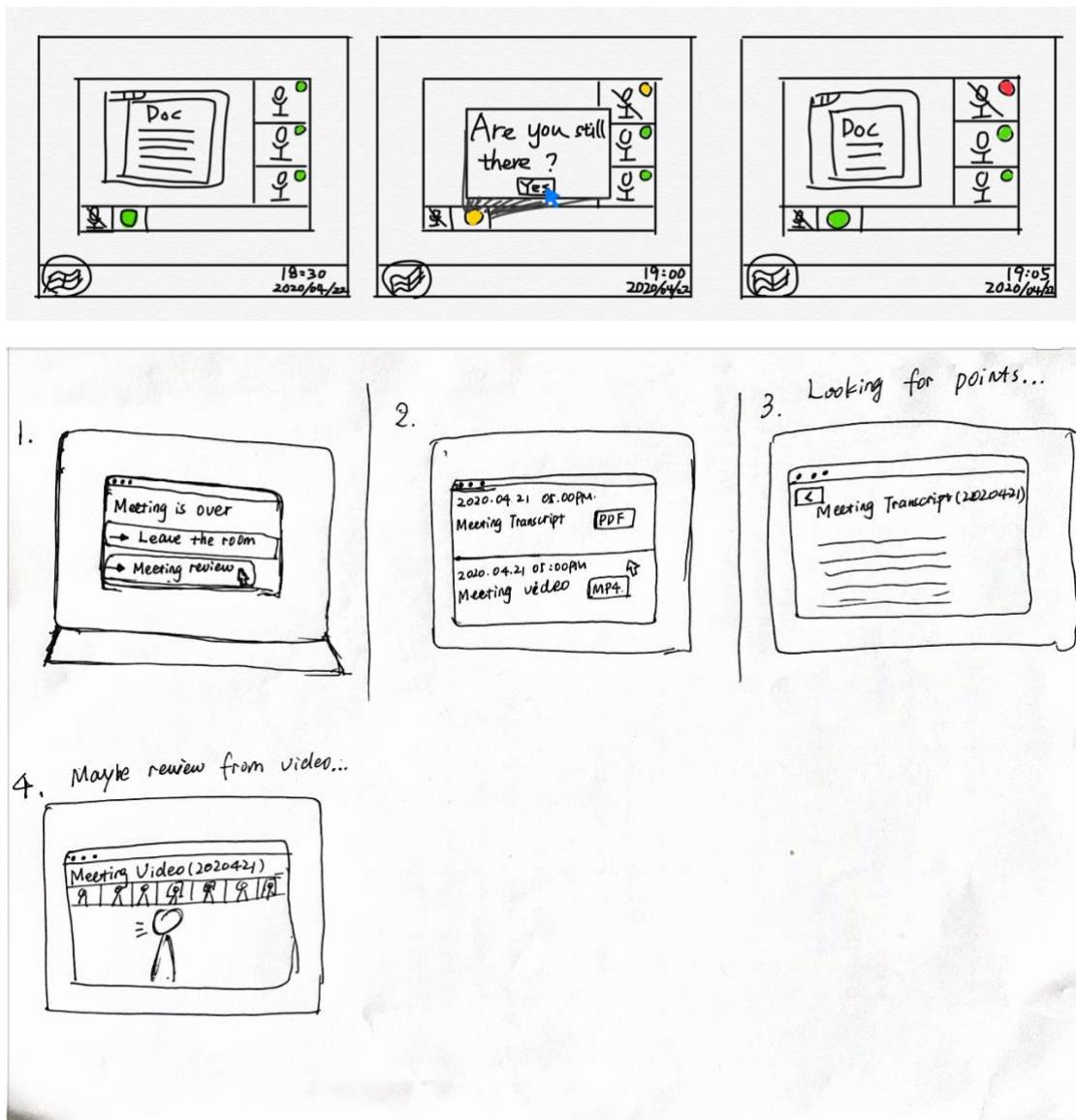
Disable some software when starting a group meeting.

At the beginning of the meeting, host can force everyone to adjust the display mode of the video software to full screen.

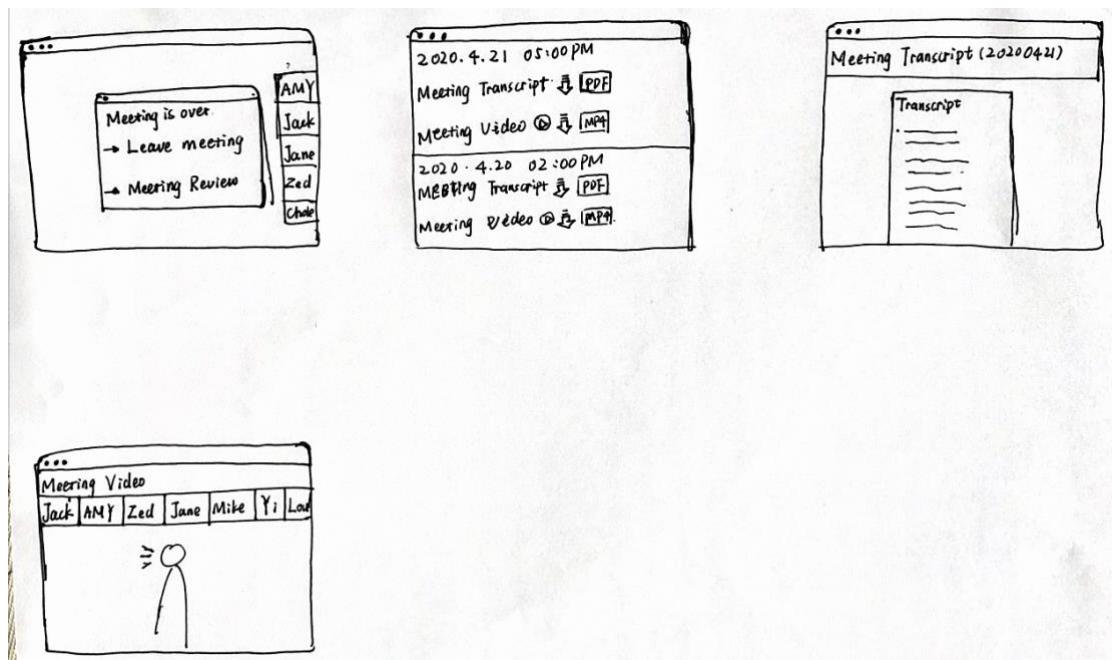
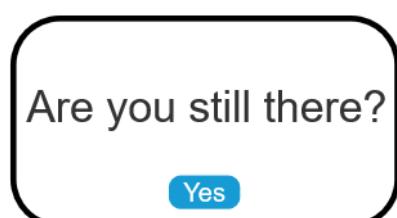
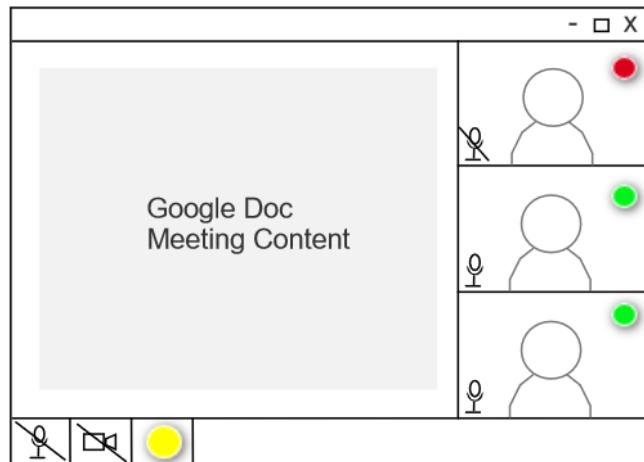
5.2.3 Initial Storyboard



5.2.4 Solution Storyboard



5.2.5 Prototype



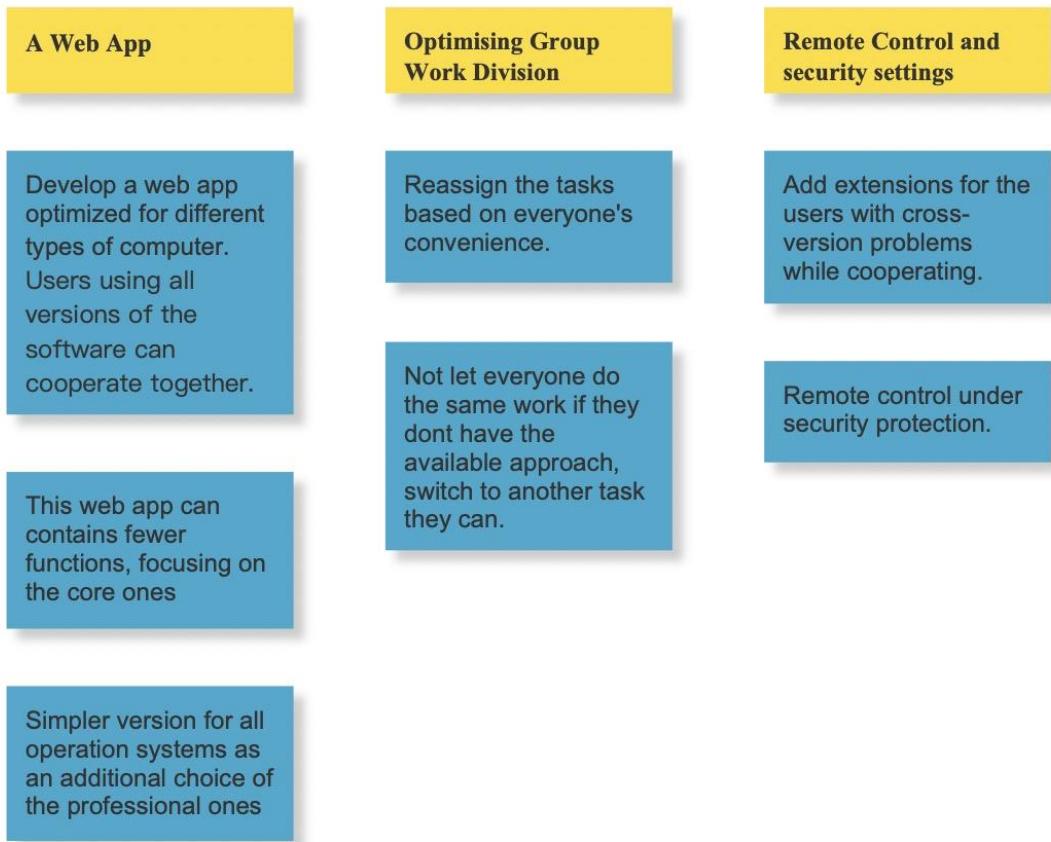
5.3 Solution 3 for Scenario 4

5.3.1 Brainstorm

Name	Ideas
CAI, Wenwen	Develop a web app fit for all types of computers to solve the problem.
GAO, Yifan	A web version for cooperation with fewer but core functions
QI, Xin	A product fit for all platforms and versions, such as web version. This version is simpler but it can work perfectly on any devices. Also, we can have professional version for different platforms, offering another choice.
CHEN, Xiaoxiao (Shadow)	Reassign the tasks based on everyone's convenience, not let everyone do the same work if they don't have the available approach, switch to another task they can.
YAN, Fangqi	Add extensions for the users with cross-version problems while cooperating. Remote control under security protection.
ZHU, Xiaoxi	An app with links to web application. No matter if you download or not, you can access the basic function from web.

5.3.2 Solution Affinity Diagram

With some initial insights of brainstorm, we grouped the ideas in five aspects after discussion. They are namely: Force to give an opinion, Speech to text, Rank by distribution, Classify the messages and Simplify the interaction.



We did not draw storyboards for this scenario because all other scenarios are based on the assumption that our product is a web application for all platforms, which contains most aspects of the solution affinity diagram. There is still one aspect left behind but it is more about group management (optimising group work division) rather than meetings.

