

OOP Project Report – Group 47

Galya Vergieva, Maja Czerwińska, Andreas Tsatsanis,
Lucas Witte, Pjotr Schram, Tudor Christian Damian

ABSTRACT

This report presents the findings of a heuristic usability evaluation conducted on the Talio to-do list application. Aimed at identifying and prioritizing usability issues in the product by using recognized usability heuristics, a team of evaluators used a preview of the app to analyze it against the usability standards set in the study. The results indicate that the product has several usability issues that negatively affect the user experience, such as inadequate explanation of functionality, poor layout in certain scenes, and unnecessary or improperly placed buttons. Each problem was separately reported and analysed for its impact, severity and ease of repair. The issues were then compiled into improvement areas, each highlighting the suggested improvements in a specific section of the app. Finally the results were concerted into action points. They can help with future design decisions, resulting in a more user-friendly and effective product.

1 INTRODUCTION

This report aims to present the results of a heuristic usability evaluation for a prototype of a task management application. Intended to aid users in organising their tasks, the app will maintain a clear structure of cards (representing a task and its description) into lists, which all fit into boards. It was conducted by a partner group and it outlines the possible problems that could harm the overall experience of the user. The report will provide a guideline of how the prototype was evaluated through fixed heuristics, it will describe the severity of the issues found and propose solutions and improvements based on the results. These heuristics outline a model for how a user-friendly app should behave, and comparing this app against them will assist in future design choices. The prototype that has undergone the evaluation is a partially functioning version of the whole application, showing an overview of the server selection scene, the board selection scene, the public board, the tag manager, and the adding card, board, and task scenes.

2 METHODS

2.1 EXPERTS

To conduct a heuristic usability evaluation members of group 46 were recruited. The group consists of 6 TU Delft students that are currently developing a similar application that guarantees their in-depth understanding of the desired user experience and an objective view of the user interface.

2.2 PROCEDURE

The team of experts was called to evaluate an early version of the application, alongside some mock-ups. Intended to showcase the stylistic decisions that will be implemented at a later stage of production, the mock-ups served as a visually complete overview of the user experience. This prototype of the application was presented via a video call between the members of the two teams, during

which the evaluators were given full freedom to explore the product. After analyzing, they were encouraged to pose questions on the logic behind the design and further investigate the user interface.

2.3 HEURISTICS IN USE

Cited from TU Delft OOPP Team Lecture Slides [2]

- (1) "Visibility of system status: The system should keep users informed about what is going on, with appropriate feedback in good time."
- (2) "Match between system and the real world: The system should speak the users' language, with words, phrases and concepts familiar at the user (not technical terms)."
- (3) "User control and freedom: System functions may be chosen by the user by mistake; they need a clearly marked 'emergency exit' without having to go through an extended dialogue."
- (4) "Consistency and standards: Users should not have to wonder whether different words, situations, or actions mean the same thing."
- (5) "Error prevention: Even better than good error messages is a careful design which prevents a problem from occurring in the first place."
- (6) "Recognition rather than recall: Try to make objects, actions, and options visible. The user should not have to mentally hold information and transfer it to another part of the interface. Instructions for using the system should be visible or easily retrievable whenever appropriate."
- (7) "Flexibility and efficiency of use: Accelerators (such as a function keys or macros) and senior buyer of the novice user may often speed up the interaction of for the expert user. Thus the system that can cater to both inexperienced and experienced users."
- (8) "Aesthetic and minimalist design: Dialogues or other interface items should not contain information which is irrelevant or rarely needed. All information on the screen competes with the relevant units of information and diminishes their relative visibility."
- (9) "Help users recognize, diagnose, and recover from errors: Helping users recognize, diagnose, and recover from errors. Error messages should be expressed in plain language, precisely indicate the problem, and constructively suggest a solution."
- (10) "Help and documentation: Although the system should be able to be used without documentation, it may be necessary to provide help of some form. This information should be easy to search, focused on the user's task (context sensitive), list the steps to be carried out, and be brief and to the point."

2.4 MEASURES

During the video call, the experts were able to observe the scenes as well as the natural flow of the application. Intending to measure user satisfaction with the application's experience, the team initially simulated a reasonable use of the app, taking notes of the above-stated heuristic standards as seen in the app. The meeting was recorded for future use, thus allowing the team to conduct a thorough examination, summarised in a document that highlights the discovered flaws. The issues were reported in a specific format that was prepared by us with a consultation to the video slides on Heuristic Usability Evaluation provided by TU Delft. It consisted of 5 points, namely:

- problem description
- possible difficulties
- specific context of the problem
- assumed causes
- the violated heuristic standards (from the aforementioned list)

3 RESULTS

The received reviews from the evaluators were summarized into problems and later improvement areas. These areas are meant to streamline the process of incorporating the received feedback in the development of the app. It has been shown that there are several issues with the current state of the application, regarding both its design and functionality.

Problem 1.

The board page is too full, all the lists and buttons make the space very tight. It is difficult and somewhat counter-intuitive to navigate through the board without feeling overwhelmed.

Related Heuristics: 8

In the board overview page, the app currently has many functional elements in the same space, which to the novice user can be overwhelming. It might lead to confusion in cases where an element's functionality is not immediately obvious, and overall degrades the user experience.

"[it is] Difficult to navigate and use the board effectively without it seeming overbearing"[1]

The resolution of this problem is a high priority since the user is likely to spend most of their time using the app on the board overview page. As the heart of the application, it is critical that the user experience is best here, with minimal friction in the common user actions.

Problem 2.

The purpose of board keys in the app is inadequately explained by the time the user is required to enter one, and if they don't understand how board keys work they will miss out on the app's features.

