Submission

A zip file containing:

1. A folder "prototype" with your prototype files. The prototype should be locally executable in a browser and should not need network connection, i.e. the marker should be able to click the index.html and see the prototype. All documents, HTML, CSS, JavaScript, should be well commented so that a marker can understand the operations.

A. High-fidelity Prototype Description:

Scenario:

Our scenario is that an undergraduate student from a Human-Computer Interaction (HCI) course is planning to share a file with his classmates who are collaborating on a major project with different kinds of files, some that are related (e.g., CSS, HTML) and some that aren't. The deadline for the HCI project is in one week.

User need #1: Ecological need

Firstly, in order to use this cloud data server, the student should be able to upload a file to the cloud service and organise the file, so that they can participate and thrive in the ecology of the work domain. By having the option to upload a file, the user can confirm that this cloud data service can store their files. Since the storage functionality is confirmed, the user requires the need to organise related files into folders just like how they can do so in their own directory on their computer, so they can easily navigate to specific files that they want to share with their group members. The students want to be able to check the shared files feature in order to see what files have been shared among group members, therefore increasing efficiency within the group project.

User need #2: Interaction need

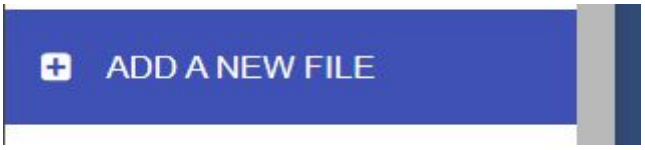
Secondly, the student would like to have the ability to share a group of files or even a single file, with the ability to send messages on their shared files. Also, the student would like the system to tell them whether the files have been shared successfully. On the other hand, the students in their group should be able to download the files to their system. However, in order to share the right files, the student would like the system to show them the description of the files so that they can share the right files. Therefore, this interaction will help the student to be able to perform required tasks in the ecology of the work domain.

User need #3: Emotional need

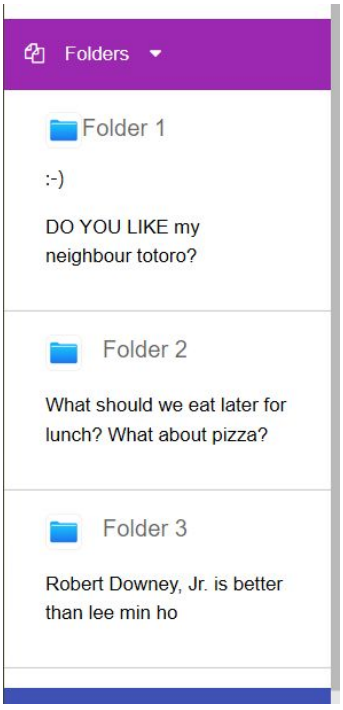
Thirdly, the user wants to add comments on their shared files.This creates connectedness because the student will be able to form long-term emotional relationships with the cloud data service as the system is helping them to interact with their peers on the files as they work on the same project.

Part 1.1:

We have customised the homepage to support student group coursework by adding an “Add a new file” option. This satisfies the student’s ecological need because they need this support first before they can share the files.

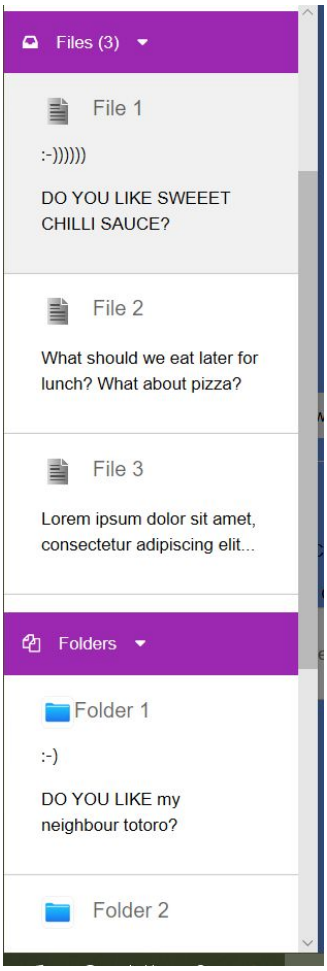


This enables students to upload a file from their computer onto the cloud data service. In addition, we have added a folders menu item so students can put their related files inside e.g. HTML, CSS and etc.



Giving them the ability to share multiple files at the same time to other group members. Thus, this satisfies the student’s ecological need as they can now participate in their project with their peers.

We have added a brief description for each file and folder, so students are able to skim through the folder, without opening each folder individually, saving time. This relates back to the interaction needed because the system is providing valuable information to the user in order for the student to make a decision on which files to share.

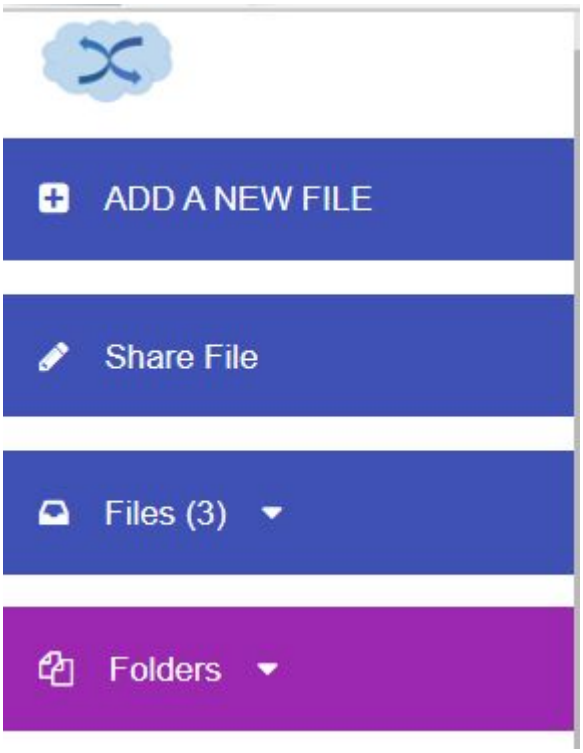


We have also added an additional download button within the file feature, allowing group members to download it and work on the project, supporting interaction.