5.4 Solution 4 for Scenario 6

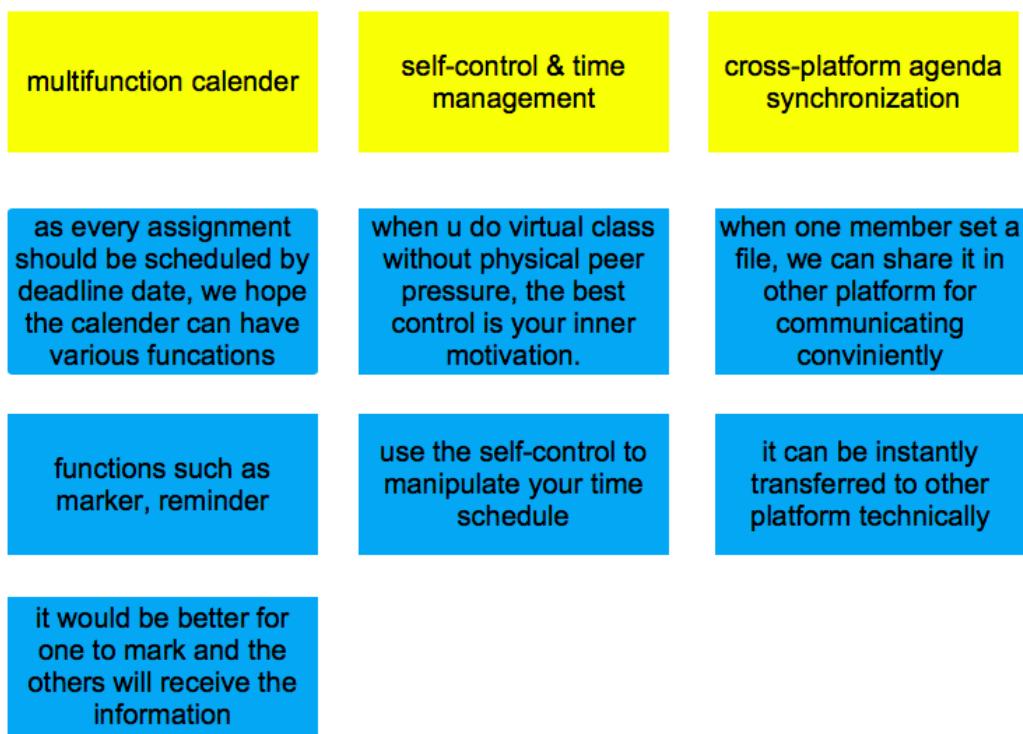
5.4.1 Brainstorm

CAI, Wenwen	A calendar with clear deadlines for documents and meetings. Push notifications when the deadlines are near.
GAO, Yifan	Group Calendar. One member add a new event and that schedule will be presented on every member's calendar.
QI, Xin	Meeting reminder. Push notifications one day before, one hour before, 10 minutes before the meeting. If you do not attend the

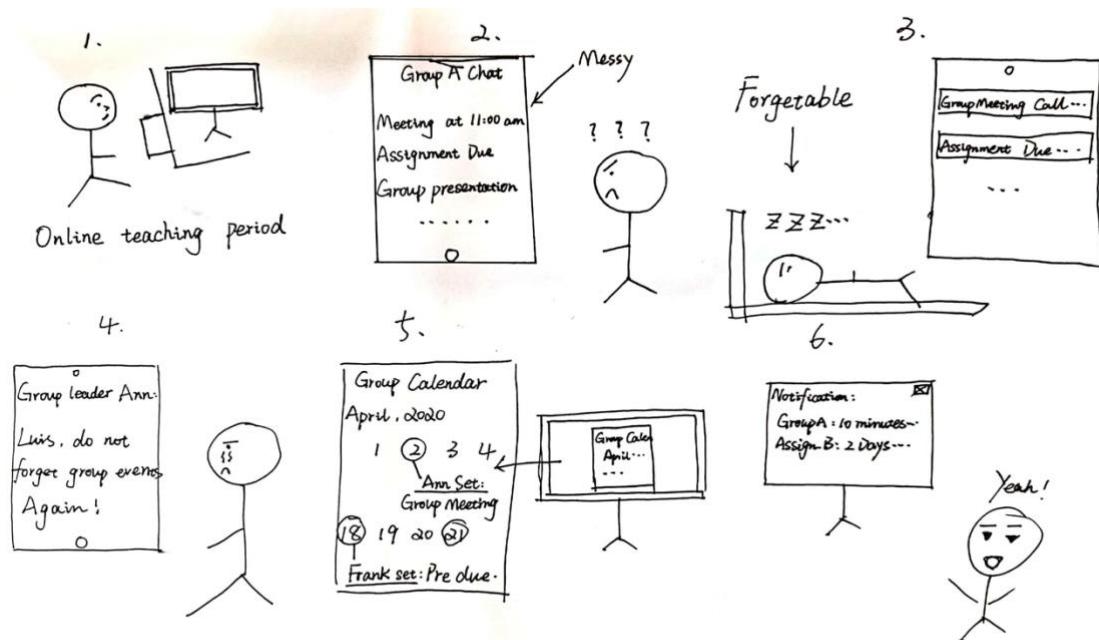
	meeting on time, the notifications will be pushed continuously.
CHEN, Xiaoxiao (Shadow)	It is the thing that mostly bases on self-control and how you balance the study with your life.
YAN, Fangqi	Upload timelines to the platform. Deliver the schedule to WeChat official account and the account will remind.
ZHU, Xiaoxi	The schedule could be delivered to other platforms. Push notifications.

5.4.2 Solution Affinity Diagram

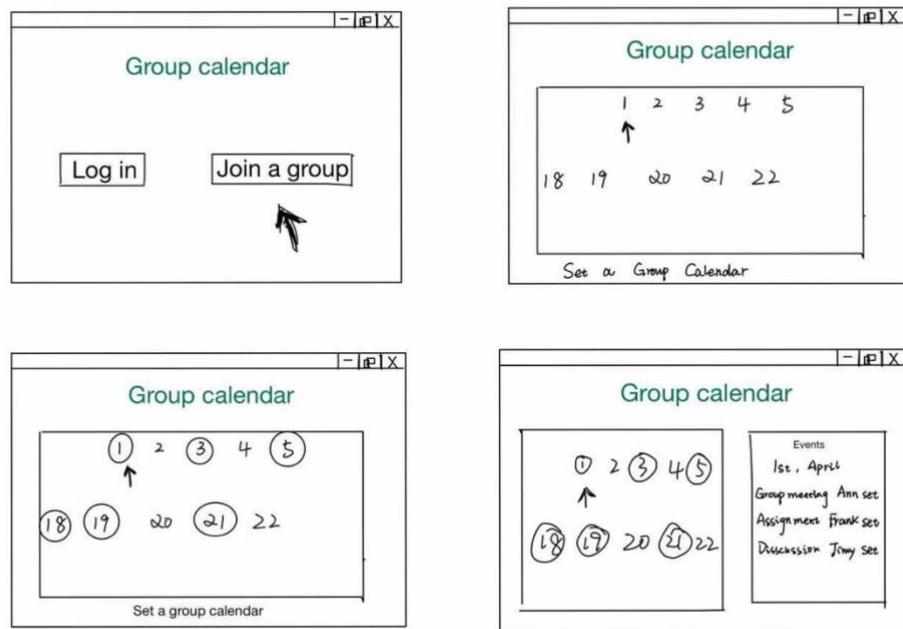
With some initial insights of brainstorm, we grouped the ideas in three aspects after discussion. They are namely: Multifunction calendar, Self-control and time management, Cross-platform agenda synchronization.

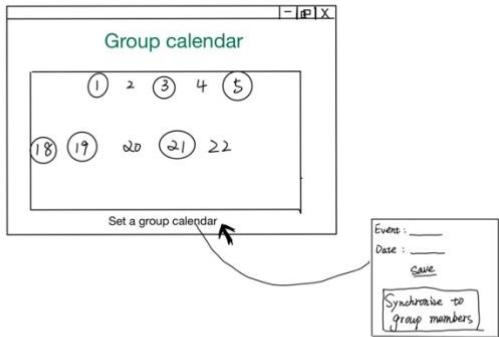


5.4.3 Initial Storyboard

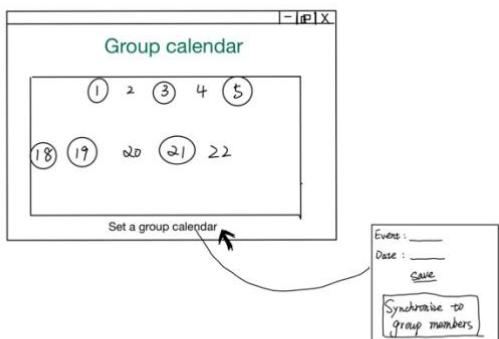
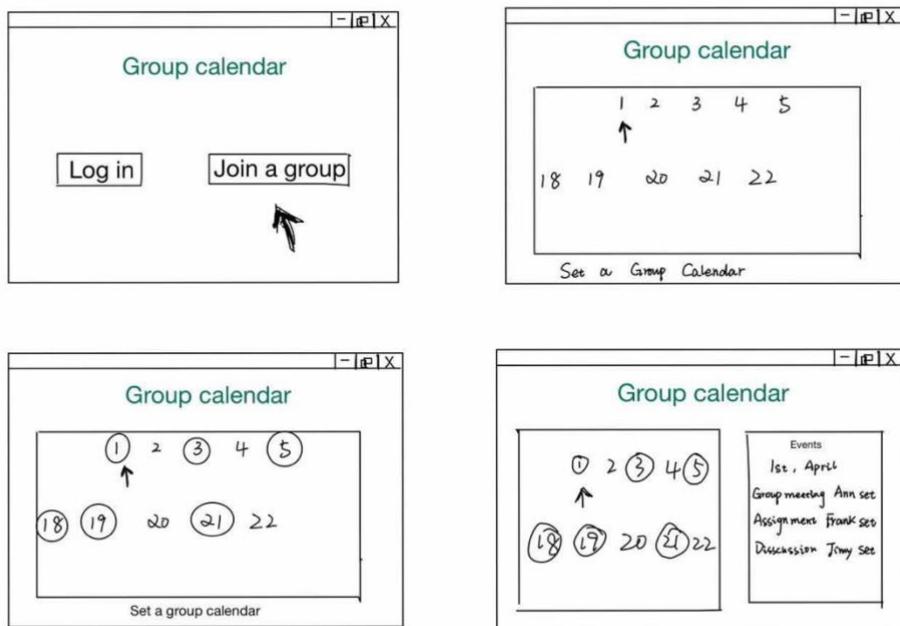


5.4.4 Solution Storyboard





5.4.5 Prototype

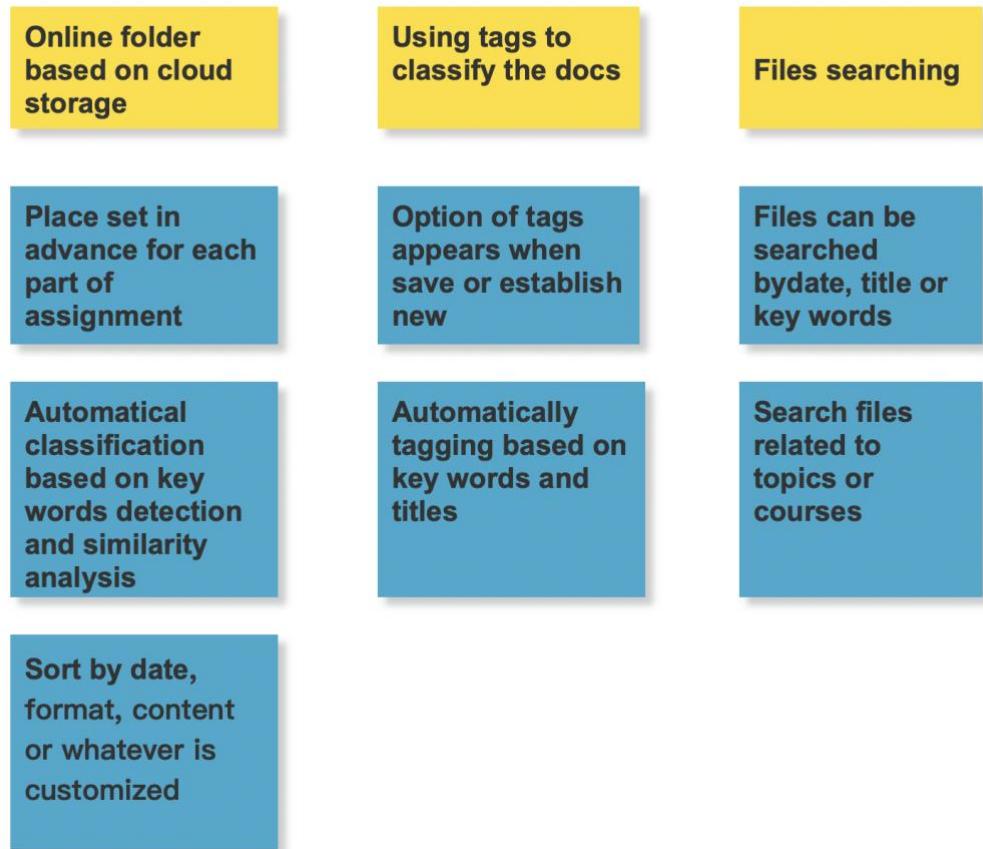


5.5 Solution 5 for Scenario 7

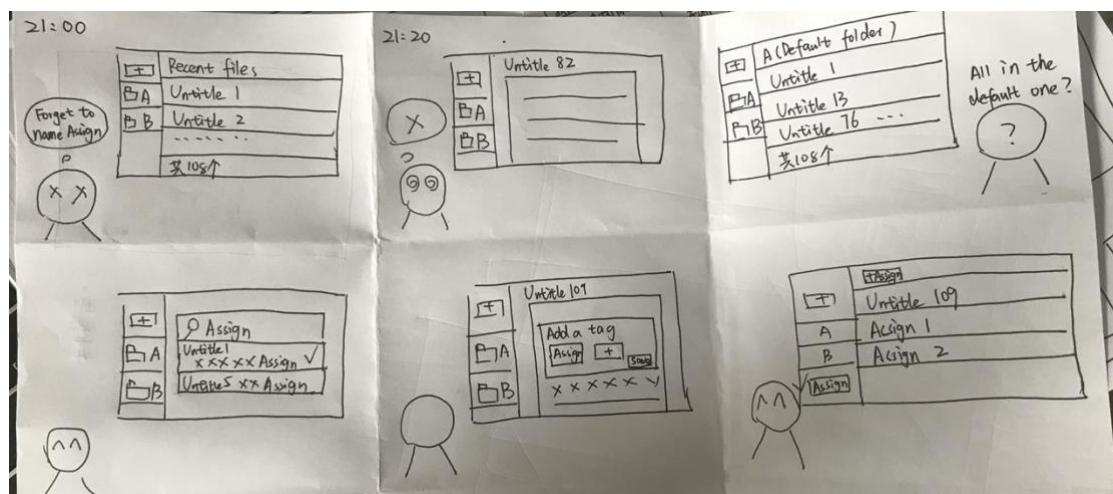
5.5.1 Brainstorm

Name	Ideas
CAI, Wenwen	Automatically remind the users to add tags when writing down the title.
GAO, Yifan	Classify the tags automatically Analyse the title and contents of the article and put the files based on the results into different folders.
QI, Xin	Online docs or cloud for cooperation. Everyone's part can be marked clearly.
CHEN, Xiaoxiao (Shadow)	He may search the file base on date or keywords; however, the best way is set a classification function.
YAN, Fangqi	Import courses. Group shared folders. Every group can check the folders of the certain course. Automatically put docs in order.
ZHU, Xiaoxi	Docs can be searched by title or contents. Help users to put files into orders.