Related Heuristics: 4, 6, 10

About 50% of the evaluators found that the application's approach to joining a board using a board key may prove difficult for users unfamiliar with the system. It is not made clear how board keys work, and that information is not available anywhere in the app.

The frequency of this problem alongside the fact that it is a crucial feature of the app will prioritise its resolution.

Problem 3.

The Landing Page does not reflect the actual application's use and is unclear what each button is for.

Related Heuristics: 8, 10

The Landing Page is confusing for new users since it is nowhere specified what the options "public", "team" and "private" actually mean and do. We encountered the frequency to be about 17%, but even so, the problem is severe, since it affects the ease of use of the app, more so because the Landing Page is the entry point of the application.

Problem 4.

The application's color customisation options are user-unfriendly.

Related Heuristics: 6, 7

The application is customisable enough to let the user change their board theme and colors, but when the user enters the color they want for their board in the specified text field, there is no way to preview how the board will look with that color. Besides that, there is no default color palette anywhere in the app, requiring a user to memorise the board's colors (for example, when choosing a color for a new tag).

This issue is not impeding the app's functionality and thus will be below others in priority, but will also be taken into account and eventually resolved.

Problem 5.

Adding a new list to the board on the overview page is unintuitive, and the related button is hard to reach.

Related Heuristics: 6,8

The reviewers found the position of the add list button to be inappropriate (located at the end of the horizontally scrollable view of lists, on the right side of the board).

This issue is of low severity, and can be easily resolved.

Problem 6.

Incomprehensive password requirement field on board creation page.

Related Heuristics: 8

On the Board Creation Overview page, there is a password text field along with a "password required" radio button. Although it is logical to assume that leaving the password field empty means there is no password for the board, the radio button was added as an extra precaution in case a user accidentally types something in the password field. However, this extra feature has been deemed unnecessary as it only adds complexity to the scene without providing significant improvement. Additionally, the presence of an asterisk next to the password field suggests that it is a required field, even though it is not. This can cause confusion for users, and as such, it will be fixed.

Since password protection is essential for the functionality of the app it is important that users can efficiently use it. The issue is of moderate severity, but simple to fix.

Problem 7.

Redundant "Exit" Button on Server Selection window.

Related Heuristics: 8

In the design of the Server Selection window, the reviewers found the exit button on the screen to be redundant, since you can exit the app by just closing the window. Having a button on the screen that is not required for the functionality of the application and takes up space makes the screen look cluttered.

The problem is of low severity and it is easy to solve since the button can just be deleted and the rest of the screen can be rearranged to adhere to a minimalist design.

4 CONCLUSIONS & IMPROVEMENTS

4.1 IMPROVEMENTS

After conducting the heuristic usability evaluation, we identified areas for improvement in the design and user interface of the task management application. The following sections describe the changes we recommend to enhance the overall user experience.

Improvement Area 1: Board Overview Scene

The current design of the board overview scene suffers from two severe issues: clutter and poor discoverability of the add list button. To address these problems, the following changes have been proposed:

First, the add list button will be moved to the board sidebar, making it more accessible and prominent.

Second, the overall design will be simplified by removing card details from the board overview scene and creating a new card overview scene. Users can access the card overview by double-clicking on the card name. This separation of information between the board and card overview scenes will result in a more minimalist and user-friendly application.

Improvement Area 2. This area of the heuristic usability evaluation report identified two main issues with the board creation menu: the board key is confusing for new users, and the password system for the boards is inconsistent.

One proposed solution to the first issue is to change the text that refers to the board key to "Use this key to share your board with others" and modify the placeholder text for the board key field to be more specific, such as "Type the key for the board you want to join."

To address the second issue, the recommended improvement is to add a drop-down field where the user can enter the password for the board only if the radio button is checked, which will make it easier to understand for new users.

Improvement Area 3. The Landing Page may be difficult to navigate for users without prior context or familiarity with the application.

However, this issue can be addressed by either providing a brief written tutorial on how to use the app or by reviewing the design of the starting page. If the latter approach is taken, the buttons on the Landing Page could be styled with hover effects that provide more information on where each command will redirect the user.

Improvement Area 4. The color customization feature is difficult to use. One possible solution is to include a few buttons with

commonly used colors and a color picker wheel that can be implemented next to the color text field, making it easier to use.

To prioritize which problems should be addressed first, we can evaluate them based on their severity and frequency. A matrix can be created with severity plotted horizontally and frequency plotted vertically. This will provide an overview of which problems should be prioritized for fixing. The problems in the top left corner of the matrix, with high severity and frequency, should be addressed as soon as possible, while those in the bottom left corner, with low severity and frequency, can be considered last. The matrix with the problem numbers can be found below.

Prioritizing severity matrix					
Severity Frequency	Catastrophic	Critical	Moderate	Minor	Negligible
Frequent		2 3	1		
Probable					
Occasional					
Remote			6	5	
Improbable				4	7

4.2 Conclusion

In conclusion, based on the findings from the conducted Heuristic Usability Evaluation, the following measures will be taken into consideration in order to enhance the usability experience:

- The overall application design will be remodeled so that it could overcome its drawbacks.
- The new plans will be given to the developers to be implemented in the application code.

The purpose of the aforementioned improvements is to boost the user experience and the efficiency of the application.

REFERENCES

- [1] Group 46, Alexander Znamenskiy, Arnon Zandt, Christiaan Baraya, Justas Bertašius, and Stanislaw Ostyk-Narbutt. 2023. HUE Review for Group 47's App. Report.
- [2] OOP Project Course Team. 2023. Heuristic Usability Evaluation Lecture. Lecture slides.