

HEURISTIC EVALUATION REPORT

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Team P T04 Philmo Gu

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Portfolio: <https://sophiango-uofc.github.io/Team-P-CPSC-481/>

Repository: <https://github.com/sophiango-uofc/Team-P-CPSC-481>

Evaluators: Eric Wu, Sophia Ngo, Sydney Kwok

Reviewers: Jack Yang, Soumya Kumaria

PROJECT DESCRIPTION



Our project idea is a Virtual Closet mobile application. We expect the app to be used by anyone from clothing retailers, personal stylists, and social media influencers to your average joe user. The system will provide users with a virtual database to add clothes and accessories from their physical closet into their virtual one. It will also serve as a social platform of sorts, as users can share their wardrobe and outfit ideas with their followers. It could also be used to plan outfits in advance for those days when you just don't know what to wear. The app will allow users to mix and match clothing items from their database of clothing, offering a solution to the age-old question, "What should I wear today?".

PROTOTYPED USER TASKS

HORIZONTALLY PROTOTYPED

- Users can login or register for a new account.
- Users can view their own profile.
- Users can view a news feed of activity by users they follow.
- Users can view the profile of other users and follow them.
- Users can search for other users by their username.



VERTICALLY PROTOTYPED

1. Users can add items to their virtual closet by uploading a picture and entering details of the item into their virtual closet. They can also categorize these items in a variety of meaningful ways (e.g., colour, article type, appropriate weather or occasion).
2. Users can view their full catalogue of uploaded clothing items and previously created outfits. By clicking on a certain clothing item or outfit, they can view previously mentioned details about it.
3. Users can put together and save outfits on the app. They also have the option to create outfits for an upcoming event/special occasion and save it to a calendar date.
4. Users can sort clothing items and outfits in ascending and descending order of various categories. They can also view clothes from specific categories such as accessories, bottoms, outerwear, shoes, and tops.

HEURISTIC EVALUATION PROCESS & FINDINGS

Using the provided template, the evaluators filled it up using our high fidelity prototype. After exploring our high fidelity prototype, we went through each UI design heuristic. For applied rules, it was easy to look through our prototype and see if that rule was included. For most of the rules that were violated we had to think about what is missing in our prototype that is necessary in our final app. One way was to think about other existing apps and think about what features they might have that we are missing. Another way is to think about a user going to achieve a certain goal in the app and what that task flow would look like.

The last column asks how the rule can further improve aspects such as usability, utility, and desirability. This gives a reason to why each applied rule is important or why each violated rule is necessary. When filling this out, we had to think about a user's perspective and how each rule would impact them. (See [appendix A](#) for the full evaluations.)



After the evaluators finished filling out the template, the reviewers read all the evaluations to summarize tasks and rate the severity of each rule. The evaluations all mentioned that the transition between different screens was smooth but a loading screen depicting some processing is being done to display the next screen was expected. The icon of the view outfit screen was vague and confusing to understand. The option of deleting an outfit or an item from the closet was missing. The checkmark for adding an outfit to the calendar or to the list of outfits was greyed out indicating they can't be clicked. A confirmation message asking the user to confirm that they would like the newly created outfit to be added to the chosen date on the calendar was missing. There were two ways of adding an outfit to a date on the calendar: a) create a new outfit and add it to the calendar, b) add a previously created outfit to the calendar. The option of adding a previously created outfit to the calendar was not indicated clearly. The application has a very minimalist design, it is very easy to use. Error messages to redirect and help the users were not present. This is a huge problem as the error messages help the users fix their mistakes. There was no documentation or help available to guide new users. An application has users with different technical capabilities, help and documentation help users perform their tasks and use various features of the application efficiently. (See [appendix B](#) for the full reviews)

REFLECTION OF EVALUATION PROCESS

Overall, the evaluation process went smoothly. The evaluators filled up the template, while the reviews were able to summarize and prioritize tasks from the evaluations. The applied rules column was the easiest to fill up since we can look at our prototype and see what has been included. On the other hand, the violated rules section was more difficult to fill since some of the rules felt that they did not apply to our app. For example, the visibility of system status is hard to think about since our app is in a prototype stage where the interactions are instant. Another reason is that other apps cannot be directly compared to ours, thus making it tough to figure out how the rule is violated in our app. For the reviewers, assigning ratings to comments of the evaluators was hard, everyone interprets things differently. We had to decide what problems we will resolve and how. It took a lot of time to finish the prototype, we had really less time to fix the problems after the heuristics evaluation. There was a learning curve involved in working with Figma. If we could have finished our prototype earlier, we would have more time to resolve more issues.