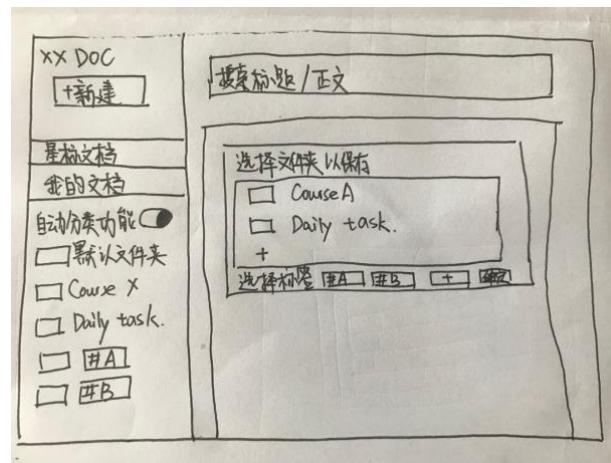
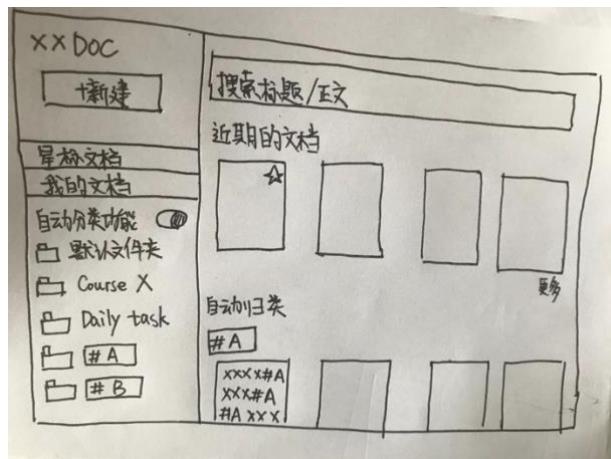
5.5.2 Solution Affinity Diagram



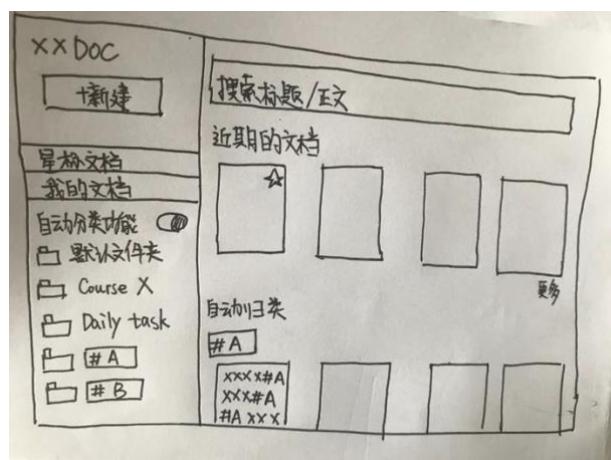
5.5.3 Initial Storyboard

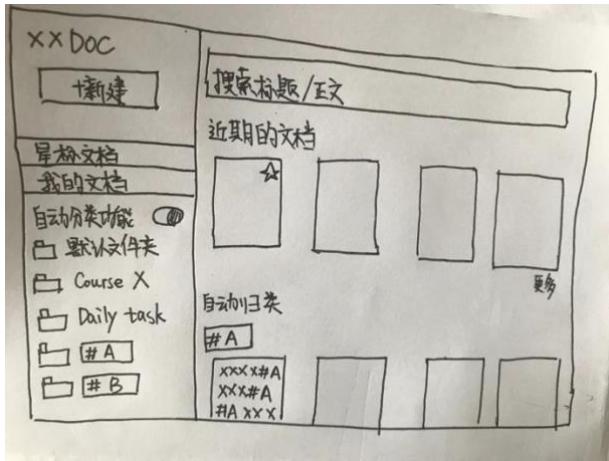


5.5.4 Solution Storyboard



5.5.5 Prototype





6 Usability Test

6.1 Usability Test

Usability Test is often used in user-centered design to evaluate a product. In this project, we apply usability test based on the prototypes we generated to help us to better optimize the user experience of Meeting Mate. By doing the usability test, we were able to collect the feedback from the respondents and quickly iterated our product for three times to optimize the total performance of Meeting Mate.

6.1.1 Objective

The usability test is conducted to have a closer perspective of how users may think about our product. And by conducting test with prototypes, we will be able to get detailed feedback from the users just like they were using the platform. The underlying problems can be discovered when put into operation. Based on the feedback collected out of the test, further optimization and fast iteration can be made to improve our product on user experience and usability.

6.1.2 Test Method Design

Due to the lockdown caused by COVID-19, the tests were conducted online. And prototypes were displayed in format of PDF with the aid of IM platforms like WeChat and online meeting platforms like Zoom. Fourteen respondents participated in the tests and we used the same group of respondents to ensure the iteration can be better

reflected throughout the whole process.

Respondents were set for a certain scenario, for example, just finished the online discussion, and will be shown the prototypes. Then they will give their operations to do within certain prototype with their thoughts on the operations. The tests were designed this way because we would like to give the respondents more freedom when apply the product, so that we will be able to test the ease of use and how the UI design serves the users. This method was applied in the usability tests of prototype 1.0 and prototype 2.0.

We also adopted the “Think Out Loud” method. The respondents are encouraged to express their real time feeling, confusions or expectations throughout the test, and the record will be saved for further analysis.

6.1.3 Data Collection

The data we collected was basically subjective data. The reason is that we believe subjective data can be easier to be understood and it is more direct to use subjective data to guide our optimization. We recorded the test process and generated tables with two factors:

- a) What is user’s operation?
- b) What is user’s feeling/confusion/expectation about the operation?

The tables were generated after both tests and were used for the basement of further iteration.

6.2 Major Findings and iteration

After each round of usability test, we had some important findings, among which we got inspirations for our optimization. In the usability test of prototype 1.0 we mainly focused on the users’ understanding about our product UI and functions. And in the test of prototype 2.0, we mainly focused on some detailed user experience. One major reason that caused the situation is that after the first round of iteration, some major problems were solved, like some logic problems and UI design that confused the users, so that the users came up with more detailed expectations and opinions in the second round of test.

6.2.1 Major Findings and Iteration of Prototype 1.0

a) Confusion about the operation in Conference Contribution Ranking

The problem was detected because two of the respondents were getting confused about what to do when the prototype was displayed. The problem partly caused by the quality of UI design since the prototype 1.0 was quite rough, but also the logic of the whole interface was not clear enough. We finally made the button for entering ranking clearer visually and made adjustment on the position that each icon and information displayed so that the operation logic can appear more obvious.

b) Meeting record function appears in two parts of the product

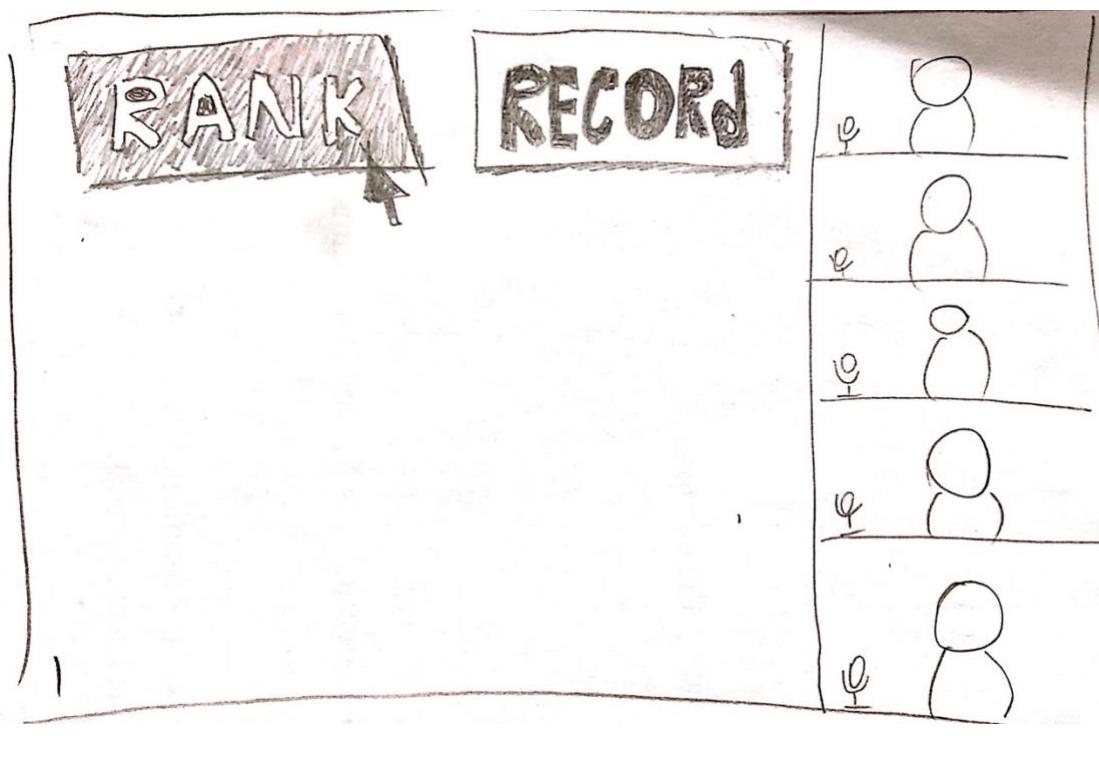
This is a problem caused by lack of communication between designer, we quickly fixed it by removed it from one of the parts and remained it where it is the core function.

c) No other methods to access meeting review once click “leave” button

This is a problem on logic flow of the product. Once the users clicked the “leave” button instead of “review”, there is no way they can go back and check the record. Therefore, we re-design the function and UI, added an extra button so that the meeting record can be accessed anytime and the record in PDF format can be automatically saved. We also changed the conversation and options when the meeting is over so that the users will be less likely to false operate.

	会议贡献度排行	推送通知提醒	会议回顾与记录	群组多功能日历	系统的分类功能与内容搜索
User1	我觉得有点尴尬	必须要在应用外操作的内容怎么办?	误点leave后怎么查看review?	group是只能join一个吗? 可以管理group吗?	如果标签也忘了打会怎么样? 选错标签了还能改吗?
User2	会经常点了看看,能及时回顾还挺好的	走神是常态, 走神是常态	录制这个功能已经有了吧	协作版to do list?	没注意腾讯文档有没有(这个功能), 我们(组)都是分开来做的
User3	如果排名靠前, 我会觉得很有成就感, 如果排名靠后, 就会想奋起直追。	能够提醒我保持专注	感觉这样能够最大程度上地提高自己的工作效率。	这样能提醒自己不要忘记重要日程。	减少自己归类文档的时间, 提高工作效率。
User4	觉得会有一定的推动参与作用, 但是容易造成尴尬	实际效果可能不是很大, 只能把人留在屏幕前, 可能需要更细节的手段	记录内容可能会很大, 下载翻阅提取信息难度会很大	比较方便, 应该支持多角度查看日历, 横向纵向交叉	线上版的finder, 比现在用google doc什么的方便一些, 比较好管理
User5	会看那些人贡献最少, 还有就是会仔细看那些贡献多的人的想法和内容记录。	点击完“yes”会意识到自己可能不太专注了, 接下来会更专注。同时会觉得其他有红色几号的人不太好	会使用文字和视频记录对比观看, 辅助完成后续分配的任务	如果是组长设置只要点看看及收到提醒就很喜欢, 如果自己是组长可能会有点麻烦, 但还是回去做。	希望能搜索到有用的内容, 如果找不到会感觉很糟糕

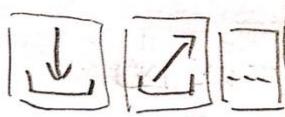
d) Revised Prototype



A hand-drawn sketch of a ranking screen. At the top left is a large button labeled "RANK". Below it are two sections: "By time" and "By Messages".

