OOP Project Report – Group 62

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1 INTRODUCTION

This report provides a detailed analysis of the heuristic evaluation process used to assess the usability of the Talio app. Our team held this evaluation with the objective of quantifying the ability of the app to be used effectively and efficiently. To that end, ten heuristics were used, focusing on the core functionalities of the Talio application: browsing boards, adding and editing lists and cards and the auto-updating of changes made on all devices. Through this process, we hope to identify significant usability issues within our interface through the application in order to enhance user experience.

Our current prototype was presented to the evaluators 'on paper' and consists of the following:

- A connection page, where users can enter the server they want to connect to (Figure 1);
- A board page, where the users who have entered a valid server are sent. In that page, users can join or create new boards, and also see an overview of the boards they have the permission of entering. (Figures 2,3)
- A board overview, where the user can see the board that they have opened. There, the user can:
  - Add or delete lists; (Figure 4,5)
  - Add, edit, delete or open tasks; (Figure 4,6)
  - Exit the board if needed, to change boards or leave the app. (Figure 4)

2 METHODS

Experts:

In order to conduct the evaluation, we sought for an adequate number of evaluators to test our small-scale application. Taking into account the short timeframe, we selected an evaluation team composed of 6 CSE students, all part of OOPP team #64. Their expertise can be classified as somewhere between novice and specialist, as they are also going through the same process we are going through as of now, and can understand the issues that may arise. We believe that what we may have lost from not having more experience, we gained through the intention of giving an honest evaluation, as it was an exchange: we provided them with our mocks, and them with theirs.

Procedure:

The experts were first presented with our prototype of the application. We provided them with a document that contained a description of how our application should work at every step alongside its design and how you can interact with our project in general. Our team asked them to act like they wanted to use our prototype for their own different needs, coming up with real life scenarios and also think about how a user who is not very familiar with technology would perceive the application. We instructed them to do an evaluation of our app based on the ten heuristics, describing every issue it may have, as they represent the basis on which the

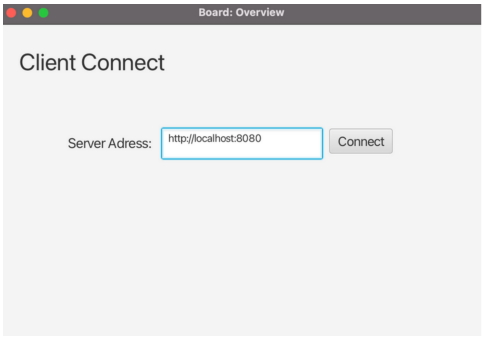

Figure 1: Connection Page image

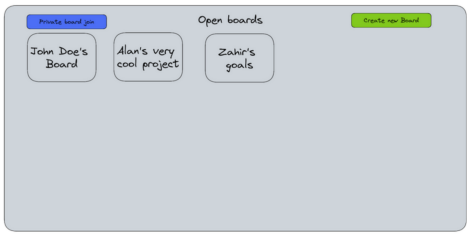

Figure 2: Board Page (mock)

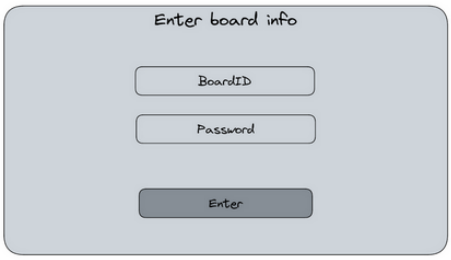

Figure 3: Private board join (mock)