As an evaluator and creator of the prototype, it's hard to see it from another perspective. When working on the prototype, we are forced to review it many times and know how the app is supposed to work.

There are some things that can only be seen with a fresh eye. So if we were to do the evaluation again, it would be beneficial to take a break from the prototype to simulate how other people might see our app.

The reviewing process involved reading the evaluation templates filled up by the evaluators to determine the problematic areas. For every rule of thumb, a severity rating to the comments of each evaluator was assigned. The severity rating from 0 - 4 was assigned to each rule, 0 was the lowest rating and 4 was the highest rating. There were three rules that required major fixing, a) help users recognize, diagnose and recover from errors b) help and documentation and c) user control and freedom. All of these issues were resolved. Error messages and a help window was added to the application. Option to delete an item or an outfit from the closet was added. A "x" icon was added to the calendar screen such that a user can delete a previously planned outfit from the calendar date it was previously added to. Some of the rules like match between system and the world were not resolved completely. There was a comment from an evaluator that the icon for viewing outfits wasn't clear enough. We couldn't find another icon that would make it less confusing.



APPENDIX A: HEURISTIC EVALUATIONS

Heuristic Evaluation, Evaluated by Eric Wu

Rule of thumb	Is the rule applied?	Is this rule violated?	How can this rule improve usability?
Visibility of system status	This rule is implemented when the user switches to a different screen/page on the app, in which a transition will occur to load the upcoming page.	No, since all the loading/animations happen instantaneously (less than 1 second).	It helps users understand what will occur next, and to show that the application has not crashed by showing a animation.
Match between user and the real world	When the user wants to check their outfits, in which they will click on the clothes hanger, calendar icon, or click the bottom right icon to view their profile.	No, as all the icons are informative on what will occur once the user clicks on it, such as the newspaper icon will result in the social media feed popping up.	It improves the visual appeal of the app and conveys information visually without confusing the user.
User control and freedom	When the user wants to delete an outfit from the calendar, or add a whole new outfit to the app.	This rule is violated when the user is not able to edit their existing outfits with new items, and are not able to delete existing outfits.	Helps users in having more freedom with their interactions of the app, allowing for a more enjoyable experience.
Consistency and standards	When the user has to choose between the buttons, add a new outfit, or an existing outfit to a certain calendar date. And the back button being a left arrow and confirmations are check mark icons.	No, since all the visual elements are consistent.	Helps users have a clearer understanding on how the app works, and decreases the amount of time they need to spend to learn it.
Error prevention	This rule is applied when the user wants to delete an outfit from a certain date, asking whether they want to delete it or not.	This rule is violated when the user wants to add an outfit or add an existing outfit to a calendar date, where it doesn't ask for confirmation.	Makes sure that the user does not accidentally do something they didn't want to occur.
Recognition rather than recall	This rule is applied through the usage of icons, and brief/short text on certain pages such as the add outfit screen.	This rule is violated, as when the user goes and presses on the pick existing outfit button, no title is displayed telling a user to select an outfit.	Reduces the amount of information the user will have to remember, and makes sure the user will know what to do.
Flexibility and efficiency of use	This rule is applied through the usage of 2 add outfit buttons. (one in the existing outfits saved on the app page, and another on the calendar page after clicking on a empty date)	No, as there are not other features to implement multiple buttons for.	Decreases the learning curve for the functionalities of the app, and decreases the time required for certain actions.
Aesthetic and minimalist design	This rule is applied with the minimalist navigation bar at the bottom of the app, and the overall design is aimed towards it.	No, as the entire app's designs are minimalist, users will not be overwhelmed.	Decreases the confusion the users will have when navigating the app, by preventing irrelevant information from being shown.
Help users recognize, diagnose and recover from errors	This rule is not applied, as no error messages are shown to the user when the system detects it. (Such as trying to add a new outfit without any items, it does not display any kind of message).	This rule is violated, as when the system detects an error, it does not display what has gone wrong to the user.	Helps users identify, and correct the issue that is causing the error. Thus avoiding confusion on why a particular part does not seem to work.
Help and documentation	This rule is applied through the usage of labels and visuals (such as pictures), to guide the user, but there is no official documentation.	This rule is violated, as there is no official documentation for the user to refer to for help on what a particular part does or is asking for.	Gives the user the opportunity to find help, by easily searching up information regarding the section that they do not understand.