Rank	User	Time / Messages
1.	Amy	25min
2.	Bob	15min
3.	Kate	
4.	Louis	3min
5.	Louis	1msg

RECORD



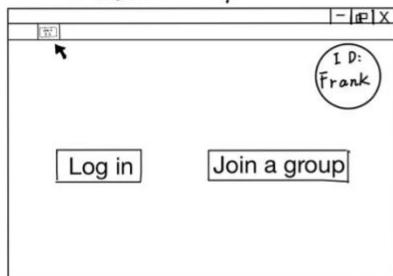
1. Amy: --- (2min) 7
 2. Bob: --- (1min 25sec) 8
 - 3 kate --- (2min) 9 10
 4. --- 11
 5. --- 12
 6. --- 13
- 3

Louis	(a)	XX Group 04/26 meeting	participants(5) ↗
≡	XX Recording		
🔊	...		
☒	xxx		
☰		Are you still there? (Yes 30s)	
☒			

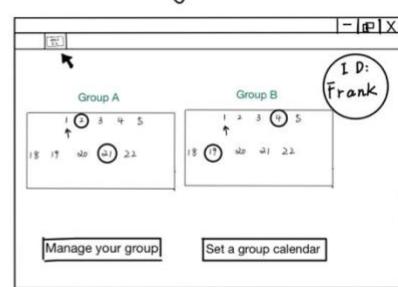
Are you still there?
(Yes 30s)

🔇 🔊 ⚡ ✖

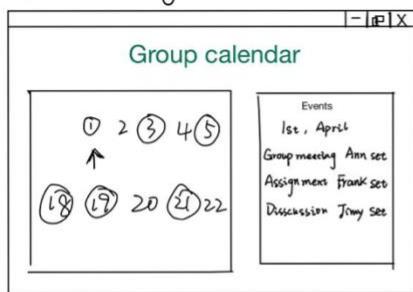
1. User interface



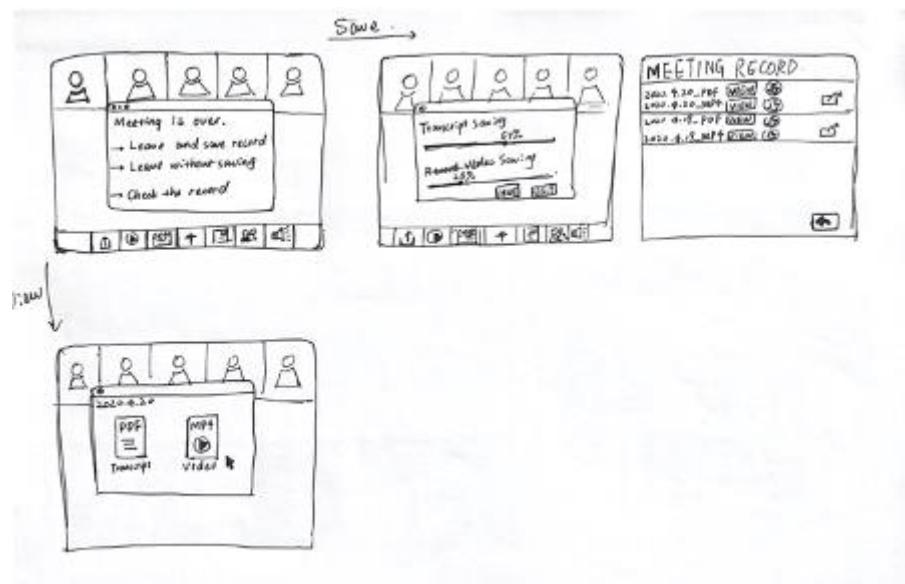
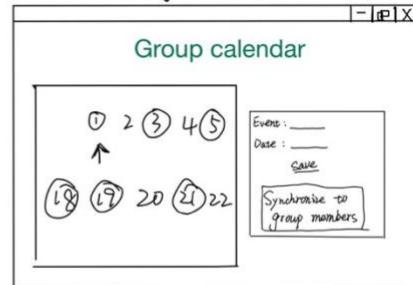
2. log in

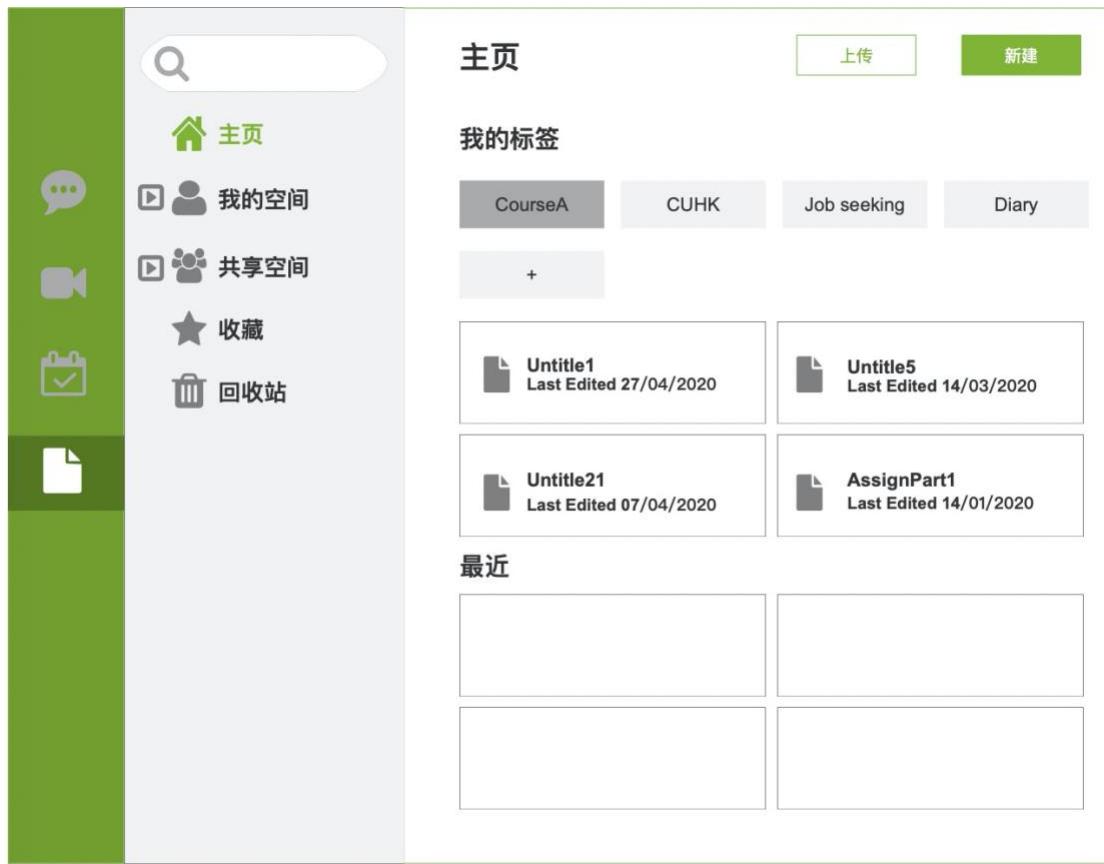


3. Check group list



4. Set group events





6.2.2 Major Findings and Iteration of Prototype 2.0

a) Push notification reminder when minimized

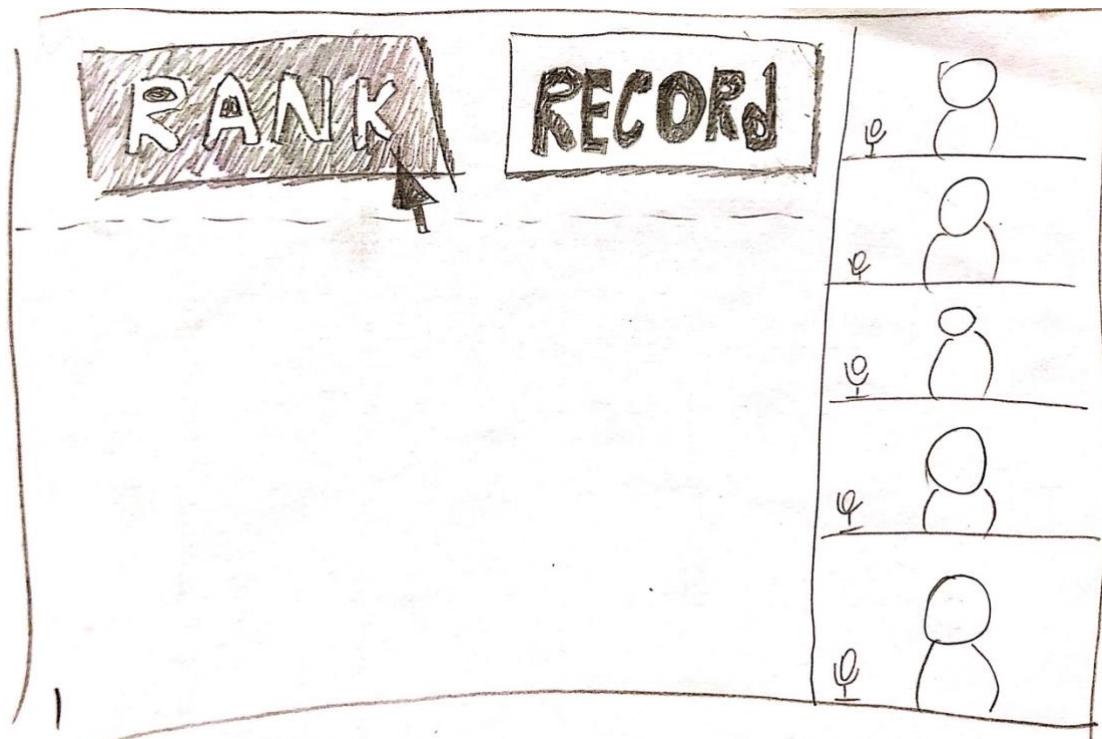
How the function works after the application is minimized was a blind point that our group failed to notice. We came up with a solution that allows the push notification works fine and re-design the UI details of the notification when minimized and meanwhile added some interaction factors into it.

b) Can't save transcript and video separately

The opinion was raised due to the different types of the meeting review were provided but the two formats are quite different in size and usage. Therefore, the demand of option of saving one of the formats should be considered. And we fixed the problem by inputting a dialog box that allows the users to select which format of review to choose.

	推送通知提醒	会议回顾与记录	群组多功能日历	系统的分类功能与内容搜索
User1	如果把每个成员视频框部分收起来，还看得到每个人的状态信号灯吗？	文稿和录屏储存可以分别进行，方便选择。如果会议很久的话，文件会不会太大？按时段分割一下？	主页面既然有ID号码，为什么还要Log in？	希望可以选多个标签，不要只能弄一个，能够清晰地看到自己选了哪几个标签，现在这个版本有点不清楚。
User2	如果网络连接不好或其他情况，会显示什么颜色灯呢？还是会有文字描述？	会议记录最好可以支持检索功能	第四步里面，set group events具体是设置到哪个group里面？需要有一个小组选择按钮吧。	希望最近记录能够按照一定的顺序排序，最好能弄成类似于列表的形式，比较清晰。
User3	希望提示框颜色可以显眼一点，不仅是在这个软件界面，如果我最小化了这个软件，是不是弹窗就不弹出了？	可以在线观看还是挺方便的，反正也基本是开完会看一下或者要做东西之前看一下，应该有单独保存文稿的选项。	同步给小伙伴之后，是不是会有一个提醒页面？如果没有提醒页面的话，对于小组提醒来说，应该没有多大意义呀。	不太明白标签那里是什么意思，选择标签下面出和标签相关的文档？

c) Revised Prototype



RANK

By time

By msg

By time

- | | |
|-----------|--------|
| 1. Amy | 25 min |
| 2. Bob | 15 min |
| 3. Kate | |
| : | |
| 15. Louis | 3 min |

By Messages

- | | |
|-----------|--------|
| 1. Amy | 20 msg |
| 2. Kate | 15 msg |
| 3. Bob | 12 msg |
| : | |
| 15. Louis | 1 msg |