For the design of the homepage, we have used an analogous colour scheme involving shades of blue and indigo because that is our colour theme for our cloud service. We chose this colour due to our “cloud” server representing an actual cloud, while the background

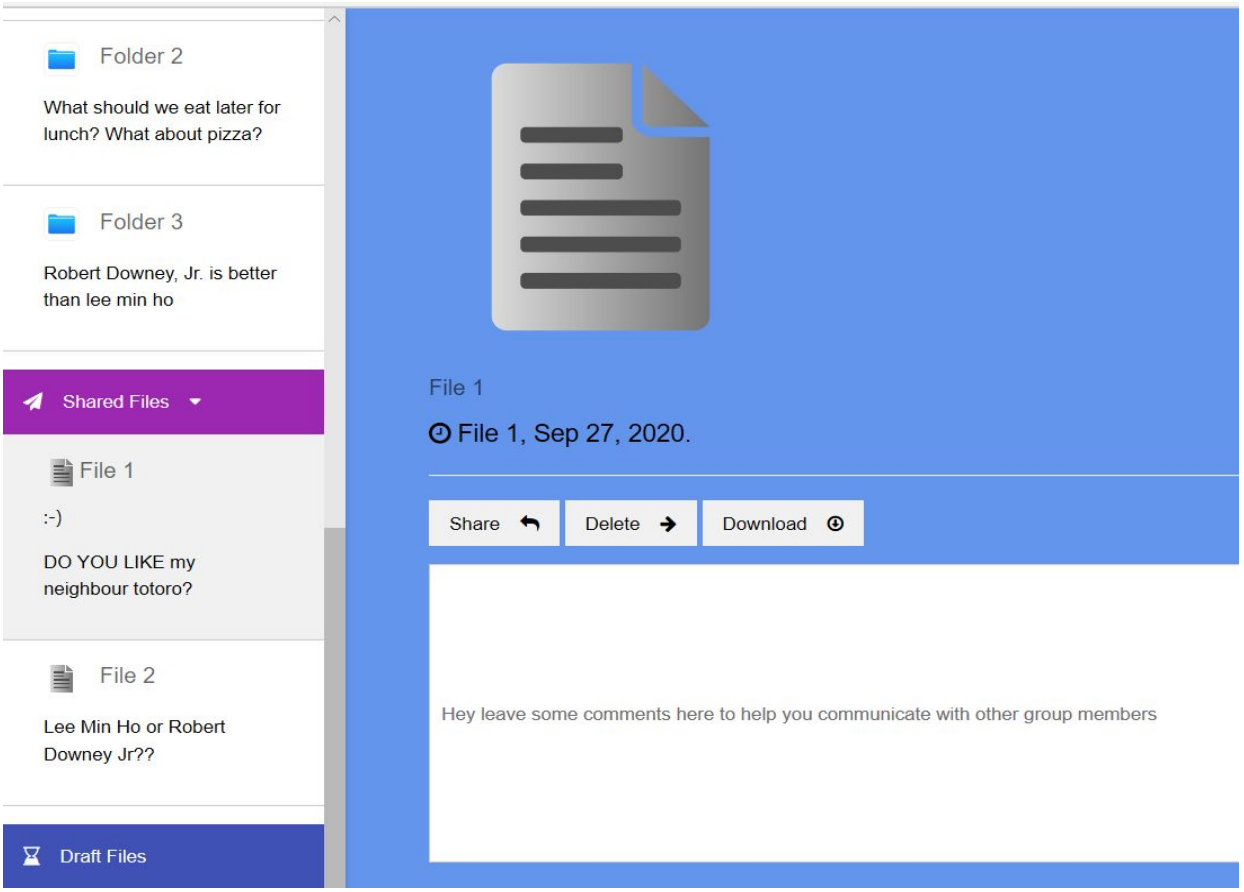
scheme represents the sky. This enables a correlation between the system and real world, as well as establishing consistency.

We created and added a logo design for our website which symbolises the ability to upload and download the files anywhere at anytime.

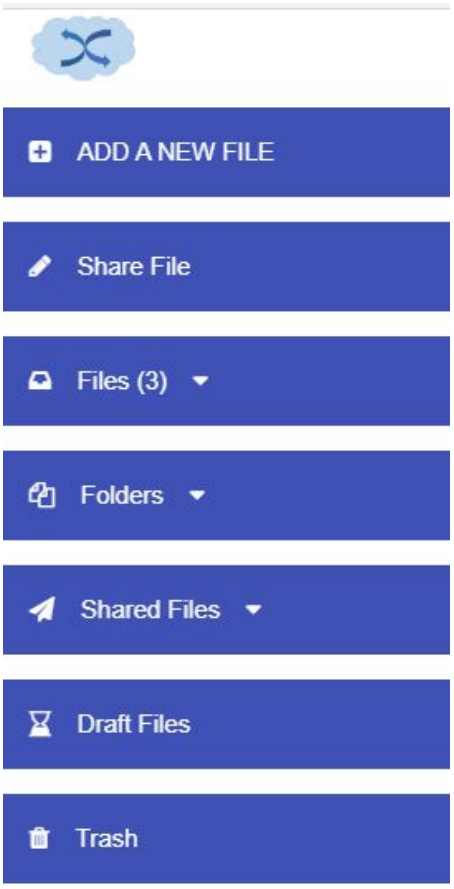


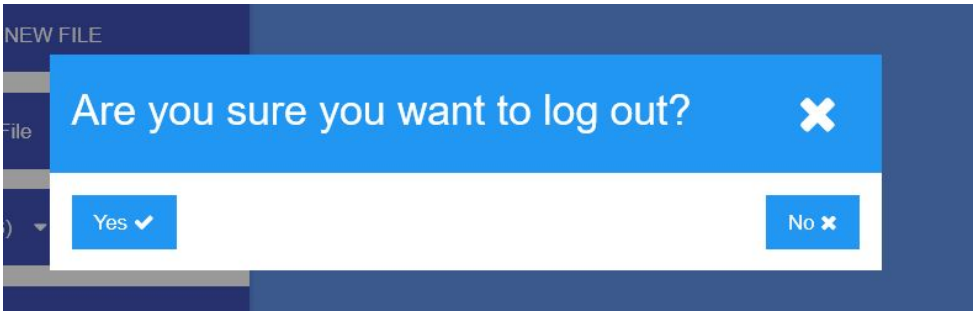
We have tried to change the colours of the buttons to show the system status i.e. the button is indigo before, then if you click the button it will become purple.