Figure 1: Eric Wu's Heuristic Evaluation

Heuristic Evaluation of Closet App

Rule of Thumb	Is this rule being applied? How so?	Is this rule violated? How so?	How can this rule further improve usability, utility and desirability?
1. Visibility of system status	Transitions are made when interacting with certain buttons and buttons are highlighted when selected	No, there is no loading or indication of any status since it is all instant	When system is loading show some animation to show it is working
2. Match between system and the real world	Icons in the app match what it's supposed to do, such as calendar, news feed, and profile	Icon can be vague, like the show outfits screen	Makes it more clear to the user what they are looking at
3. User control and freedom	Allowed to delete outfits on the calendar, can add their own categories	Cannot delete or edit an item or outfit once added and sometimes cannot return to previous a page	Gives user more freedom to customize and explore the app seamlessly
4. Consistency and standards	All back buttons are shown as left arrow icon, confirms are checkmark icons	Checkmark being greyed out even though user can click on it, or vise versa, users brought to profile screen	Making it similar to other apps will allow a smaller learning curve when using it for the first time
5. Error prevention	Does not allow item to be added when certain parts are not filled	No, all actions are in a linear flow that forces the user through a certain path	Allow users to confirm certain actions before committing
6. Recognition rather than recall	Most are represented by icons, or explained in short text	No, all icons are simple and most things have a title or some text explanation	Makes sure the user knows what they are clicking before even clicking on it
7. Flexibility and efficiency of use	Can select previously created outfits to put on the calendar	No, not many shortcuts needed since it is mostly viewing and straight forward buttons/text boxes	Speeds up the process of creating an outfit
8. Aesthetic and minimalist design	Simple navigation bar, few things shown on the screen at a time	No, app looks simple and contains the necessary information on each page	Allows for a clean and simple look for the app which appeals to users
9. Help users recognize, diagnose and recover from errors	No, no errors are shown when completing any task	No indication when adding item or outfit parts of which parts are required	Lets the user know what they need to do to accomplish the task
10. Help and documentation	Some examples and suggestions shown in search bars	Not enough examples or suggestions are shown	Helps revolve difficulties one might have when using the app

Evaluation by Sophia Ngo

Figure 2: Sophia Ngo's Heuristic Evaluation

Evaluation of: Team P Closet App Hi-Fi Prototype

Evaluator: Sydney Kwok

10 Steps to Improve Usability, Utility, and Desirability by Implementing Nielsen and Molich's UI Design Guidelines

- Choose the website or app for which you want to critique and improve usability, utility and desirability.
- Then work through the list to see whether or not the website or app follows Nielsen and Molich's 10 rules of thumb.
- Finally, improve the website or app by further applying the 10 guidelines.

Rule of Thumb	Is this rule being applied? How so?	Is this rule violated? How so?	How can this rule further improve usability, utility and desirability?
1. Visibility of system status	The rule is not being applied other than through "dissolve" or "move in" sort of transitions between screens.	It's not applied it but I don't think it's been violated either. This lets the user know that their request is being processed when there is latency in completing the request, but since it's just a prototype with no backend, it's not all that necessary.	Visibility of system status/loading during login/register and view closet/outfits can help keep the user informed about what's going on while their requests are being processed by the system.
2. Match between system and the real world	Yes. The system uses standard icons and familiar language to make interaction as natural and logical for the user as possible.	Maybe with the icon for viewing outfits? It isn't all that intuitive, but it's difficult to find an icon that can be that small and still communicate "click me to view your outfits"	Following conventions minimizes ambiguity for users so that interaction with the system meets their expectations and is as seamless as possible
3. User control and freedom	Yes. The system allows users to delete outfits that were saved to a calendar date. This gives users the freedom to undo their past actions.	Perhaps in other aspects. It would be nice for users to be able to delete items and outfits from their closet.	This rule gives the user the freedom to leave unwanted states without having to go through a lengthy or troublesome process.
4. Consistency and standards	Yes. Different functionalities are pretty well differentiated and the system is pretty consistent in having similar things look and act similarly. The UI is not only consistent with itself but also with similar types of apps.	No, the rule is not violated. The system is consistent and for the most part follows universal standards.	This rule makes it easier for the user to familiarize with the system. It also allows for the user to apply their experience with other systems they've used in the past, effectively flattening the learning curve faced when just getting started with this system
5. Error prevention	Yes. When taking a picture to upload a clothing item or when deleting an outfit from a calendar date, the user is asked to confirm before committing to the action.	No. The system uses alerts to notify the user when it thinks they may be making an error.	This rule prevents errors in the interaction from occurring.
6. Recognition rather than recall	Yes. Guiding instructions for many tasks are discreetly communicated through icons or labels in the UI.	Although not applied, I don't think it was violated because tasks are pretty simple and intuitive in this system, so lengthy instruction is unnecessary. Perhaps we could add small "click me to do this" prompts or tutorial-like notes though?	The UX is easier and more enjoyable for the user if instructions for use of the system are easily visible/retrievable.
7. Flexibility and efficiency of use	No, the system does not really provide more than one way for users to complete a given task.	Not applied but not quite violated either. There's only so many ways to complete the tasks for this system and we tried to keep things as simple as possible, so I don't know that there's a way to make things much more efficient.	This allows for more than one way for users to complete a task so users can complete tasks more efficiently.
8. Aesthetic and minimalist design	Yes. The system design is quite minimalist and does not contain irrelevant info, so as not to clutter the user's view and to maximize the limited interface space of a small mobile device.	No. The app design is very minimalistic and avoids overwhelming the user.	An aesthetic and minimalist design is not only nice to look at but also prevents from distracting or overwhelming the user with unnecessary or irrelevant information.
9. Help users recognize, diagnose and recover from errors	No, the system does not communicate to the user when they have made an error.	Yes. The system provides no aid in recognizing, diagnosing or recovering from errors	Clear error messages in plain language help users identify problems and make it easy for the user to recover from them.
10. Help and documentation	There are labels that intend to help or guide the user, but there is no documentation for the user to refer to.	There is no way for the user to search for help or documentation on how to complete tasks on the system. However as mentioned before, not sure that this system requires too much documentation.	This rule makes it very easy for the user to be able to find the help they need when they run into issues while completing tasks on the system.