2

RECORD



1. Amy: --- (2min) 7

2. Bob: --- (1min 25sec) 8

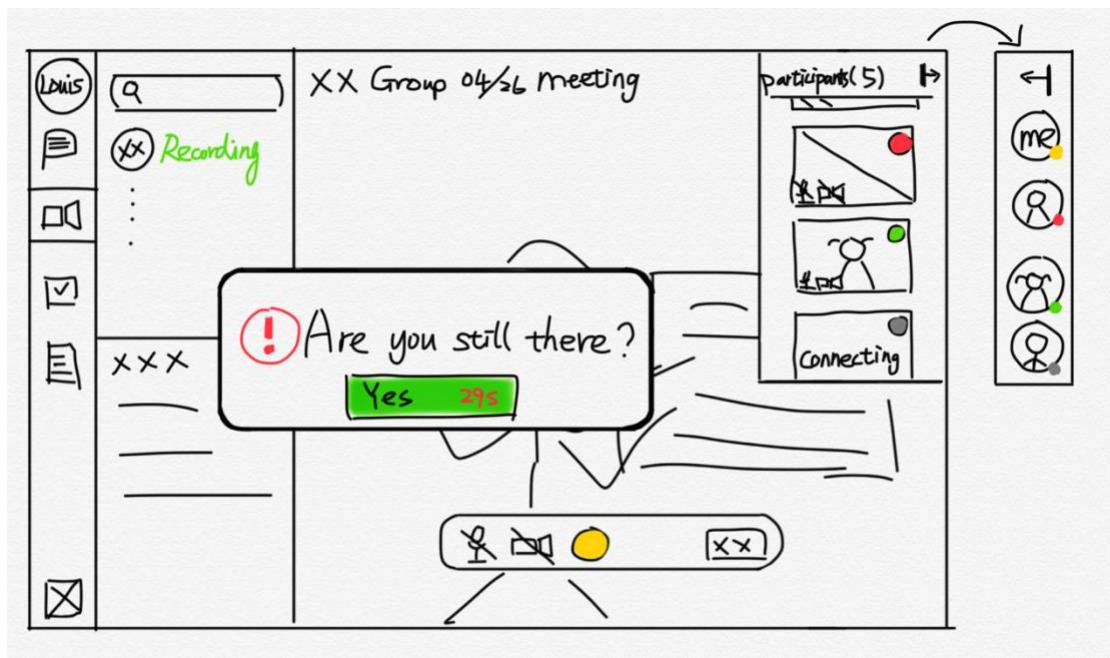
3. Kate: --- (2min) 10

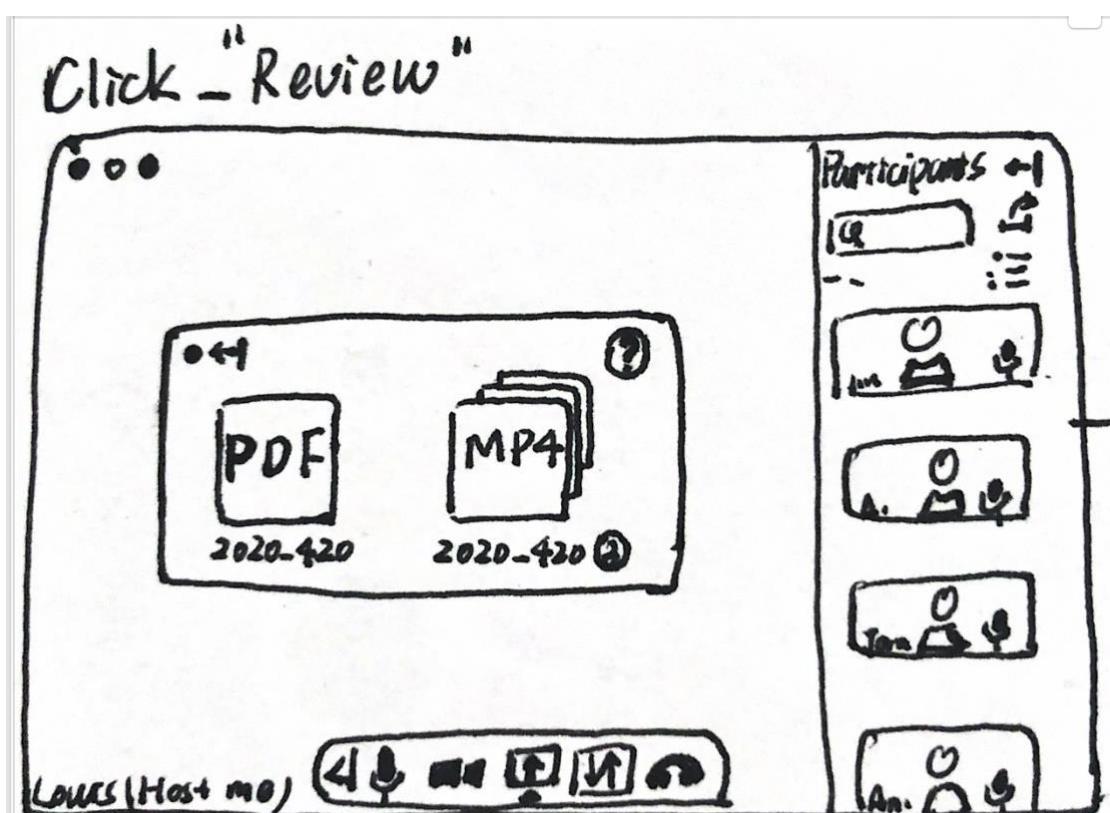
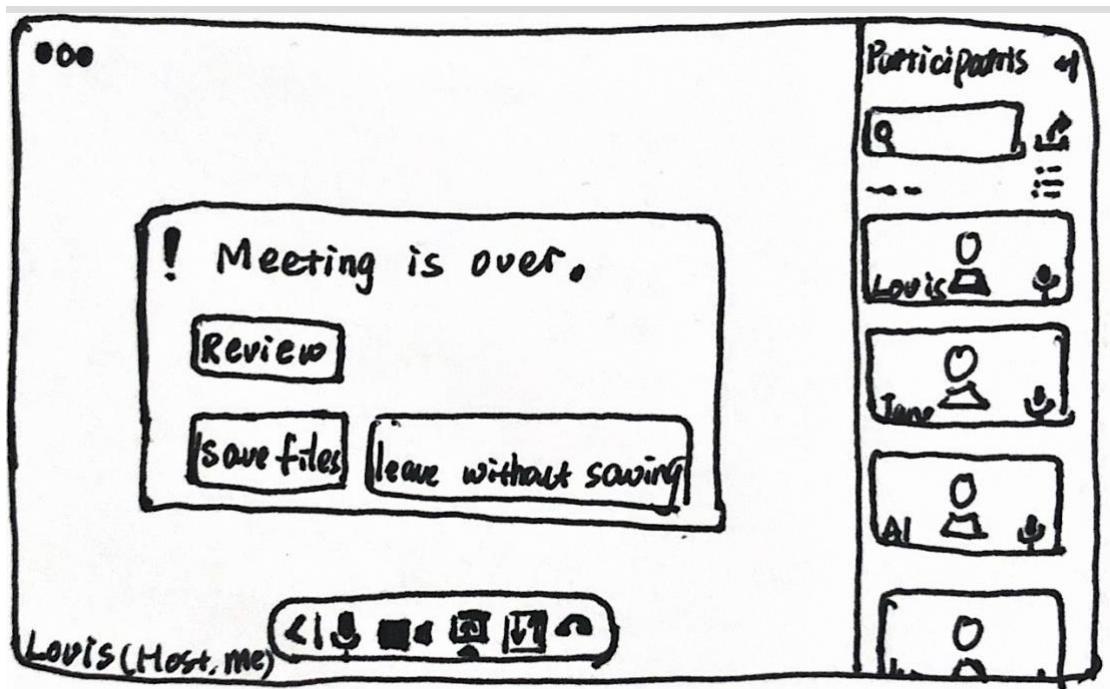
4. --- 11

5. --- 12

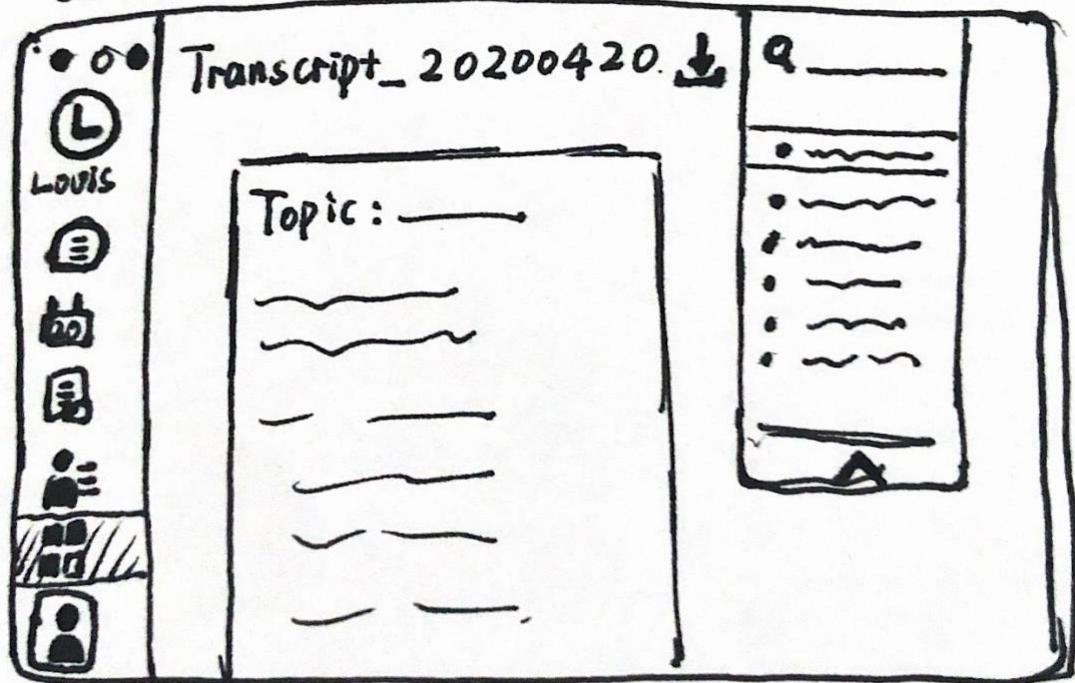
6. --- 13

3

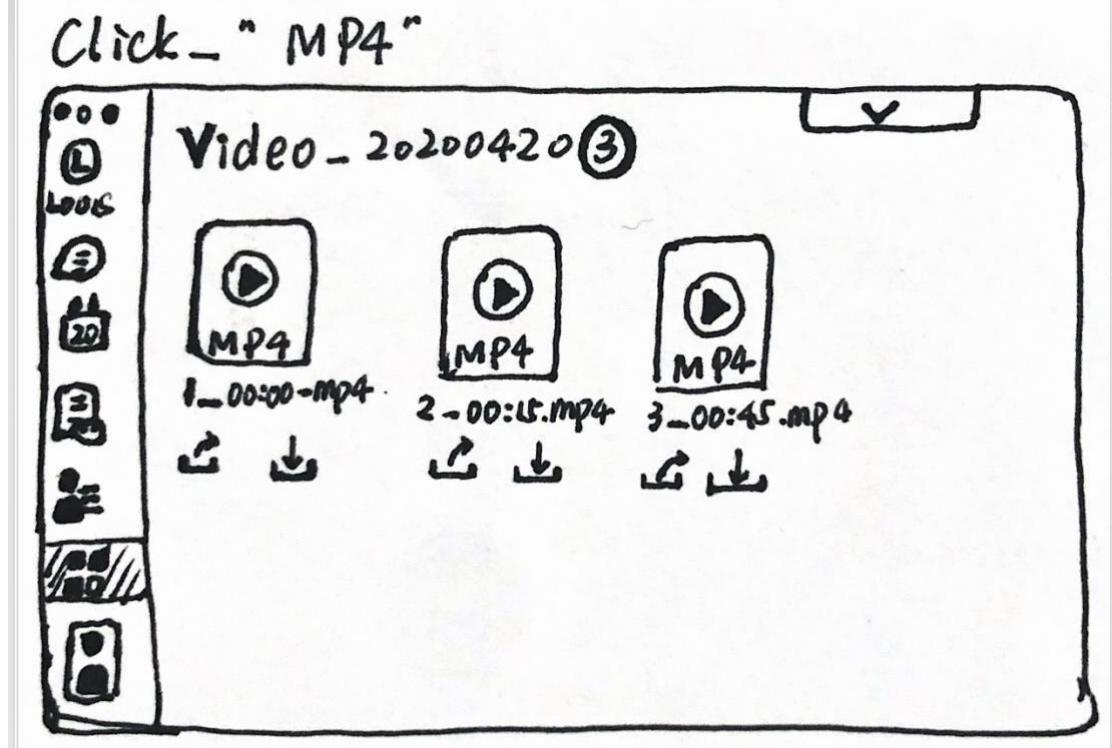


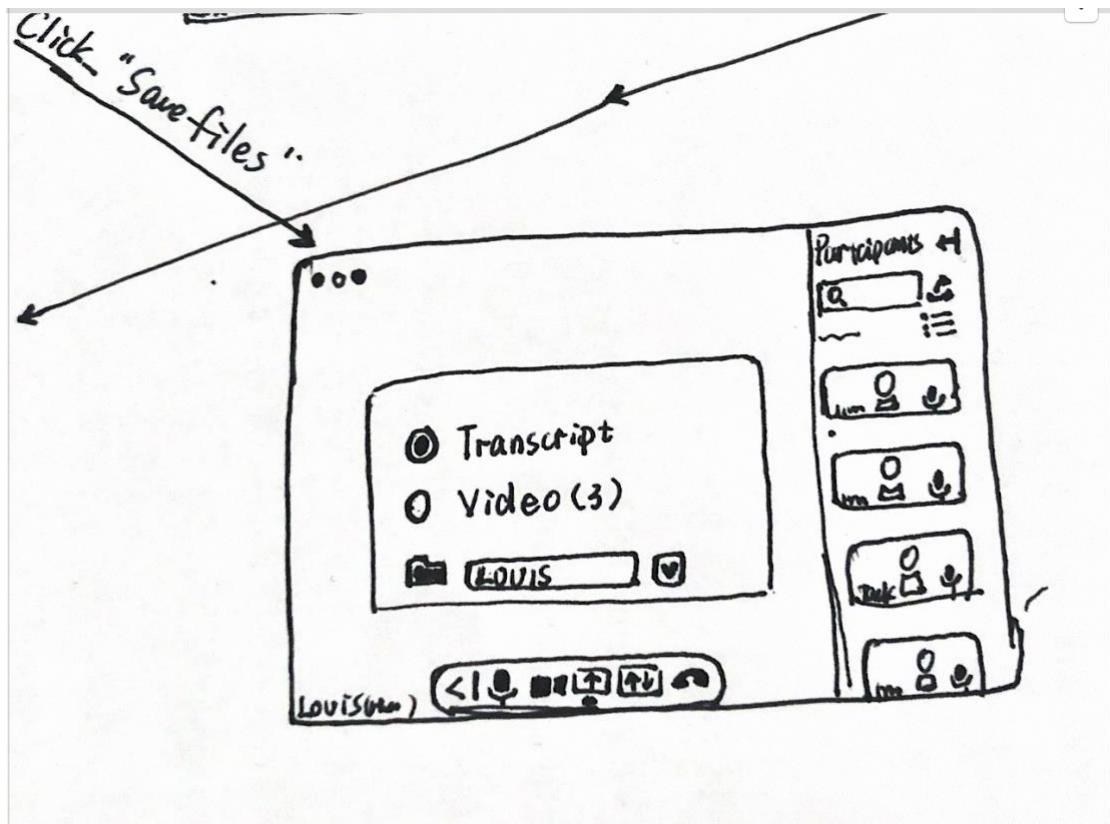


Click - "PDF"

