OOP Project Report – Group 9

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ABSTRACT

This report aims to show how we did the heuristic usability evaluation for our application Talio. We created a prototype for our application and provided it to five evaluators. We collected and analyzed the issues they found and came to a conclusion on how to improve our design to make it more user-friendly.

1   INTRODUCTION

Objective. The objective of this report is to perform a usability evaluation of our desktop application Talio. Talio is a tool centered around managing tasks and organizing projects. The key features include boards, split into lists of cards that contain one or multiple tasks. The main goal of this application is for users to keep track of their projects, and enable collaboration among teams in order to progress toward a common objective.

Purpose. The purpose of this evaluation is to identify any usability issues a user may face while navigating through the application and to gather feedback on how to improve the overall experience.

prototype. We use screenshots of our application as our prototype as below. The user can choose the server they want to connect with in the very beginning. After that, users are initially put into the main board scene. (Figure 1)
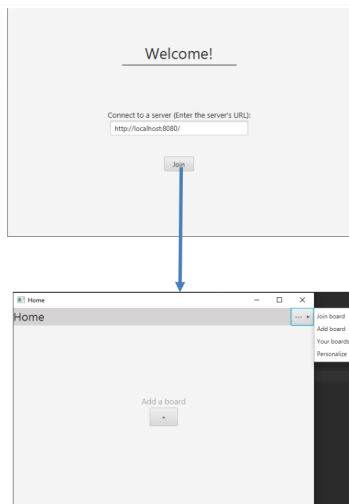

Figure 1: From the connection scene to the home scene.

The user can then either join an existing board by its name and password or create a new one. (Figure 2)
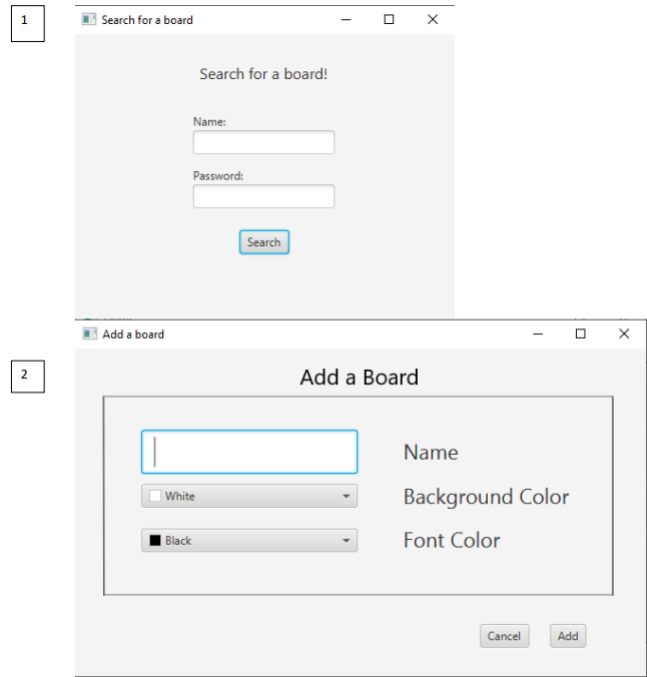

Figure 2: How to search and add boards.

Users can also click on the "Your Boards" button to see the overview of all boards they have joined and enter, leave, copy, or edit the boards here. (Figure 3)
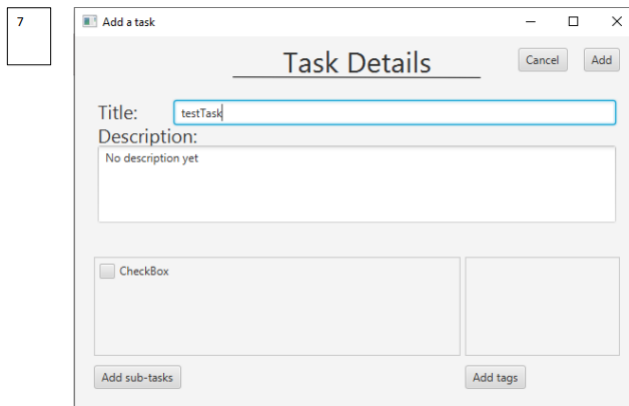

Figure 3: Boards overview and a single board scene.