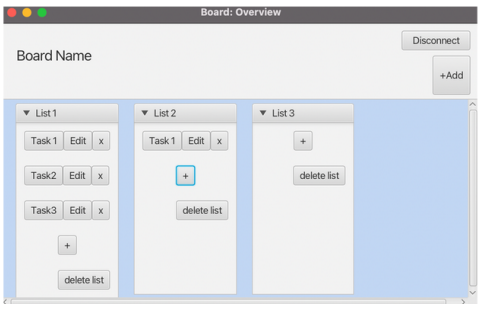

Figure 4: Chosen Board Overview

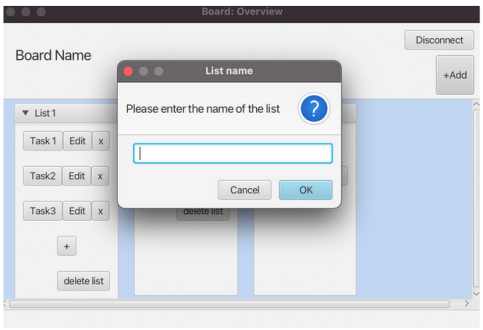

Figure 5: Editing a list

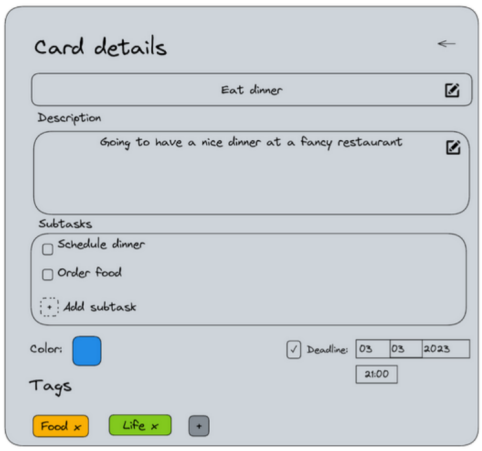

Figure 6: Card details page (mock)

application was created. The experts conducted a report after individually going through different trials for multiple times, while assigning an observer that would give hints and note down the feedback given by the evaluators.

As such, the experts focused on whether a user is always informed by what the application is doing through constant feedback (Visibility of system status), whether the terms used are familiar to the majority of people (Match between system and the real world) or how easy is for someone to undo some mistakes they done (User control and freedom). The experts also paid attention to the consistency of the application (Consistency and Standards), and how flexible it is (Flexibility and efficiency of use). The design (Aesthetic and Minimalist Design) was also an important heuristic for the team of experts. We encourage them to analyze what errors they might have (Help users recognize, diagnose, and recover from errors / Error prevention) and the need for a help page (Help and documentation). It was very important that the application should not require users to remember things (Recognition rather than recall) so the experts had to consider this heuristic as well. Step by step they described the inconveniences they encountered and why they represent a problem for our future users.

Measures (Data collection):
The purpose of this evaluation was to find out if our product is efficient, user-friendly and how we can improve it to be an excellent fit for people who want to change their life by organizing their work using our application. After analyzing the app, we received an evaluation from the team in which they clearly mentioned the used process for the evaluation alongside highlighting each problem and what heuristic it represented with many details explaining it and some solutions on how to fix it. We recorded the experts' evaluation and our team will discuss several actions taken to solve all the possible issues a user may have taking into consideration the given suggestions.

3 RESULTS

Based on the results we gathered from the evaluation, we prioritized our list of problems as follows: we first identified what problems we have in terms of functionality or missing components. Then we decided what current features may create confusion amongst users, such as wrong placement of buttons or redundant names. Lastly, the lowest priority problems go to design choices, smaller mistakes which can be easily solved. The following paragraphs present each individual issue order based on the priority described as shown in the severity matrix that prioritizes all discussed issues (Figure 7).

		Frequency				
		1	2	3	4	5
Impact	1	**Low Severity:** • Title of different scenes • Visibility of the scroll bar • Connecting to a server			**Medium Severity:** • Unclarity in button "Disconnect" at top of the board • Unclarity and inconsistency in button "+Add" at the top of the board	
	2					
	3	**Medium Severity:** • Formatting of lists • Placement of "+" and "delete list" button in each list			**High Severity:** • Exiting card details • Finding board by id • No options to exit, cancel or rename	
	4					
	5					

Figure 7: Severity Matrix

No options to exit, cancel or rename (User control and freedom)
A problem regarding user control and freedom would be that the application does not have many options to exit, cancel or rename. For instance, there is no required confirmation regarding deleting a list. The user can accidentally delete a list, which cannot be recovered. Also, if a user creates a list and wants to change its name to correct typos, this cannot be done. We understand these represent major problems, and we will definitely add the missing features.

Finding a board by id (User control and freedom)
Finding a board by id is currently missing from the application. This represents a problem in terms of user flexibility. As mentioned in the evaluation we received, "the client would be required to look through many boards to find the correct one". The searching feature should definitely be present.