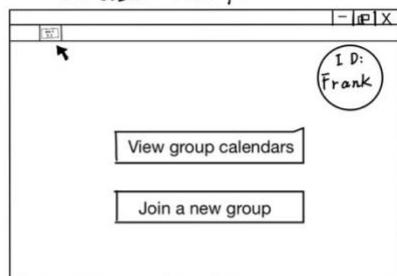


Click - "MP4"

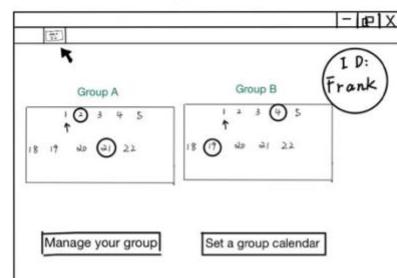




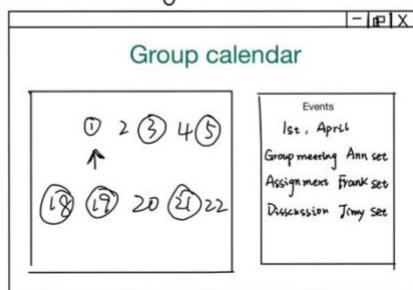
1. User interface



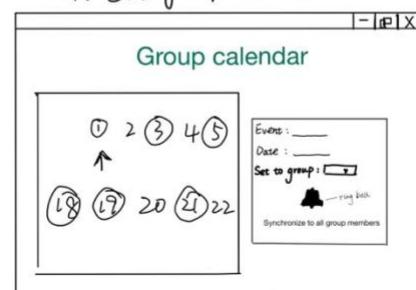
2. log in.



3. Check group list



4. Set group events



主页

上传 新建

我的标签

CourseA CUHK Job seeking Diary

+

CourseA +

Untitled1 Last Edited 27/04/2020

Untitled5 Last Edited 14/03/2020

最近

所有类型	所有者	最近打开

未命名文档 ★

添加至 最后编辑于 XX: XX 2020年X月X日 分享 搜索 新建

输入标题

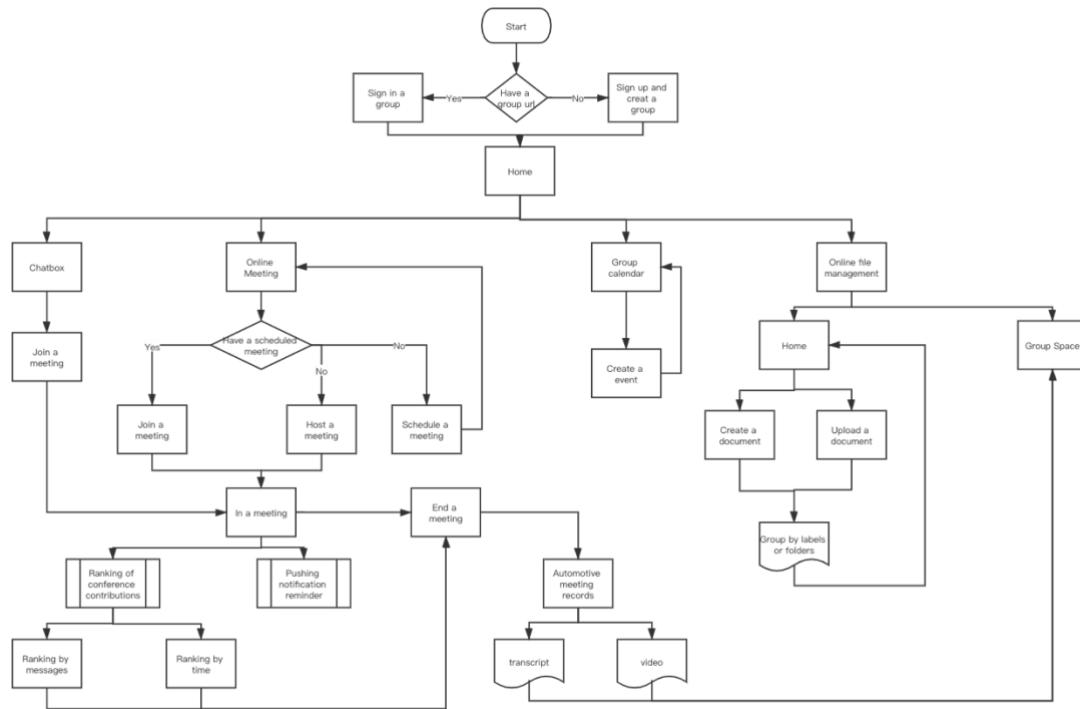
选择标签

CUHK Course A Diary Course B Job seeking +

输入正文

7 Final Product

7.1 Workflow



7.2 Prototype 4.0

7.2.1 Sign in & Sign up

Sign in

The image displays two side-by-side screenshots of the Meeting Mate prototype. The left screenshot shows a 'Meeting Mate' calendar interface for April 2020. The calendar grid shows various events, with one specific event highlighted in green: 'Augustine Field - Augustine Free Discussion meeting' from 20:00 to 21:00 on April 28th. To the left of the calendar is a sidebar with a navigation menu and a color-coded legend for 'Calendar Value'. The right screenshot shows a 'Sign in to your group' page. It features a text input field with the placeholder 'your-group-url .meet.com', a link 'Don't have a group yet? [Create one in 2 minutes](#)', and a large green 'NEXT' button at the bottom.



Meeting Mate
Ranking of conference contributions

Sign in to your group

Enter your E-mail

Send Confirmation Code

Confirmation Code

Enter your name

Enter

Sign up



Meeting Mate
Pushing notification reminder

Step 1: Enter your E-mail

Just 2 steps to start Meet

name@meetmeet.com

Send Confirmation Code

XXX - XXX

Next

7.2.2 Chatbox

7.2.3 Online Meeting

Home

The screenshot shows the main interface of a meeting application. On the left is a vertical sidebar with a dark background and a user profile icon for 'Louis'. At the top right is a search bar with the placeholder 'Search'. Below the search bar is a section titled 'Meeting Records' with three entries:

- Augustine Final Part 2 (by Louis, Yesterday at 22:00)
- Augustine Final Part 1 (by Louis, 4/26 at 15:00)
- Video Call (by Louis, 4/28 at 22:00)

Below this is a large green button with a white plus sign and the text 'JOIN A MEETING'. Further down is a section titled 'Scheduled Meetings' with one entry:

- Augustine Final Pre (by Louis, 5/2 at 22:00)

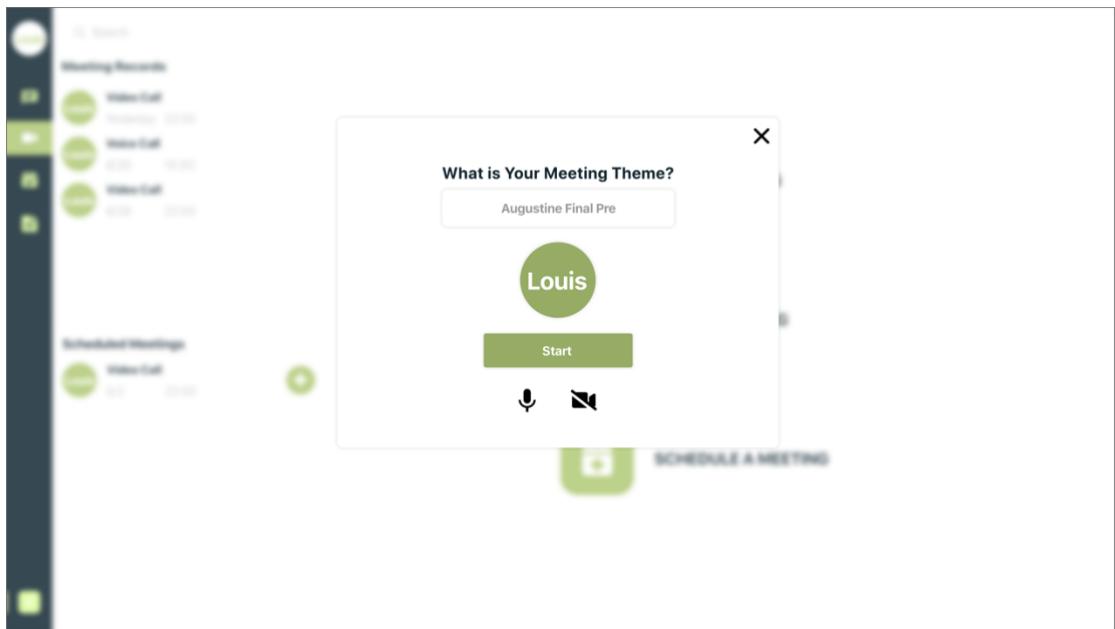
At the bottom of the sidebar is a small yellow square icon with a white letter 'Y'.



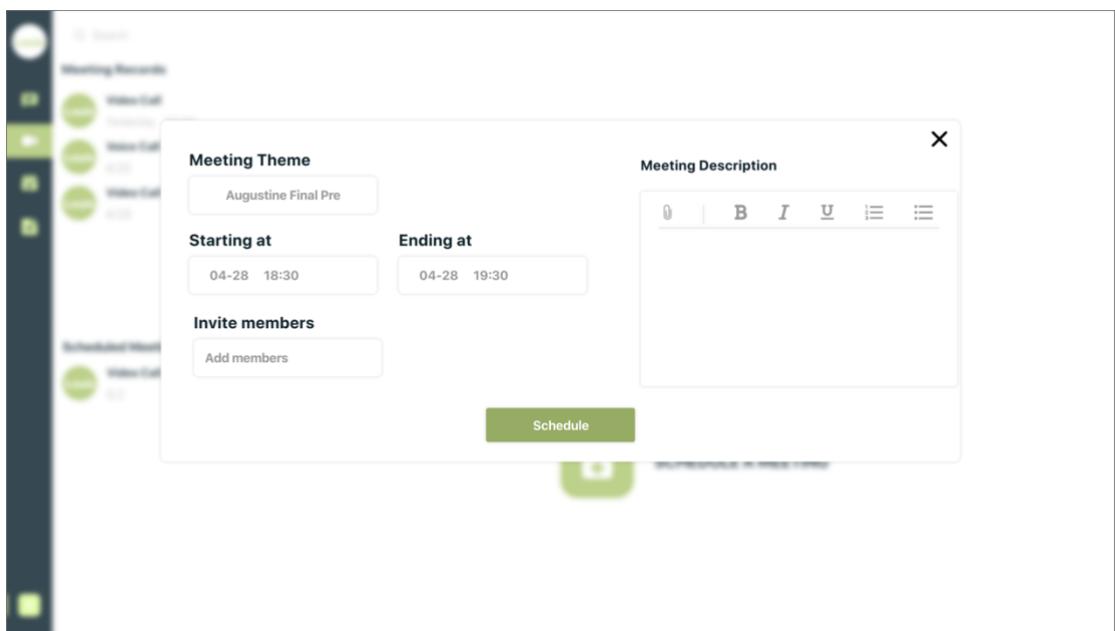
Join a meeting

A modal window is centered on the screen, prompting the user to 'Enter Meeting Number' with a placeholder 'XXX - XXX - XXX'. Below the input field is a circular profile picture for 'Louis'. A green 'Join' button is positioned below the profile picture. Underneath the button are two small icons: a microphone and a video camera. At the bottom of the modal is a green 'SCHEDULE A MEETING' button. The background of the main interface is visible through the modal window.

