OOP Project Report – Group 37

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1 INTRODUCTION

This report will be based on the feedback received from the experts from group 26, whom we have invited to review our prototype. We will explain, in detail, who the experts we hired are; as well as what instructions they were given and how they were able to get a glance at our prototype. Furthermore, the report will also list the evaluators' findings and what we, group 37, make of those results, as well as how important we think those findings are. After evaluating all the raw feedback received, we will conclude by stating what we make of all of it, what changes will be made to the final application and why and show the final design.

The application we are developing, Talio, is a task list organizer. Users can create boards, which they can share and collaborate on with other users. Tasks (or to-do items) will be represented by cards which will be positioned inside lists for classification purposes. All the details of the application can be found in the backlog [1].

The feedback received will be on the GUI prototype released on March 23rd, 2023. These mockups contain a landing screen (Figure 1), in which the user will start; a general board overview containing lists (Figure 2), which the user can navigate to after creating or joining a board; a view for editing a card (Figure 3), which the user can access by clicking on a card; a view for the board settings (Figure 4) and a view for editing tags (Figure 5) which the user can see by clicking on the top drop-down list.

2 METHODOLOGY

We will use the Nielsen's usability heuristics to evaluate and improve our prototype of the application UI. We have recruited a group of 6 experts, who are also working on a similar project, to assess our prototypes. Therefore, they are particularly familiar with the goals of the application and the problems it is intended to solve. This will hopefully allow the truly pertinent issues to be prioritised.

Our prototype consists of a set of pages built using the Moqups web application which are semi-functional in nature. This prototype allows the reviewers to get a good feel for how the application will eventually function, including working buttons. We have chosen this form of prototyping our application because it's the closest possible to giving them a real application to evaluate the heuristic usability on.

In order to get accurate and consistent data from our reviewers we are instructing them by sending a document containing a set of instructions to conduct their evaluation on our prototype. This set of instructions is as follows:

To keep in mind throughout the evaluation: you may click the Shift key to see what buttons are clickable at any moment.

1. You will see the landing screen prototype, where the user can select whether to join an existing board (left half) or create a new board (right half). The key corresponding to the board can be entered to join a board by viewing it, and the "Join" button will lead to an existing board. If, however, one would like to edit a current board, they are required to enter its password and once again press "Join". In the bottom left corner of the screen, there is an alternative way to join existing boards - once the button is pressed, the previous boards which the user has visited are displayed, and clicking the "Rejoin" text will display a mock board with multiple lists and cards.

2. Return to the landing screen by pressing the backwards arrow in the bottom left corner of the screen. Clicking the orange button at the top of the screen will make it turn green - in the functioning application, this will signify whether the user has successfully connected to the server they have specified in the text box to its left.

3. The create section of the landing overview allows a user to start fresh by beginning with an entirely new board. The password field is optional, allowing one to decide whether the board will always be open to anyone for editing, or if it will require the inputted password. Clicking the "Create" button will thus show an empty board.

4. On the new board, the user can create multiple new lists - do so by clicking the plus button on the right side of the screen twice. You will see two new lists appear.

5. A list can also be deleted from the board by pressing the bin at the top right corner. Click the bin button corresponding to the leftmost list: this will result in the specified list being deleted, along with its associated cards (if any).

6. Once again, add a new list (on this prototype there is a maximum of two lists which can be added, naturally this is not a restriction in the real application). Try to add a new card to the leftmost list by clicking the dark blue button inside it.

7. As visible on the board, each card has a title, description and tags, all of which the user can manage. To inspect this further, click on the card, consequently displaying a bigger pop-up of it.

8. Click the "Save" button at the bottom of the pop-up. Try to delete the rightmost tag associated with the card by clicking the red "X". It is also possible to add a new tag by clicking the "+" next to the "Tags" text field. These actions should hide and display a tag. Whilst this is not part of the prototype, the user will be able to edit any of the text fields for enhanced customisation, such as list titles, card titles, card descriptions and tag titles.

9. Click on the board heading ("New Board") at the top centre of the screen. This will display a drop-down menu with the board settings, and tag actions.

10. Press the "Settings" text. This displays a pop-up to edit the configurations of the board, such as its text colour, background colour and associated key and password. On the left side, the user can edit the colours of the board and save them, which can also be reset to default (although in the prototype it is not possible to change such colours). On the right side, the security key and password of the board can be changed. Click the "Save" button associated with the colours.

11. Since the drop-down menu is still visible, press the "Tags" text. This displays another pop-up where the user can customise and

create the tags associated with the board, by editing their names and colours. Click the red "X" button at the top right corner of the pop-up to exit it.