We have added a dropdown list for “Shared Files”, allowing students to be able to view all the files they have shared. Consequently, linking back to the ecological need of increasing a student’s efficiency and awareness within the group project. For each file within the “Shared Files”, there is also a comment section. This enables students to communicate with other members, relating to the selected file thus, satisfying the student’s emotional need.



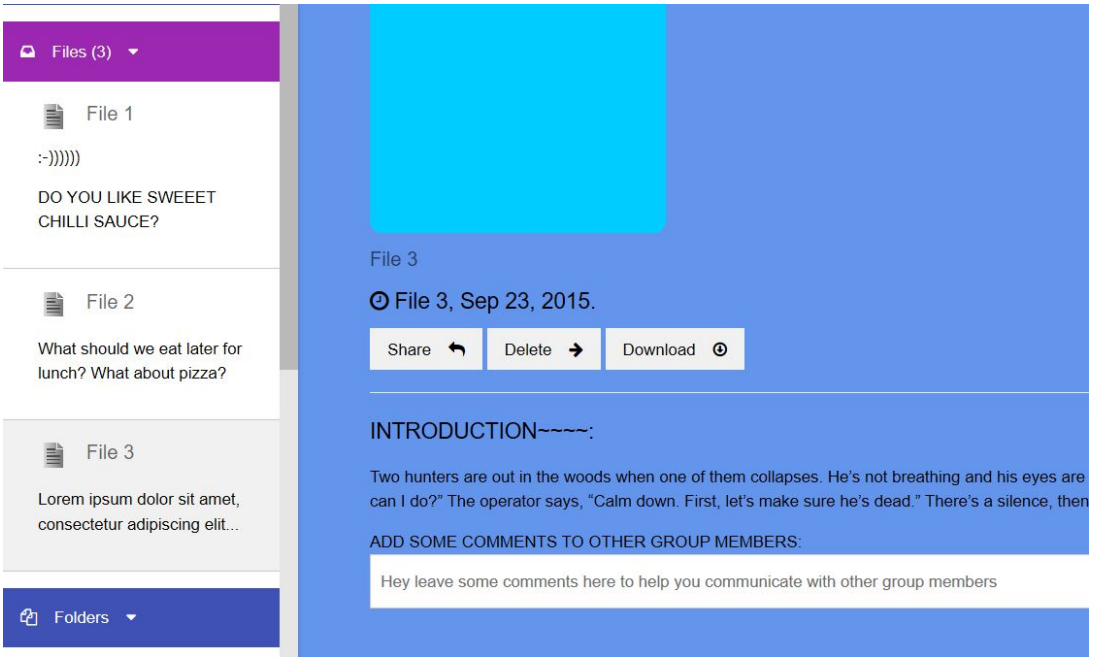
In terms of visual design, we have used the Gestalt principles of Proximity and Similarity by the usage of buttons located on the side menu bar. All buttons have the same shape, size, spacing and colour to suggest that they are related i.e. part of the sidebar.



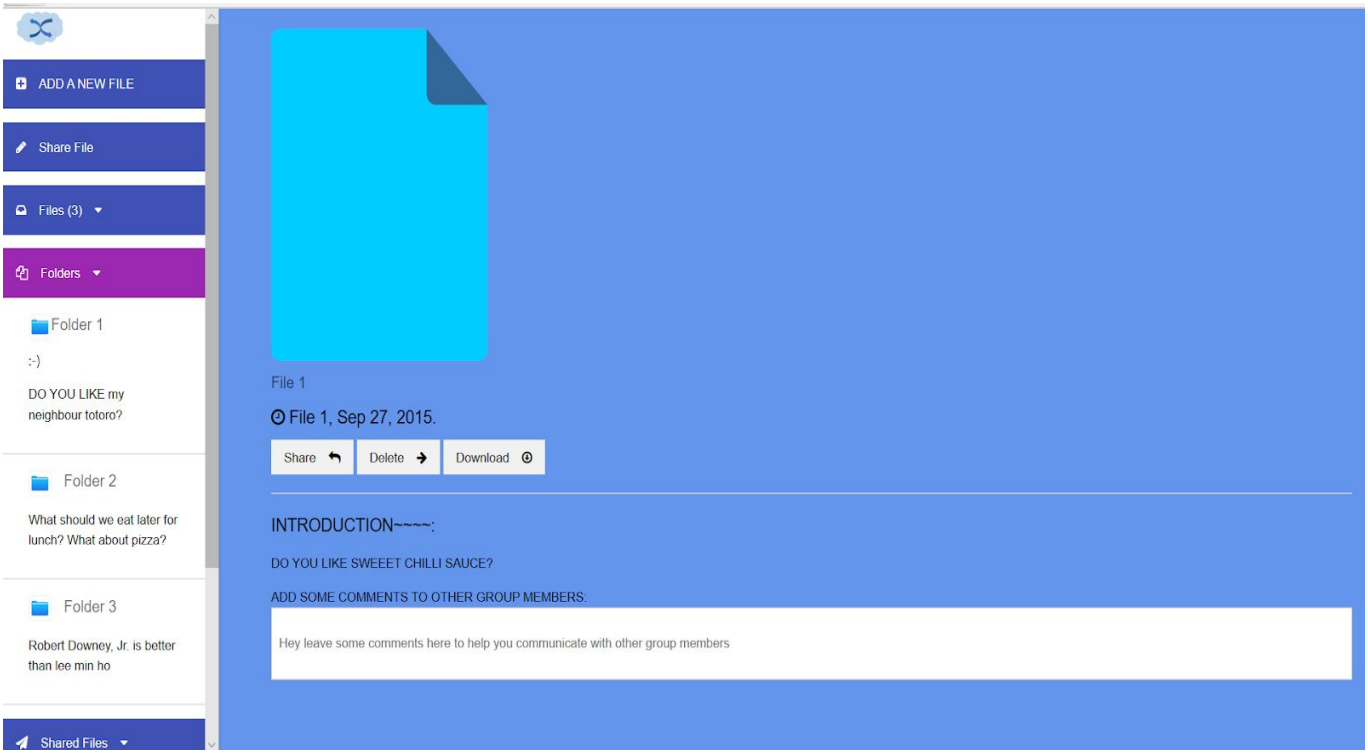


Another Gestalt Principle we have used is Common Fate. This associates with the files located in the Folders and Shared Files menu as they all move downwards when clicking on the dropdown icon. Additionally, the close icon is added at the top right of the side navigation bar to give the user the freedom to hide the menu. Lastly, the “Log out” is added so the student can log out of their account to ensure their files are secure. The log out feature displays no Proximity with the other menu buttons because it has a different functionality.