Figure 3: Sydney Kwok's Heuristic Evaluation

APPENDIX B: REVIEWER'S FINDINGS

You are required to classify the prototype problems severity as it was discussed in the heuristic evaluation lecture. Evaluators should meet together to share their findings and cross check the identified problems and make decisions about the problems that need to be fixed.

The severity of a usability problem is a combination of these factors:

- The frequency with which a problem occurs. Is it common or rare?
- The impact of the problem if it occurs. Will it be easy or difficult for the users to overcome?
- The persistence of the problem. Is it a one-time problem that users can overcome once they know about it or will users repeatedly be bothered by the problem?

Rate	0	1	2	3	4
	Doesn't seem to be a usability problem; not a problem	Cosmetic problem; need not be fixed unless extra time is available on project	Minor usability problem; fixing this should be given low priority	Major usability problem; important to fix, should be given high priority	Usability catastrophe; must fix
1. Visibility of system status		E	So, Sy		
2. Match between system and the real world	E	So, Sy			
3. User control and freedom			Sy	So, E	
4. Consistency and standards	So, Sy, E				
5. Error prevention	So, Sy		E		
6. Recognition rather than recall	So	Sy	E		
7. Flexibility and efficiency of use	So, E	Sy			
8. Aesthetic and minimalist design	So, Sy, E				
9. Help users recognize, diagnose and recover from errors					So, Sy, E
10. Help and documentation			So		Sy, E

Figure 4: Jack Yang's Evaluation Findings

Heuristic Review by : Soumya Kumaria

Rule of Thumb	Findings	Ratings		
		Sydney	Eric	Sophia
1) Visibility of System Status	The transition from one window to another is smooth (less than 1 second). Adding a loading screen between transitions may help.	1	1	1
2) Match between system and the real world	There should be some changes made to view outfit screen. The icons seem to be confusing/vague.	1	0	1
3) User control and freedom	Need to add the option for deleting items and outfits. Outfits and items can't be deleted from the closet presently.	2	3	3
4) Consistency and standards	Some of the checkmarks are greyed out, even though they can be clicked.	0	0	1
5) Error prevention	A confirmation message needs to be added to the calendar date – add outfit screen.	0	1	0
6) Recognition rather than recall	A title needs to be added for choosing a previously created outfit screen.	1	2	0
7) Flexibility and efficiency of use	No changes to be made.	0	0	0
8) Aesthetic and minimalist design	No changes to be made.	0	0	0
9) Help users recognize, diagnose and recover from errors	There are no error messages being displayed when an error is caused by a user. Greying out of options and check marks aren't good indicators of errors.	4	4	4
10) Help and documentation	Some documentation to explain how to use the features of this app are required. Some troubleshooting instructions should be available.	2	3	3

The Ratings are based on the following table (taken from Heuristic Evaluation Lecture) –

Rating	Description
0	Doesn't seem to be a usability problem
1	Cosmetic problem, some visuals need to be fixed
2	Minor usability problem
3	Major usability problem, important to fix
4	Usability Catastrophe, must fix

Figure 5: Soumya Kumaria's Evaluation Findings