Going through each of these steps the reviewer may refer to this table and fill remarks in the appropriate row and column. Every page, from here on out referred to as a scene, must get it's own table in order to get separated and easy to reflect on feedback.

Heuristic	Feedback
Visibility of system status	
Match between system and the real world	
User control and freedom	
Consistency and standards	
Error prevention	
Recognition rather than recall	
Flexibility and efficiency of use	
Aesthetic and minimalist design	
Help users recognize, diagnose, and recover from errors	
Help and documentation	

[1] List of heuristics taken from NNGroup.

We expect all experts to go through this alone and in isolation of each other first. These results will be collected first and stored under a collection name "Individual". They will then be allowed to discuss their findings with each other and aggregate their findings into one singular document. This will be reported to any member of the team and made available to the rest on GitLab.

The collected data will then be looked at by the members of our team and sorted based on how easy they are to implement and how important they are by looking at how often they are mentioned by the experts. This will then be recorded in yet another list in descending order.

3 RESULTS

After receiving feedback from the experts we hired in the form of a list of heuristics, the team processed all the raw data. Heuristics have been analysed, and the team has collectively prioritised which things need to be changed in order to have the best possible user experience in our application.

The following list will report the team's findings, as well as state which design features will be changed in Talio, what they will be changed to; and finally, how the team got to these conclusions. A short title will describe the result. Please note that the list will be in descending order of priority.

1. Recognition rather than recall - Card edit is unclear.

The experts we hired from group 26 found it unclear how a user should edit a card. The current design is implemented in a way in which the user will be invited to edit a card by clicking on it in the board overview. However, it is indeed true that there is no explicit button or label which states that a card can be edited directly by clicking on it.

2. Aesthetic and minimalist design - Minimise and close window buttons

According to the report we received, the custom window control buttons we designed clashed with the rest of the design. It was decided by the front-end team that Talio would have custom close and minimise buttons at the top right of the window in order to improve the design, as it was thought that the default windows control bar looked too inconsistent with Talio's theme. It was also noted by the experts that the current design of these buttons "do not appear to be very professional".

3. Aesthetic and minimalist design - The return to the landing page button is hard to find.

Group 26 believes reported that the current placement (bottom left) of the 'Return to main overview' button is hard to find. The frontend team will reconsider where to place this button in order to achieve the best possible user experience and make it easy for a user to go back to the landing page in order to edit another board.

4. Visibility of System Status - Details of connection to server unclear

Whilst testing the prototype, reviewers found it unclear whether or not the application had successfully connected to a server. The connect to server section, on the landing overview, only contains a label, a text field and a button; it is true, however, that a user cannot see if the connection was successful.

4 CONCLUSIONS AND IMPROVEMENTS

Looking at the results of our research we can say that our application is definitely usable, but there are many improvements that could be made. Based on these results we have compiled the following list of changes that will be made to Talio in order to improve our heuristic usability.

1. Recognition rather than recall - Card edit is unclear.

After a short discussion, it was decided by the team that a small button would be implemented in the bottom left corner of the board overview, with an interrogation symbol representing 'Help'. The user will be able to click on this to get a prompt in which instructions will be given for how to use the application. We believe that this will, amongst other things, improve the error prevention Heuristic on our application, as this prompt will also contain other instructions on how to use Talio. Moreover, this addition will make our application's learning curve less steep as well as improve the 'Help and Documentation' Heuristics. Besides this change a small edit icon will also be placed onto the card to make sure the user knows its editable.

2. Aesthetic and minimalist design - Minimise and close window buttons

Upon reconsideration of this issue, the team has decided to go back to the default windows control bar. This will, amongst other things, improve the user experience when resizing the window or moving it around (dragging) the screen. This will, in return, give the user more options on how to customise his application layout.

3. Aesthetic and minimalist design - The return to the landing page button is hard to find.

In order to make the return to the landing page button easier to find we have decided to increase the size of this button, and it's functionality will also be explained in the help menu.

4. Visibility of System Status - Details of connection to server unclear

After careful consideration of how to improve on this aspect, the team decided that a new label would be implemented close to the connect button, which shows with a red or green dot and the words 'Connected' or 'Not connected' whether the connection was successful. We presume that this new design feature will give more information to the user on whether or not he can now edit a board, or should try inputting the server address again. This will improve error prevention as well as help and documentation.

These changes have been compiled into our mockups which can be found at this link.

REFERENCES

[1] Jakob Nielsen. 2020. *10 Usability Heuristics for User Interface Design.* https://www.nngroup.com/articles/ten-usability-heuristics/