With regards to the font, we have used the sans-serif family as it promotes reading and interaction, encouraging a long term emotional relationship with the user. Moreover, we have used different font sizes to help differentiate the titles, the headings and the content. We have utilised white font colour to contrast with the blue and purple buttons, and black font stands out from the white and blue background for each file and folder.

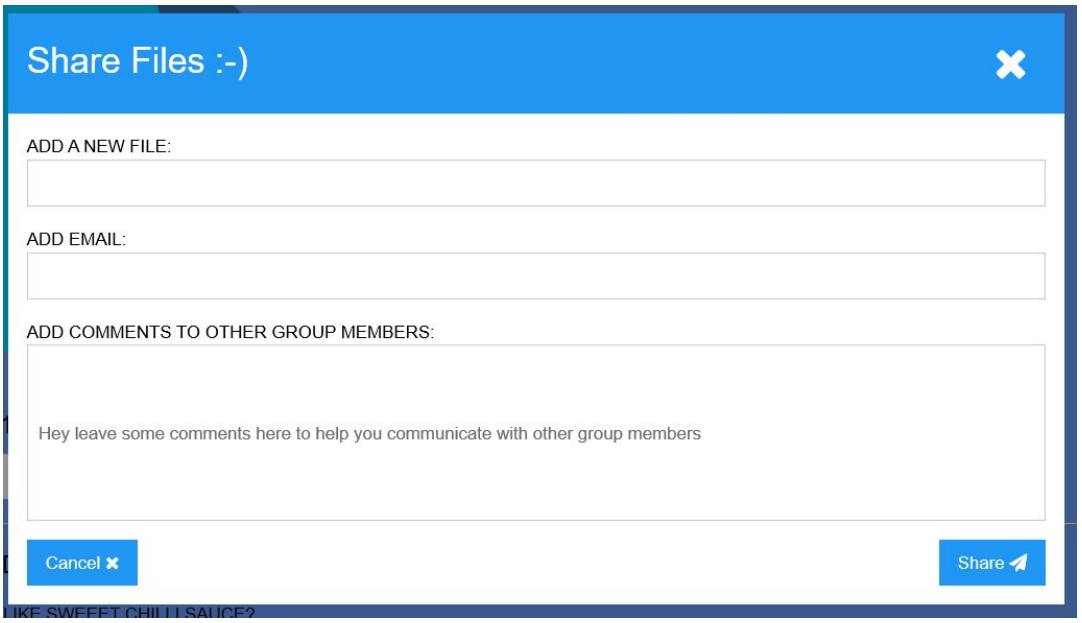


Overall, the homepage creates a sense of Unity because all elements are unified under the same theme and purpose.