Host a meeting



Schedule a meeting



Ranking of conference contributions

The screenshot shows a Microsoft Word document titled "DDL0430 10pm前 AugFinalProject4". The document contains a table of contents and several sections of text. On the right side, there is a "Participants (5)" panel with a "Rank" section. The rank list is as follows:

Rank	Participant	Time
1.	Louis (Host, Me)	25 min
2.	Amy	22 min
3.	Cate	18 min
4.	David	10 min
5.	Louis	3 min

Ranking by time

The screenshot shows a Microsoft Word document titled "DDL0430 10pm前 AugFinalProject4". The document contains a table of contents and several sections of text. On the right side, there is a "Participants (5)" panel with a "Rank" section. The rank list is as follows:

Rank	Participant	Time
1.	Amy	25 min
2.	Bob	22 min
3.	Cate	18 min
4.	David	10 min
5.	Louis	3 min

Ranking by messages

The screenshot shows a Microsoft Word document with the following content:

Are you still there? Yes (29s)

Participants (5)

Rank	Participant	Status
1	Louis	Yellow dot (online)
2	Amy	Green dot (online)
3	Bob	Grey dot (offline)
4	Louis (Host, Me)	Yellow dot (online)
5	Amy	Green dot (online)

Persona
Louis is a 23-year-old boy from Guangdong Province mainland China, who is currently studying Engineering Enterprise Management in Hong Kong University of Science and Technology. He is currently online. He canceled online classes due to epidemic and switched all courses online. After moving to online classes, Louis still had to deal with a lot of group work, so they often had to hold a lot of seminars to push the work forward.

Pushing notification reminder

The screenshot shows a Microsoft Word document with the following content:

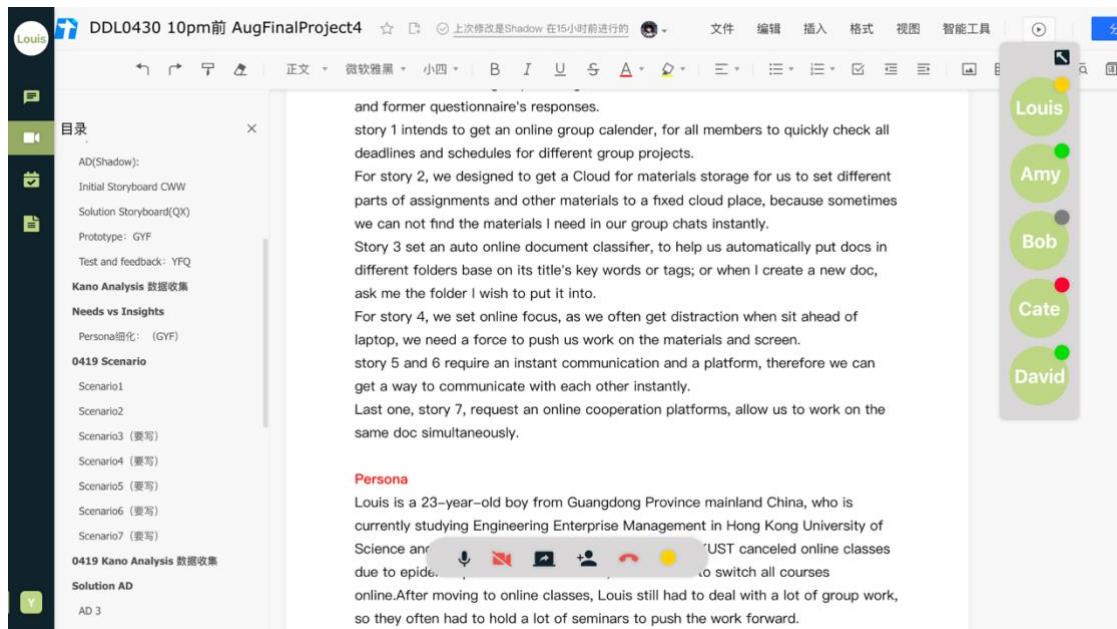
Are you still there? Yes (29s)

Participants (5)

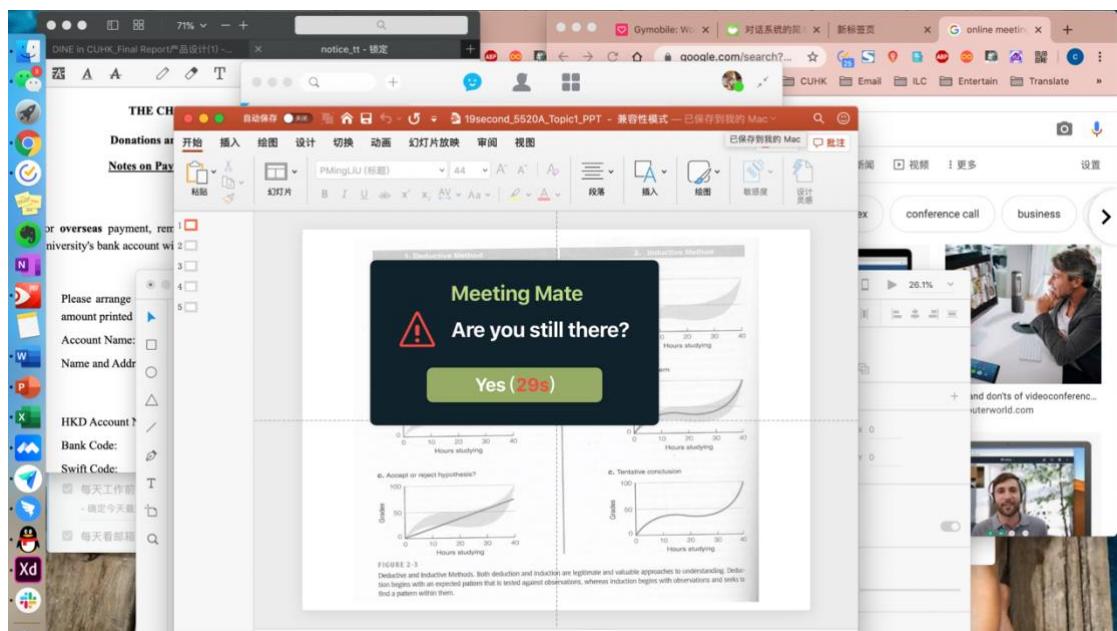
Rank	Participant	Status
1	Louis	Yellow dot (online)
2	Amy	Green dot (online)
3	Bob	Grey dot (offline)
4	Louis (Host, Me)	Yellow dot (online)
5	Amy	Green dot (online)

Persona
Louis is a 23-year-old boy from Guangdong Province mainland China, who is currently studying Engineering Enterprise Management in Hong Kong University of Science and Technology. He is currently online. He canceled online classes due to epidemic and switched all courses online. After moving to online classes, Louis still had to deal with a lot of group work, so they often had to hold a lot of seminars to push the work forward.

Shrink participants' window



Reminder when browsing other softwares



Automotive meeting records

The screenshot shows a meeting interface with a sidebar on the left containing a tree view of project components: Project Overview, Project Documentation, Project Structure, Project Plan, Project Metrics, Project Issues, Project Risks, Project Stakeholders, Project Resources, Project Timeline, Project Budget, Project Status, Project Progress, Project Risk Register, Project Issues Log, Project Resource Allocation, Project Stakeholder Analysis, and Project Timeline Overview. The main area displays a message: "Meeting is over" with two buttons: "Review" and "Just Leave". Below this, there is a "Previous" section with a profile picture and some text about a user from Shaanxi, China, currently studying at Hong Kong University of Science and Technology. On the right, there is a "Participants" section showing three participants with their names and status: "Linda Zhang (Me)" (green), "John Doe (Me)" (green), and "Jane Smith (Me)" (red).

Review transcript or records

The screenshot shows a meeting interface with a sidebar on the left containing a tree view of project components: Project Overview, Project Documentation, Project Structure, Project Plan, Project Metrics, Project Issues, Project Risks, Project Stakeholders, Project Resources, Project Timeline, Project Budget, Project Status, Project Progress, Project Risk Register, Project Issues Log, Project Resource Allocation, Project Stakeholder Analysis, and Project Timeline Overview. The main area displays a "Review" message with two attachments: "2020-0428.docx" and "2020-0428.mp4". Below this, there is a "Previous" section with a profile picture and some text about a user from Shaanxi, China, currently studying at Hong Kong University of Science and Technology. On the right, there is a "Participants" section showing three participants with their names and status: "Linda Zhang (Me)" (green), "John Doe (Me)" (green), and "Jane Smith (Me)" (red).

Transcript automatically saved in group space

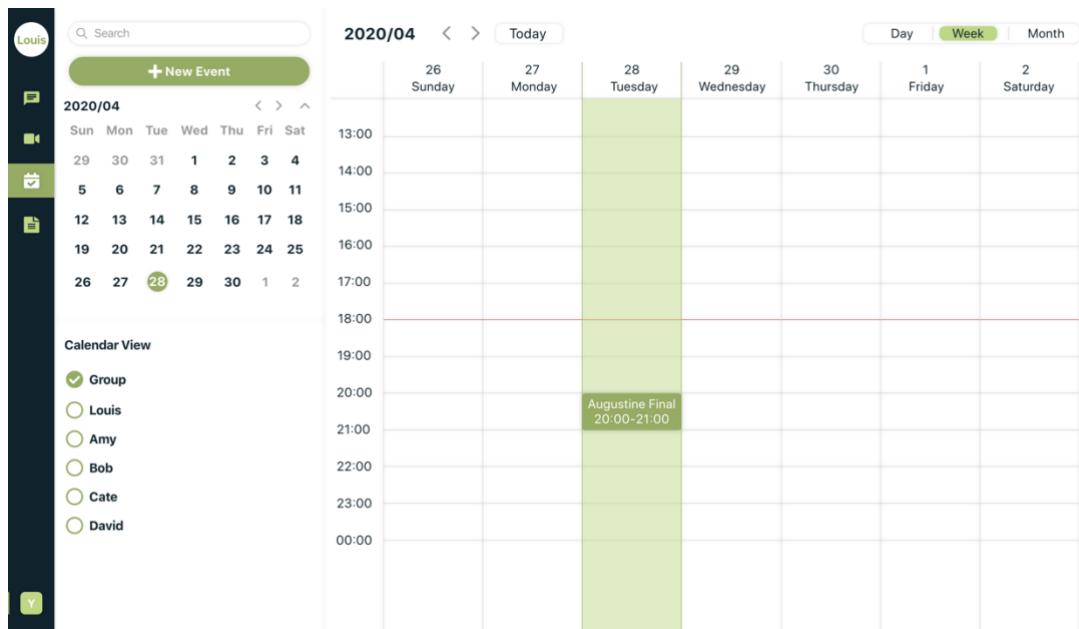
The screenshot shows a digital workspace interface. On the left is a sidebar with icons for Home, My Space, Group Space (which is selected), Collection, and Recycled. The main area displays a document titled "Transcript-2020-0428.docx" with the content "Transcript-2020-0428". Below the document are several text entries from users: Louis, Amy, Bob, Cate, and Bob again, all containing placeholder text about Lorem ipsum dolor sit amet.

Records automatically saved in group space

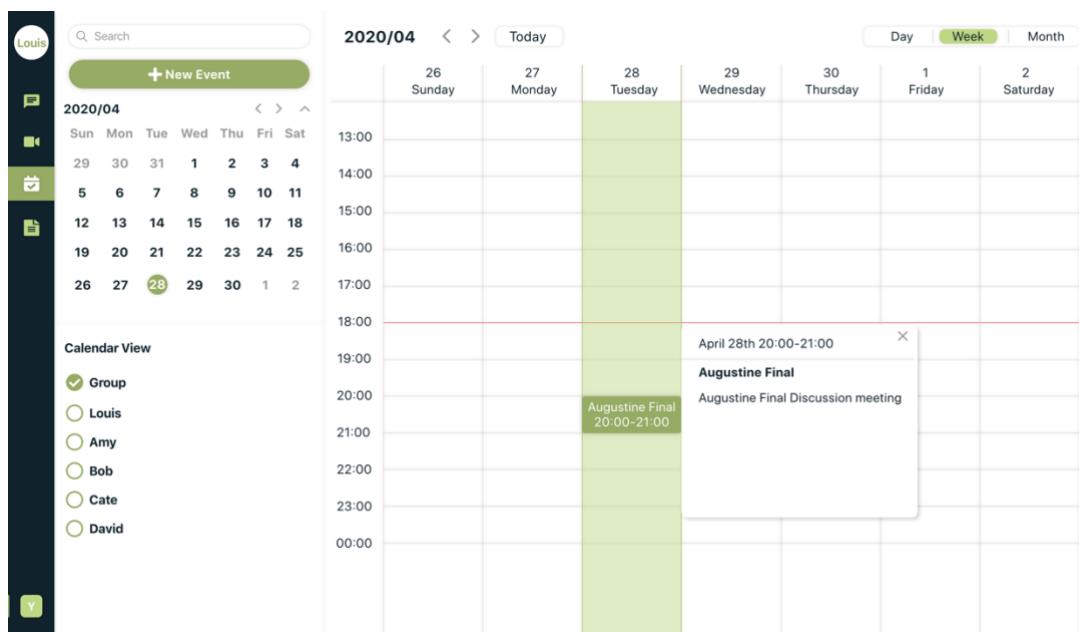
The screenshot shows a digital workspace interface. On the left is a sidebar with icons for Home, My Space, Group Space (selected), Collection, and Recycled. The main area displays a folder named "Group Space" containing four video files: "20200428_0000_0015.mp4", "20200428_0015_0030.mp4", and "20200428_0030_0045.mp4", all uploaded by Louis on April 13th at 9:05 PM.