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On the board scene, the user can manage all the lists of the corresponding board by editing the name, background color, or font color (Figure 4).
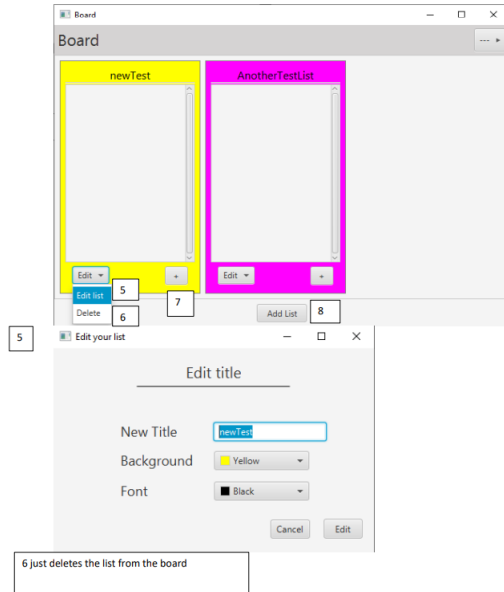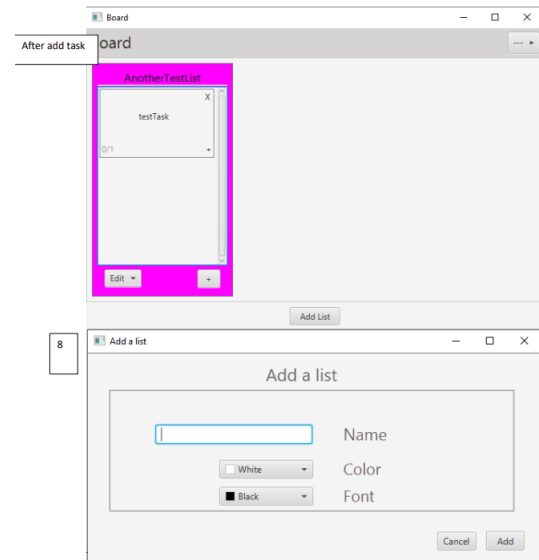

Figure 4: How to edit a list.

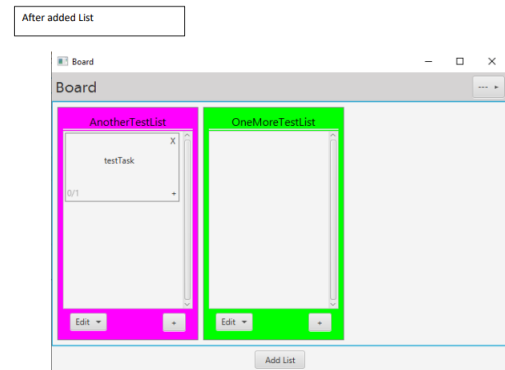The user can also add tasks to the list (Figure 5).

Figure 5: How to add a task.

All the tasks are displayed in the list overview. Users can also add new lists. (Figure 6)

Figure 6: Task overview and how to add a list.

The newly added list will be displayed on the board scene as well. (figure 7)

Figure 7: After adding the list.

2 METHODS

Experts. We recruited 5 evaluators of different experiences and backgrounds. They were all digital natives and so called "Children of the Internet". To exemplify, we had a person with more than 10 years of programming experience and another who had less than a year. Diversity was our core aim in choosing our evaluators.

By necessity, all our evaluators were students at the TU delft, and most of them will have developed a similar application. We are aware of the bias introduced by this, and our evaluators technical backgrounds. We would recommend preforming another evaluation with a more diverse group should the application ever be launched.