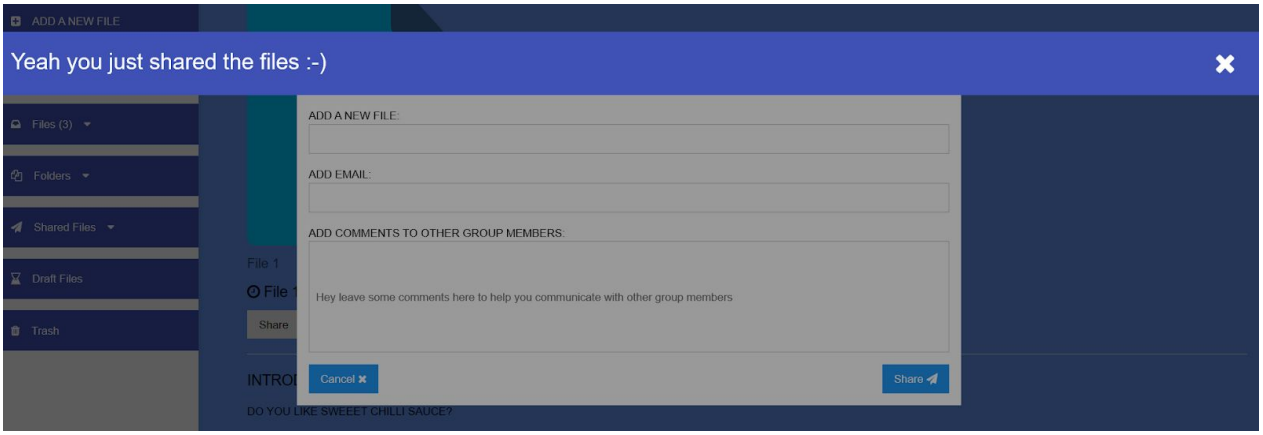


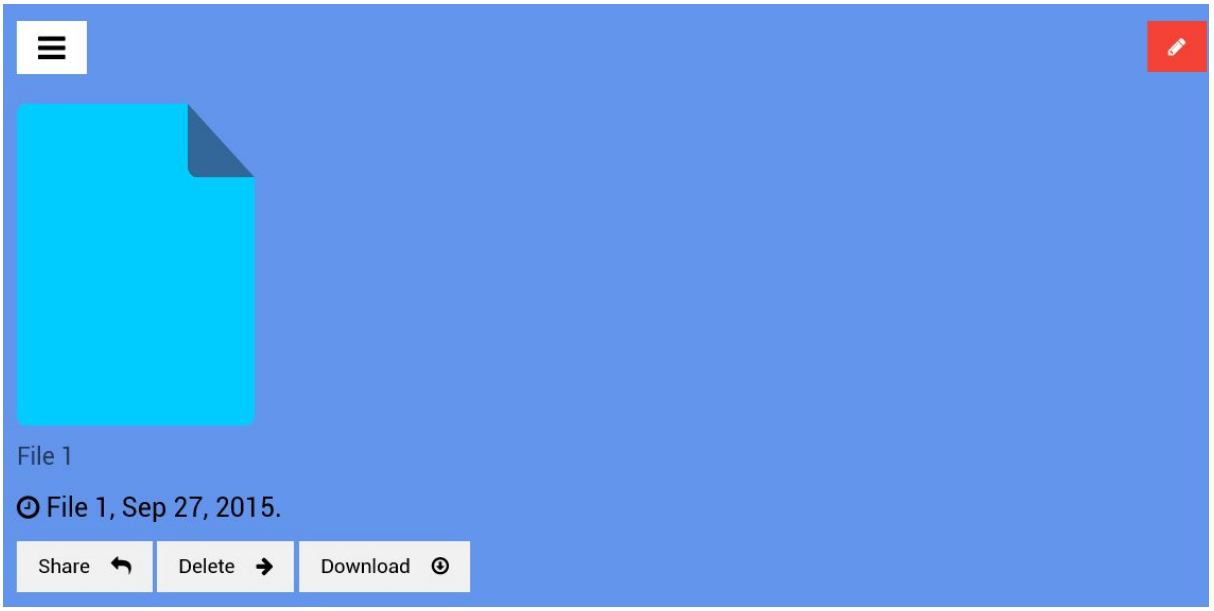
Part 1.2:

For the share file pop-up function, we have added an “Add a file” feature so a student is able to share their selected file(s). There is also an additional “Add Comments To Other Group Members” section that can be used to communicate with other members once they have viewed the shared file(s).

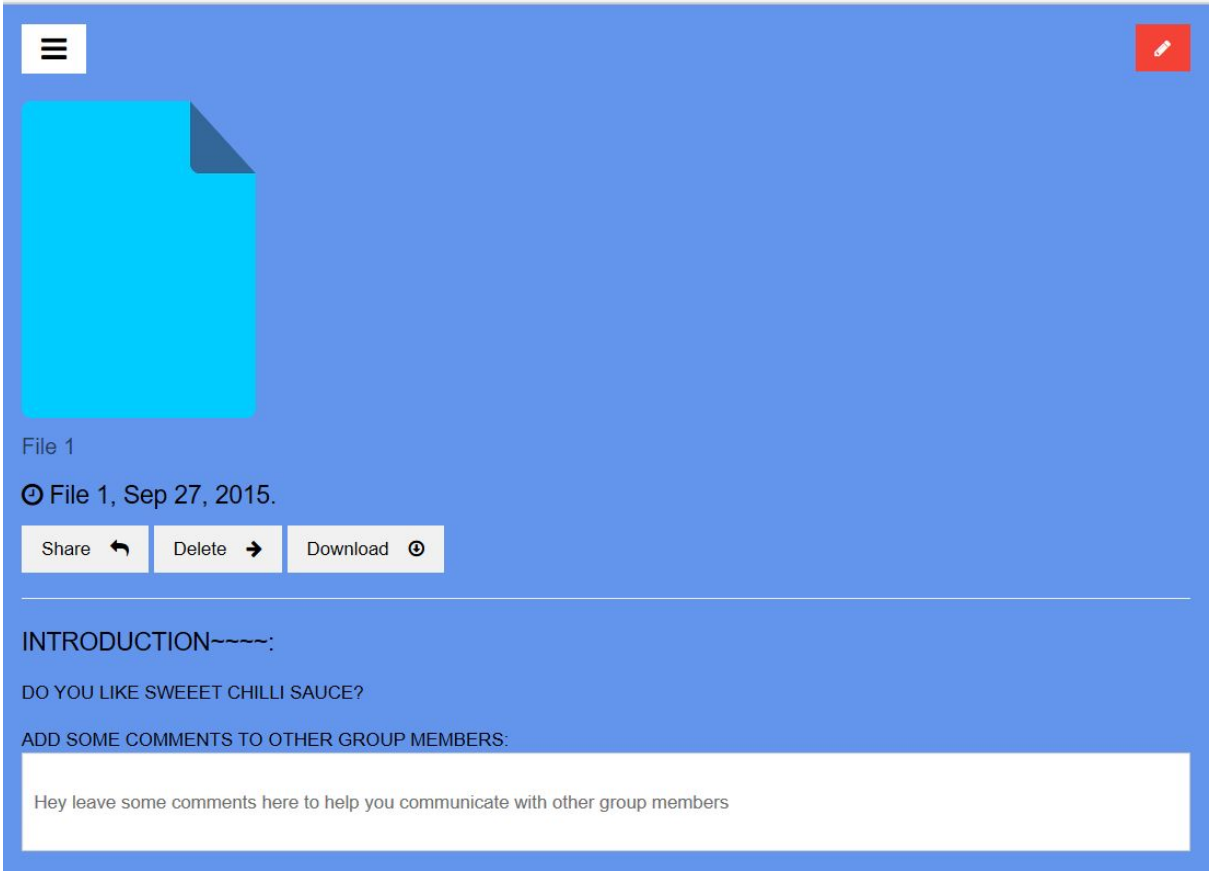


One additional feature is a popup message to inform the student that they have sent their file(s) successfully. This part relates to the emotional and interaction needs because the system is providing appropriate feedback in a timely manner, so the user is aware of the system status while feeling in control.





When the student minimises the window, the red button on the top right grants them the capability to share multiple files. The white share button underneath each file is for sharing that specific file only. We have maintained the button as red to form a contrast with the blue colour and to emphasise how important this function is.



Again, the colours applied to the sharing feature harmonises with the homepage which conveys unity.

B. A link to the video screencast/screen-recording of the user interface in operation.

Part 1.3:

- **Video script**

  Scenario:
  Our scenario is that a student from a Human-Computer Interaction (HCI) course is planning to share some files with their group members who are collaborating on a project and the deadline is in one week.

  Firstly, the student will log into their account in the cloud data service system and can see all the functionalities.

  He proceeds to click the “Add New File Button”, he can choose which files he wishes to upload. The files will appear under the files section.

  Then the student clicks the “Share File” button to share their files with other group members. A pop-up share function appears, with the fields to select multiple files, to add emails of their group members and add an optional comment to be sent to their peers.