7.2.4 Group multi-function calendar

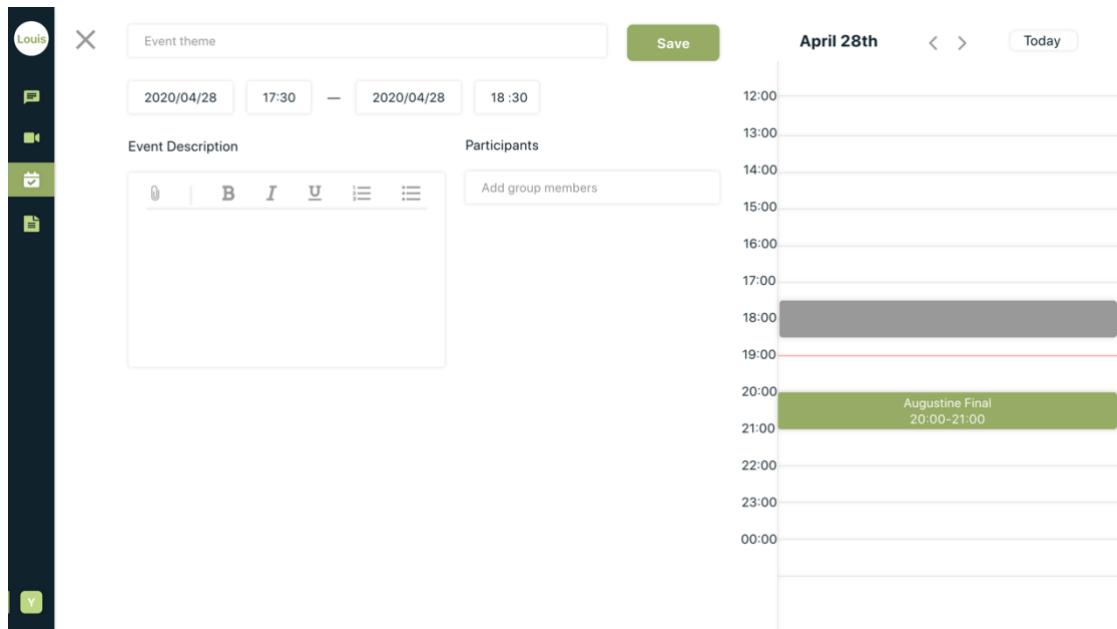
Home



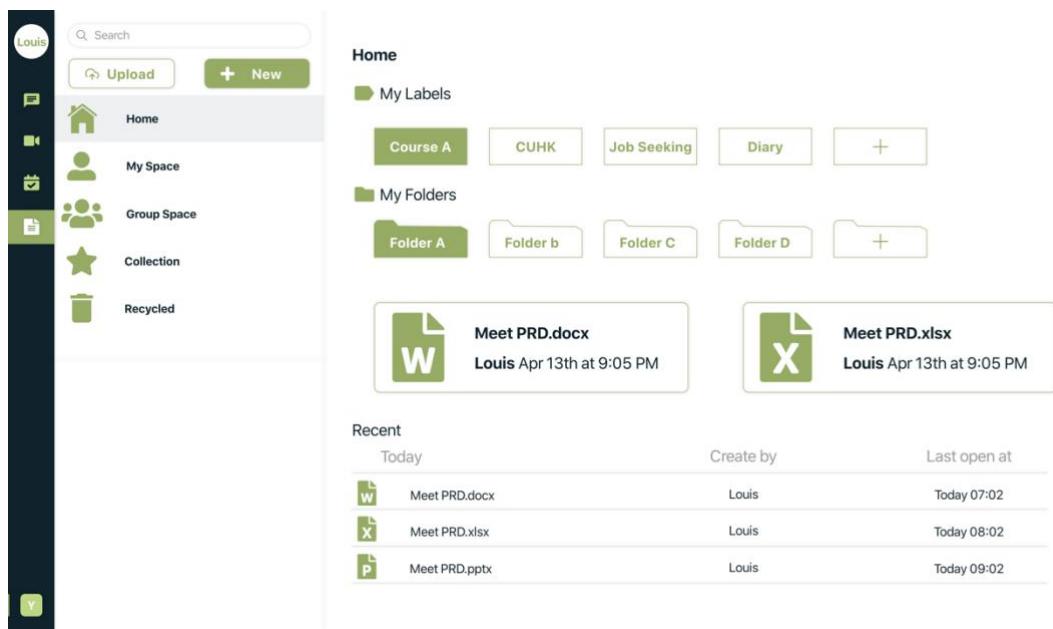
Event's detail

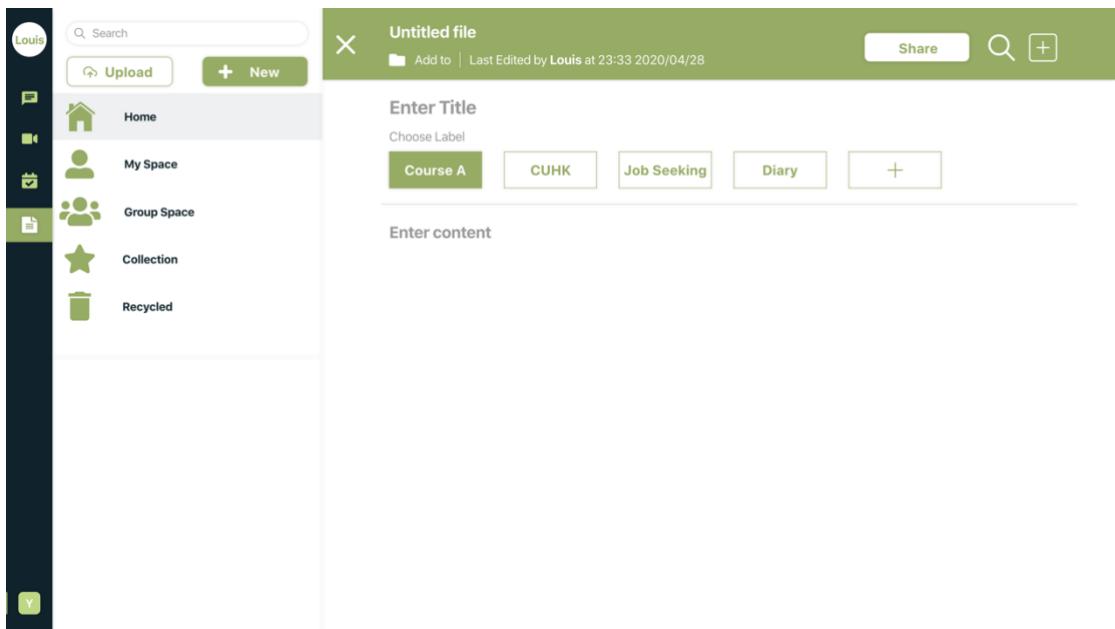


Creating new event



7.2.5 Document classification and search





7.3 Interactive prototype

Link

<http://dwz.date/azzr>

QR code



8 Conclusion

something like group project profolio

9 Reference and Appendix

9.1 Reference

[1] https://www.financialnews.com.cn/cj/hyfx/202002/t20200220_180178.html

9.2 Appendix Questionnaire

疫情期间学生线上教辅软件使用需求调查

第 1 题 您目前是否为学生? [单选题]

选项	小计	比例
是	222	<div style="width: 82.22%;">82.22%</div>
否	48	<div style="width: 17.78%;">17.78%</div>
本题有效填写人次	270	

第 2 题 请问您的在线教学过程中是否涉及小组合作?

[单选题]

选项	小计	比例
是	114	<div style="width: 51.35%;">51.35%</div>
否	108	<div style="width: 48.65%;">48.65%</div>
本题有效填写人次	222	

第 3 题 请问您目前的学历(在读)情况是?

[单选题]

选项	小计	比例

小学及以下	1	<div style="width: 0.88%; background-color: #0070C0;"></div> 0.88%
中学	22	<div style="width: 19.3%; background-color: #0070C0;"></div> 19.3%
本科	49	<div style="width: 42.98%; background-color: #0070C0;"></div> 42.98%
硕士研究生	39	<div style="width: 34.21%; background-color: #0070C0;"></div> 34.21%
博士研究生	3	<div style="width: 2.63%; background-color: #0070C0;"></div> 2.63%
本题有效填写人次	114	

第 4 题 您觉得目前在线教辅工具（微信、QQ、腾讯会议、钉钉、Zoom 等）需要改进或者增加哪些功能点？

[多选题]

选项	小计	比例
沟通功能（如：即时消息）	51	<div style="width: 44.74%; background-color: #0070C0;"></div> 44.74%
协作功能（如：在线文档编辑）	76	<div style="width: 66.67%; background-color: #0070C0;"></div> 66.67%
专注功能（如：番茄 To Do）	43	<div style="width: 37.72%; background-color: #0070C0;"></div> 37.72%
日程管理（如：滴答清单）	44	<div style="width: 38.6%; background-color: #0070C0;"></div> 38.6%
文件管理功能（如：云存储）	60	<div style="width: 52.63%; background-color: #0070C0;"></div> 52.63%
本题有效填写人次	114	

第 5 题 您对所选择的功能点有什么具体的改进建议吗？

[填空题]

填空题数据请通过下载详细数据获取

序

号 答案文本

2 不要闪退 系统必须稳定 网课不要卡

3 chatbox 最好要有撤回功能，zoom 可以考虑引入飞书的文档协作功能和云盘功能。

4 像飞书那样的在线编辑就很不错！

7 无

9 无

14 如果分享视频能更流畅就好

15 暂无

20 其实完全可以多开嘛... zoom 做好它自己就行了，所以上题瞎选的

21 没
27 无
30 无
35 异地协作功能（包括在线文档编辑、实时讨论等）
38 在线共同编辑真的很有必要，小组讨论实在避不开这个。能多人同时编辑就可以一块开心地写作业啦！
40 无
48 无
51 能不能搞个作业清单？还有交作业提醒，金鱼脑玩家好累。
54 没有
58 微信群开个群文件吧。。。
60 能否自主选择分组？
62 共享文档，比如石墨，google 共享文件。此外做 pre 的时候，需要可以多人操作 ppt，并且设立优先级
67 急需小窗口化
72 无
74 希望在 iPad 客户端可以使用分屏功能，方便记笔记
79 无
81 告知合作者的工作状态，常常上线但无法联系
82 多人分享屏幕
83 把作业按老师设置的截止时间排列
91 协作，真的，协作，多人即时在线编辑同一文档真的很重要拜托了
96 無
97 给我也整个虚拟背景，还有网络延迟可真是个好东西
98 如果可以搞个白板在线讨论时实用会更好
99 日程管理啥的没用过，但是我好需要
100 无
102 可以请钉钉不要自动登录吗我要气死了每次一打开电脑刷的一下就上去了我退也退不出来 也找不到在哪里可
103 无
104 没有（。
105 希望能别动不动卡死就行
107 协作功能太欠缺了 可以与石墨文档等合作
112 把在线文档合并入视频教学工具，方便连麦写作交流
116 可以设置按时下课
119 免费扩大存储空间
127 网络不稳定一切都是白搭
130 在线文档可以和文件管理整合
135 暫無
136 无
138 无
143 老师寂寞，学生孤独，应该开启弹幕模式或者露脸直播。
146 上课提醒
149 Zoom 有在线文档编辑会更好
150 网络平台的稳定性
159 什么视频会议都不如打个语音电话，我不需要看到这群人卡在屏幕上的脸，我需要流畅的对话
160 方便交流，使用简单，功能强大！看来要求比较高！

- 162 不要延迟
- 165 主要是文档共享，以及即时的文档接收与传递
- 166 每个软件有不同定位，微信 QQ 就是用来通讯的呀，要学习可以用专门的 Zoom，要线上编辑可以用 word，为什
- 171 在线编辑反应慢
- 174 无具体建议
- 175 世纪难题不应该我来处理
- 178 没有
- 186 提醒日程安排 预告一周内将出现的其他课程
- 191 摆头搖頭
- 198 沒有，加油。
- 207 沒有
- 224
- 226 石墨文档
- 231 暫無
- 232 增加文档协作编辑功能
- 243 功能简单清晰明了
- 244 加油奧利給
- 252 暫无
- 256 安全性 防止被黑客入侵
- 259 无
- 260 视频会议时希望能小屏会议，可以看文档
- 261 无
- 263 没有
- 264 無