Procedure. Our experts were first asked to familiarize themselves with our wireframe prototype, and then asked to preform 4 basic tasks.

- Navigate to the task details/overview page
- Edit a list
- Delete a task
- Go to all the boards they joined/created

The evaluators were given no extra instructions, but the wireframe contained details on all actions preformed by different UI elements. We asked them to disregard this and evaluate how intuitive the application would have felt had they been using it as normal.

The evaluators were told to consider 10 important heuristics

- Visibility of system status
  - The design should always keep users informed about what is going on through appropriate feedback within a reasonable amount of time.
- Match between the system and the real world
  - The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon.
  - The design should follow real-world conventions, making information appear in a natural and logical order.
- User control and freedom
  - The user should ???
  - clearly marked "emergency exit" to revert unwanted actions without having to go through an extended process.
- Consistency and standards
  - Users should not have to wonder whether different words, situations, or actions mean the same thing.
  - The application should follow platform and industry conventions.
- Error prevention
  - The application should eliminate error-prone conditions and/or check for them and present users with a confirmation option before they commit to the action.
- Recognition rather than recall
  - Minimize the user's memory load by making elements, actions, and options visible.
  - The user should not have to remember information from one part of the interface to another.
  - Information required to use the design (e.g. field labels or menu items) should be visible or easily retrievable when needed.
- Flexibility and efficiency of use
  - Allow expert users to speed up their interactions with the application, without making it less accessible to inexperienced users.
  - Allow users to tailor frequent actions
- Aesthetic and minimalist design
  - Interfaces should not contain information that is irrelevant or rarely needed.

- The design should be aesthetically pleasing or neutral, without clutter.
- Help users recognize, diagnose, and recover from errors
  - Error messages should be expressed in plain language, precisely indicate the problem, and constructively suggest a solution.
- Help and documentation
  - The user should be able to learn anything they need to about the application using the help/documentation.
  - Information must be easily accessible and simple to understand

The evaluators then preformed our 4 tasks, and reported on any issues using the above heuristics

Measures (Data collection). . Our main goal with this evaluation is to test how intuitive and usable our application is. In order to do that we asked them to find as many problems as they could regarding that aspect of the application. Then we instructed them to elaborate on three main aspects of this problem. First of all, what the impact of this problem on our users is, so we can prioritize the problems and know the severity of each one. Second of all, we asked them to explain the exact context in which this problem occurred, in order to target it better by copying the chronological sequence of their actions. Third of all, we asked them to assume the causes of the problem, which helps us find out exactly how to resolve the problem and what solution would work for them as target users. In the Results section, you can check out the confusion matrix that we needed in order to evaluate the data.

3 RESULTS

Main findings. The experts, at our instructions, have encountered a series of problems in their role as temporary users:

Main complaint. The most common complaint and by far the most reported on, is the use of the so-called "Hamburger Menu" in multiple parts of the application and buttons that suffer from improper labeling. The difficulty consists of confusion among users when navigating through the Home page, board overviews and list overviews. Therefore, the visibility and documentation of the application should be improved accordingly. From this, other difficulties arise when performing numerous actions, such as:

- Navigating to the boards overview - a page where all the created or joined boards are displayed in a sequential manner
- Executing the operation of creating or joining a board.
- Editing and deleting lists. Those options are also hidden under a menu, labeled as "Edit", which, based on the reports, is not appropriate when grouping together these two actions.
- Adding cards, through a button that is simply represented as a plus sign ("+"), which seemingly doesn't speak of the action.

Moving away from improper labeled buttons, another glaring issue is the design in certain section of the application.