  When the student clicks on the share button, a success message will pop-up to tell them that the files have been sent successfully.

  Under each file, he can see a preview description of each file which is customised by the student. Once clicked, you can see the document preview and the upload date. You can also share, delete and download the file on to your own device.

  To check which files have been sent, he can explore under the “Shared Files” menu. For their shared files, the student can add extra comments to help communicate with their group members, therefore increasing their engagement, connectedness and collaboration.

  Under the Folders functionality, the student can sort their own individual files, providing a more organized outlook. Similar to the Shared Files drop down list, he can view the date and time it was uploaded on to the server. Like the previous menu options, the student can also comment under the files, once again supporting connectedness.

  When the screen gets smaller, the hamburger button’s function is to toggle the menu bar between being hidden behind the button or displayed on the screen. The red button on the top right grants them the capability to share multiple files while the white share button underneath each file is for sharing that specific file only.

The student can write draft files and can keep editing until he feels satisfied to share it.

When a file is deleted, it will end up in the trash for 1 month and will be deleted permanently. This gives the user some control just in case they delete a file accidentally.

Thank you for listening!

- **Video link:**

  https://youtu.be/oak-nyR_5GU

C. Usage Testing: Protocol Description

Part 2.1:

Refer to the full protocol in the Appendix.

Prompt 1:

The main purpose of our first usage testing prompt is to ask the user to explore the website and get their first impression. We want to engage the participant in free use i.e. playing around with the interface for a while, getting them familiar with the interface and getting them to talk aloud while doing so. While we observe the participant and their thinking process, we would be able to collect valuable information about their expectations and views on our design.

Prompt 2:

Our second prompt will help us to examine whether the wordings of our buttons, such as the “share a file” and “shared files” buttons will make users feel confused while they look for the location of all the shared files. For this prompt, we will test how long the user takes to perform the task and whether any critical incidents are present.

Prompt 3:

The basis for this required action was to see if the participant was able to navigate through the website and find what they were looking for without struggle. Seeing whether our design was easy to read and if they were able to utilize the preview description before clicking a file.

Prompt 4:

This prompt will help us to know users' opinions about the functions on the minimum window and the new icons, such as the hamburger icon and "share file" button. For this part, we will record people's reactions and critical ideas as our raw data.

Prompt 5:

Our last prompt is testing whether the participant is able to share a file successfully, which is the main function of our cloud data service system. We aim to collect quantitative data i.e. the time taken to share the file, and which of the share buttons would they click. We have a combination of three types of share button: the one on the side navigation bar, the red share button when minimising the window and finally the share button located in each file. Lastly, we want to obtain participants' perceptions and feelings toward the design of our share function i.e. our popup window and the added success message after actually sharing the file.

D. Usage Testing Results.

Part 2.2: **Usage Testing Results**:

Quantitative Results:

Work Role: User class	**UX Goal**	**UX measures**	**Measuring Instrument**	**UX metric**	**Target Level**	**Observed Results**	**Meet Target?**
University student.	Ease of learning (task 2)	Initial user performance.	Locate the shared files.	Average time on task.	<15s	62.5s	No
University student:	Efficiency - did the user use a faster way to look for a file. (task 3)	Initial user performance.	Get the user to look for a specific file with a particular description.	Average time on task.	<15s	4s	Yes
University Student:	Fit for use (task 5)	Initial user performance.	Sharing a file to enable the pop-up window	Average time on task.	<10s	3s	Yes

For task #2, the average time to locate the shared files took longer than expected. P2 initially thought that the “Shared Files” task meant “Share a FIle” and clicked it as it was the first thing she saw.

This illustrates the difficulty and uncertainty of our button labeling, as the participant was confused and hence took longer than our expected target level.

For task #3, both users found the preview description of each file in the menu bar useful when searching for a particular file. The average time to complete this task was 4s, meeting our expected target level of under 15s.

Task #5 involving sharing a file successfully was performed faster than target time of less than 10s. Hence, both users understood the functionality of the system, as it was fit for use.

Qualitative Results:

Task #1:

Observations and quotes:

Participant1 (P1) mentioned the website had a nice layout. But did not like the colour scheme of the page. He also suggested changing the colour to grey as it is easy on the eye.

Participant2 (P2), enjoyed exploring the website, saying it had a “very nice and basic” layout as well as mentioning the website to be “like canvas, easy to navigate.”

Interpretation:

P1 doesn't like the colour, users may potentially be sensitive to bright colours or they personally prefer the “dark mode” colour scheme.

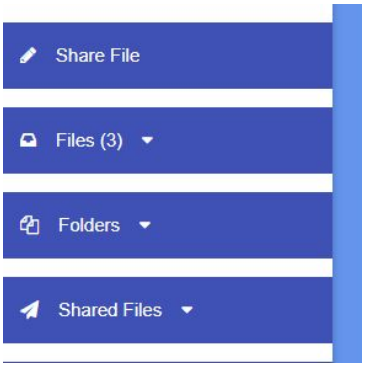
Design implication:

This allows us to re-evaluate our design choices with regards to the colour, being more inclusive to a wider range of users, ensuring good user experience.

Task #2:

Observations and quotes:

Both P1 and P2 found the task “very easy”, however although it may have seemed easy, P2 found it difficult to find the desired Shared File(s) as she confused it with the Share File and File(s) button.



Interpretations:

For task 2, P2 reached a critical incident as she took much longer than the expected target time to complete the task as she was confused.

In task 1, P1 clicked all the buttons so he was familiar with the website. Hence, in task 2 he was able to click the correct button immediately.

Design implications:

This tells us that the arrangement of the buttons needs to be reorganized in order to lessen the confusion. For instance, the “Share File” button should be placed at the top of “Shared Files.”

Task #3:

Observations and quotes:

Both participants completed the task without any difficulty.

Interpretations:

Since both users already familiarized themselves with the system, they were able to find the file based on the description located on the side navigation bar.