Exiting card details (Visibility of system status)
Stated in the evaluation on the prototype of card details scene was the fact that exiting it is ambiguous, as a result of a backspace arrow "←" button that has no description on what it does when used. Although it may be considered as a way to restore previous settings for the details, there seems to be a lack of the option to save the changes made to the card details with the use of a "save" button, which would give the user a choice on the desired edits.

Unclarity and Inconsistency in button "+Add" at top of the board (Consistency and Standards)
In the board overview scene, users can add a new list to the board by pressing the button labeled "+Add" below the "Disconnect" button. However, the button's label not specifying what it is used to add could make the user think it is instead used to create a new board. The add list button should be renamed to make it'sits functionality more immediately apparent to the user.

Unclarity in button "Disconnect" at top of the board (Consistency and Standards)
The heuristic evaluation identifies the issue of the "Disconnect" button located at the top of the board overview scene, which relates to consistency and standards heuristic, lacking the clarity around the function of the button and what it's purpose is, whether to disconnect from the board or the server. Moreover, the absence of a confirmation prompt when the button is used makes it easy for the user to disconnect by accident, worsening user experience.

Placement of "+" and "delete list" buttons in each list (Consistency and Standards, Flexibility and efficiency of use)
The design that was evaluated presents a possible issue regarding the positioning of the "+" button, that refers to adding a card, and "delete list" button, which are always located at the end of the list after the cards themselves. This represents a flexibility and efficiency of use issue as it requires the user to scroll through the list, if multiple cards in the list, in order to be able to access those buttons as it is the only way to actually make those changes.

Formatting of lists (Aesthetic and Minimalist Design)
Currently, the structure of our lists is a bit crowded, given the fact that we have two buttons for each particular task and the widths of the cards are not consistent. This would not give the user a good experience when creating tasks with a considerable difference in the length of names, as the placement of the buttons would be chaotic.

Connecting to a server (Flexibility and efficiency of use)
When launching the app, the user must first connect to the server by inputting its URL. However, typing out a server's entire URL including its communication protocol is a redundant part of the input that the user would have to repeat every time they start the program. It should be possible to input a server URL without specifying its communication protocol.

Visibility of the scrollbar (Aesthetic and Minimalist Design)
The board overview features scrollbars to allow scrolling through multiple lists in a board, or cards in a list, that wouldn't otherwise fit on the screen. However, the scrollbars are present on the screen even when all of the content can be seen without scrolling. The scrollbars should disappear from the screen while there is no content to scroll to in order to make the interface more visually appealing and to not make the user think there is more content available to scroll to.

Title of different scenes (Visibility of system status)
Currently, multiple scenes for the server connection and the board overview both have the title "Board: overview". This makes it harder to distinguish between the scenes and can confuse the user about how to navigate to the board overview or connection pages. The connection page should have a different title that reflects its functionality.

4 CONCLUSIONS & IMPROVEMENTS

In the end of the whole process we were left with a better objective perspective on our app, and thus we focused on improving key areas that would optimize user experience.

User control and freedom, Visibility of system status, Flexibility and efficiency of use
As things currently stand a user cannot edit a list, but can accidentally delete with a click of a button. These problems, although easy to overlook, can prove to result in an unpleasant user experience and as such, a pop-up box would be implemented, which would require the user to confirm their desire to delete any item (lists, boards, cards etc.), which will result in minimising loss of relevant data. The issue with allowing the user to edit lists can be resolved by creating a separate button for this functionality. We also improved user accessibility by adding "Back" buttons to every scene, allowing them to return to the previous window as presented in Figure 8. These changes can be observed in the example showcasing the before and after view of app (Figure 9). A recurring issue is the fact that there is no functionality for searching the desired board and a way to fix that would by implementing a search bar making it easier for the user to get access to the desired board. Also introducing the server is more minimal, including only the parts that are a necessity.