Design. Another core aspect of any application is its appearance. The user is enticed to choose your tool above any others and, as
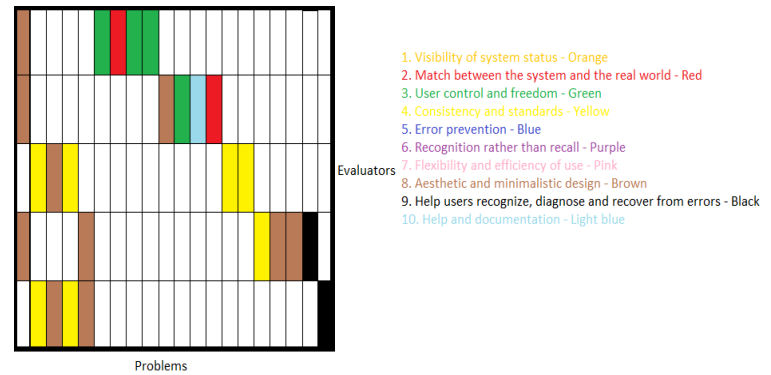
a consequence, the styling is one issue that might drive away potential users. When switching between scenes, our experts have identified these problems related to styling and consitency:

- The tags associated with boards are at risk of being cluttered when their amount increases. Their size and overall position represent a potential issue an inexperienced user might not recognize at first glance.
- Some of the buttons, also associated with boards, are too small and their labeling isn't fully visible.
- The default window is small, hence many features, such as cards and lists, suffer visually when coupled with a number increase. Users are only being able to see two or three cards and lists at a time, which becomes annoying in the long run.
- The overall default aesthetic isn't pleasant to work around, as everything is either white or gray. When adding lists, choosing a background and font color isn't much of a help, as the contrast becomes evident. Designing a concrete theme would help in tackling this problem, instead of relying on the default options provided by the developer tools used in the making of this application.

Errors and confirmation. All applications should follow a rule of thumb - important actions such as deleting and editing should never be irreversible. Another issue arises when operations carried out frequently result in errors which aren't displayed for the user to get an idea of what is going wrong. Implementing these key features would greatly increase the user experience at a relatively low cost.

After getting all of these results, we sort them out in order to find out which problems were the most common ones and we prioritize them based on that. We make a graph, in which all the problems are sorted from the most occurring to the least occurring. We color-coded the 10 important heuristics we used, so we can see which occur the most, in order to prioritize it. Here is the list of problems, followed by the number of the evaluator, who encountered the problem.

- 1. Top right button is confusing - 1, 2, 4
- 2. Add board on home menu is ambiguous - 3, 5
- 3. Leave button is cut off - 3, 5
- 4. Unclear terminology for searching/joining - 3, 5
- 5. Delete button is hidden in edit button - 4, 5
- 6. Edit task menu hard to enter - 1
- 7. At most 2 tasks are shown in list - 1
- 8. Tags clutter in Your Boards - 1
- 9. + button at the bottom confusing - 1
- 10. The buttons on Your Boards are too small - 2
- 11. The delete task option is hidden - 2
- 12. Checkbox under Task Details is not descriptive - 2
- 13. Searching for board requires name and password - 2
- 14. Inconsistency in buttons for add a task and add a list - 3
- 15. Leaving/switching boards is unclear - 3
- 16. Add a list is confusing - 4
- 17. Positions of buttons is strange - 4
- 18. Design is not aesthetic - 4
- 19. No double confirmation before deleting anything - 4
- 20. No way to go back to home - 5

1. Visibility of system status - Orange
2. Match between the system and the real world - Red
3. User control and freedom - Green
4. Consistency and standards - Yellow
5. Error prevention - Blue
6. Recognition rather than recall - Purple
7. Flexibility and efficiency of use - Pink
8. Aesthetic and minimalistic design - Brown
9. Help users recognize, diagnose and recover from errors - Black
10. Help and documentation - Light blue

4 CONCLUSION

Conclusion. After receiving and analyzing the reports from our evaluators, we have identified two key aspects of improvement.

Design and styling Of our 5 most common issues, 4 are design related. The evaluators identified issues with unintutive UI components, finding buttons, and overall styling.

Consistency Our evaluators identified multiple inconsistencies in our UI components, where components preforming similar actions had different designs.

These are the two main areas where we plan to improve our design.

Improvements.

REFERENCES