Design implications:

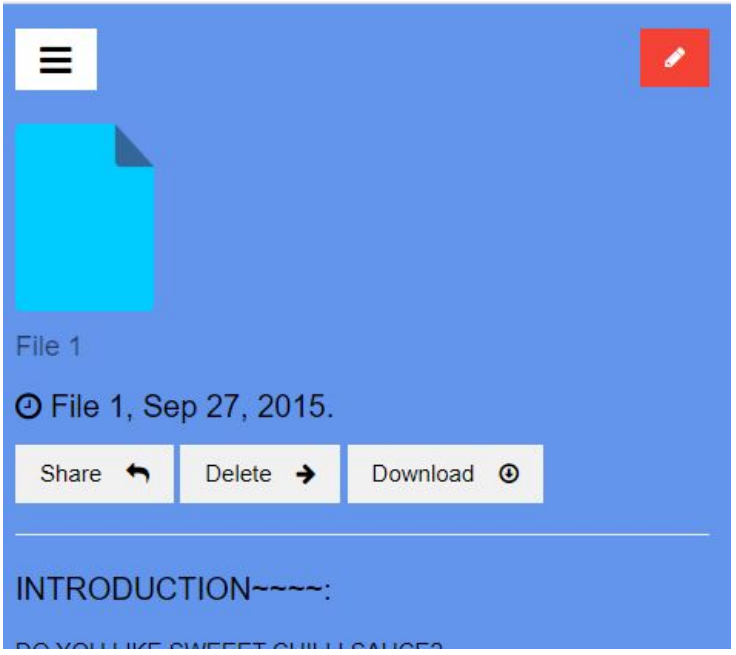
The preview description of each file located in the navigation bar was a useful design because it enabled the user to obtain the needed file, without having to select on the files individually, portraying efficiency.

Task #4:

Observations and quotes:

P1 was familiar with the layout of the smaller window, comparing it to “professional websites”. However, he noticed an inconsistency of the Share File icon.

P2 was slightly confused by the prompt, but when repeated the participant understood the instructions saying “ooh okay” in a surprised tone. Recognising the change of layout, said “it’s kinda like If I were on a mobile app”. They also mentioned “if i want to open a file i click these three lines” understanding the function of the menu hamburger icon.

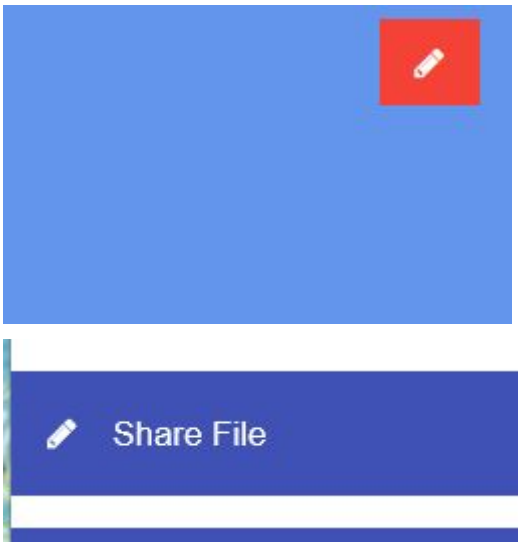


Interpretations:

Since both users are familiar with the minimisation of webpages, they were comfortable with the layout and content as it is similar to other webpages.

Design implications:

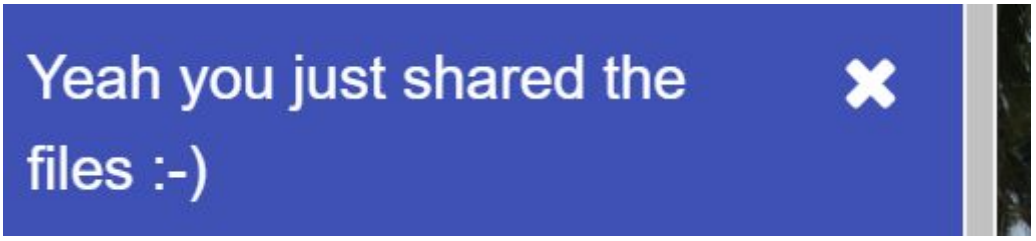
The share file icon is usually used for editing so it’s better to change it as the same as the icon in the navigation bar to make it consistent.



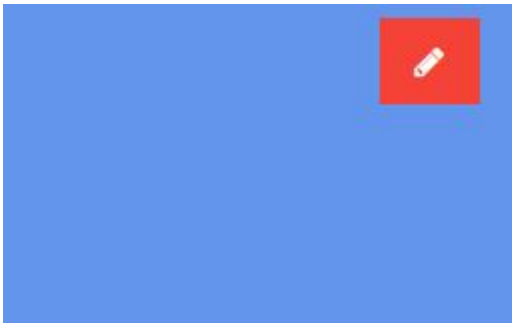
Task # 5:

Observations and quotes:

P1 immediately clicked “Share File”. Seeing the share button on the popup window, he clicked it and saw the success popup message. Finding it useful, he gave advice that the success message could automatically close just like a notification which will be more convenient to users.



P2 recognised the red icon saying “There’s a pen-CiL with a red box” proceeding to click it, which led to a pop-up window showing instructions on how to send a file. Following the instructions and selecting the “Share” button, a success message appeared.



Interpretations:

Both users performed the task easily as they are now familiar with the system. Both “Share File” buttons, including the red icon in the minimised window, stood out to the users while they were performing the task.

The advice from P1 is more of a functionality issue, rather than a design issue.

Design implications:

No design implication.

Appendix:

Greeting script:

Hi [participant name]. I'm [reviewer] and I’m here with a prototype of a cloud service system. The cloud system is a web that helps and assists students within a group to share multiple different files with each other whilst doing a group project. Today we are looking for ways to improve the user experience of our cloud server. This is a test of the design of the components of the website. I want to make sure that you understand, we are not testing you, we are assessing the design features. If you come across anything too complex or difficult, please let me know as others may feel the same way. Your feedback will be extremely valuable so please feel free to ask any questions at any time, because we want to make this a comfortable and safe environment for you.

If by any chance you start feeling uncomfortable you are more than welcome to stop the study.

Please speak all your thoughts aloud as you go through the tasks. This helps us better understand why you are making certain choices.

The study will take about 10 minutes.

Furthermore, we want to inform you that we may record you and take pictures. However, don’t worry because any information gathered today will only be used for research purposes and your identity will be kept secure.