Consistency, Standards, Aesthetic and Minimalist Design
Even though these issues are not as major as the other ones, they still take away from user experience and they incited us in improving our app design. One issue that was prominent within the feedback received by the experts, is the ambiguity surrounding the functionality of some buttons. This must be resolved as it can result in wrong data being saved, and ultimately a much slower process, which has proven to be quite irksome for most users. In order to resolve this issue efficiently a method used by our team was color coding the buttons in order to increase awareness on their meaning. By adding text explaining the buttons a high percentage of the caused ambiguity would be removed, but this also can result

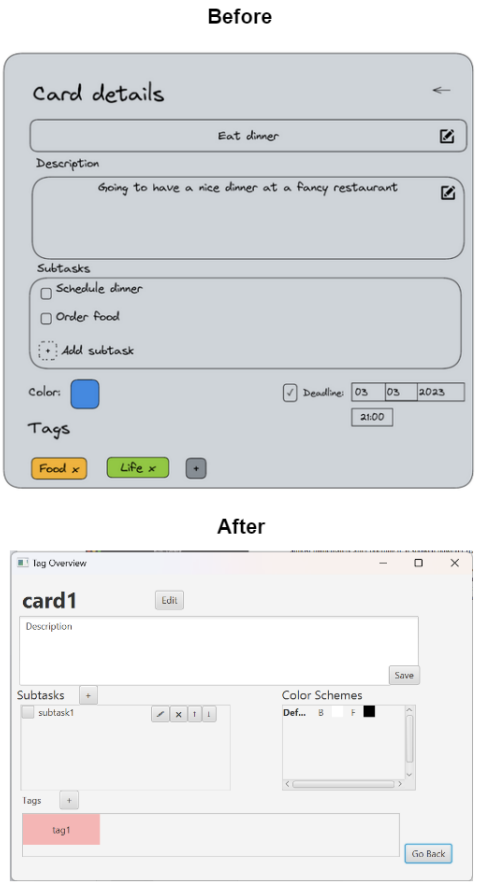

Figure 8: Card Overview - Going Back Feature

in over-explaining which would crowd the design and harm its minimalist nature.

We also tried to improve user experience by removing the ambiguous "Disconnect" button and separating it into "Exit to menu" and "Remove board" buttons which are more explicit and allow more functionality. Figure 9 is a great example on how we took care of these issues and how they were introduced in our app. What is more, the scroll bars have been highlighted to make interaction easier and the lists have enhanced customizability making it possible for the user to express their personality by refactoring the list colors in any desired way as shown in Figure 10.

The review showed that currently the application doesn't have any major problems that would cause users to stop using the app almost immediately after opening it. It showed however that there were other more minor details which needed fixing, and even if by themselves they don't pose much concern, the frequency with which they appear and their number, may contribute to a negative overall impression of the app, which needs to be prevented, and as stated above there are several key features which would be implemented to solve all those issues.

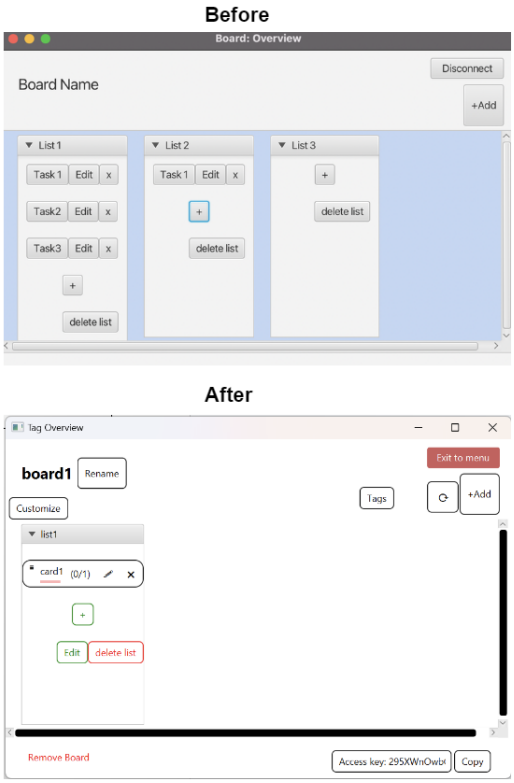

Figure 9: Board overview - Edit list feature

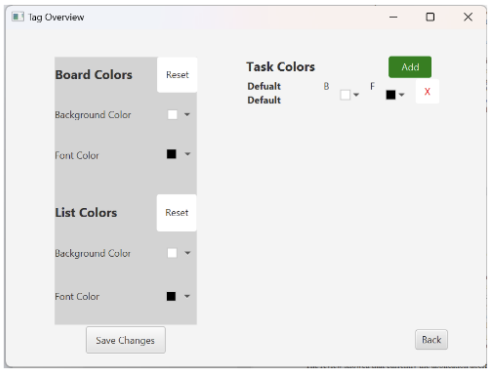

Figure 10: Customisation window for lists