Do you have any questions?

Let's get started!

Informed consent form:

Project: <Assignment 3>

Project team member(s) directly involved:
<Quynh Vo>
<Angenita Lousi>
<YIYUE QIAO:-)>

I.THE PURPOSE OF YOUR PARTICIPATION THIS PROJECT
As part of the <A3 > project, you are invited to participate in evaluating and improving various designs of cloud data service systems, the cloud system is a web that helps and assists students within a group to share multiple different files with each other whilst doing a group project.

II.PROCEDURES
You will be asked to perform a set of tasks using the cloud data service system. These tasks consist of <Exploring the website, locating the shared files, searching for a specific file, minimizing the window and sharing a file>

Your role in these tests is to help us evaluate the designs.We are not evaluating you or your performance in any way. As you perform five tasks with the system, your actions and comments will be noted. You may be asked questions during and after the evaluation in order to clarify our understanding of revaluation.

The evaluation session will be around 10 mins, the tasks are not very tiring, but you are welcome to take rest breaks as needed. If you prefer, the session may be divided into two shorter sessions.

III. RISKS
There are no known risks to the participants of this study.

IV. BENEFITS OF THIS PROJECT
Your participation in this project will provide information that may be used to improve our design for <Cloud Data Service System>. No guarantee of further benefits has been made to encourage you to participate.You are requested to refrain from discussing the evaluation with other people who might be in the candidate pool from which other participants might be drawn.

V. EXTENT OF ANONYMITY AND CONFIDENTIALITY
The results of this study will be kept strictly confidential. Your written consent is required for the researchers to release any data identified with you as an individual to anyone other than personnel working on the project. The information you provide will have your name removed and only a subject number will identify you during analyses and any written reports of the research.
The session may be recorded. If it is recorded, the recordings will be stored Securely,viewed only by the project team members and erased after three months.
If the project team members wish to use a portion of your recording for any other purpose, they will get your written permission before using it. Your signature on this form does not give them permission to show your recording to anyone else.

VI. COMPENSATION
Your participation is voluntary and unpaid
VII. FREEDOM TO WITHDRAW
You are free to withdraw from this study at any time for any reason.
VIII. APPROVAL OF RESEARCH
This research has been approved, as required by Danielle Lottridge for projects involving human subjects at the University of Auckland.
IX. PARTICIPANT RESPONSIBILITIES AND PERMISSION
I voluntarily agree to participate in this study, and I know of no reason I cannot participate.
I have read and understand the informed consent and conditions of this project.
I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project. If I participate, I may withdraw at any time without penalty. I agree to abide by the rules of this project.

Signature
Date
Name (please print)
Contact: phone or email

Usability Tasks and Raw Data

P2: https://youtu.be/FYAdu_GJt0Q

1.

Hypothesis: Sharing functionality will be visible and valued.

Task: Explore the website and get a first impression.

Prompt: "Check this out this new website and let me know what you're thinking as you do it."

P1: Nice layout, the background is too bright, maybe change the color(to grey).

The functions are quite simple, but they are good enough for this assignment, maybe we can add more details to the functions.

P2: ”very nice and basic” layout. Participant is unsure of what to do but proceeds to read “do you like sweet chilli sauce”

Continues to scroll though the files and folders. “Like canvas, easy to navigate” she likes the format and continues to browse the website.

2.

Hypothesis: Users may get confused by the labelling of navigation bar items e.g. “Shared Files” & “Share File”, and cannot differentiate its functionality.

Task: Find where the shared files are

Prompt "Let's say you want to check out what files have been currently shared among your group members?"

P1: 7s

The shared files button is quite straightforward, so he just clicked that button.

The share a file button may let him feel confused, but he tried it in task one(get familiar with our website). So he didn’t choose it.

P2: 118s

“obviously, there’s a tab right there under share file.” Then gets confused as a pop up came up and realised she selected the wrong button.

she understands there is a differentiation of files within the file button she selected and continues reading the content. clicking each file. she understands the buttons on the file page and reads the preview description of files, under the file button. She proceeds to add a comment.

“very easy” she says.

However, she realises that she did not click the “Shared Files” button and clicks and and sees similar functionality.

Metric: Time taken to find the “Shared Files”

Target: 15s

3.

Hypothesis: The user will find some value from the added descriptions of each file when finding a specific file.

Task: Get the user to look for a specific file with a particular description.

Prompt: "Try to find a file which is about sweet chilli sauce, let me know how you find it"

P1: 7s

By description, he knows which one is about sweet chilli sauce.

He thinks the description is helpful.

P2: 1s

“Right here easy peasy”

“File 1 has a caption, so it’s obviously THAT file” she understands that there’s a description.

Metric: Time taken to find the file

Target: <15s

4.

Hypothesis: When minimising the window, the user would be able to understand what’s happening to the screen and where the features are located i.e. hamburger icon.

Task: Minimise the window

Prompt: “Minimize the window, think aloud and observe”

P1: The minimize function works significantly the same as professional websites. However, there might be a need for the logo change for sharing the file. (should be the same icon with “share a file”)

P2: COnfused by the question, so she asked what to do.

I repeated the prompt, and she replied

“ohh okay” In a surprised tone. “its kinda like if I were on a mobile app” she minimized the window and saw that it turned into a smaller format. understanding the different layout.

“if I want to open the file, I click the 3 lines” she understands that the three lines is the menu/hamburger button because she is familiar with the design.

“you cant really scroll down cause that’s just it” proceeding to click other features (red box)

5.

Hypothesis: The student will know how to share a file and expects the system to tell them that the file has been shared successfully.

Task: Sharing a file to enable the pop-up window

Prompt: “Let's say you wanna share a file, how would you do that?”

P1: 5s

It’s pretty straightforward, he just clicked the “Share File” button.

“After you share the file, a pop up window will show up. It is helpful for the users cause they will know if they share a file successfully or not. But it’s better to change it to automatically close(like 5s)”

P2: 1s

“There’s a pen-CiL with a red box” where she clicked and a pop-up window showed up “where you add your file, email comment.” And proceeds to fill it in and then “

you click share” clicking the share button.

“Yeah you just shared the files” – reading the pop-up window understanding that the file was shared.

Target: <10s

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