Heuristic Usability Evaluation Report – Group 73

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ABSTRACT

Heuristic Usability Evaluations are done to find problems in user interfaces of applications. This report is about the evaluation we have conducted for our application 'talio.'. In this report, we describe how we have conducted the evaluation, detailing the various moving parts of the evaluation to provide a comprehensive overview of the entire process.

1 INTRODUCTION

During the development process of any application, it is important to carefully consider the user experience and all the possible interactions a given user could have with your project. Doing so allows for better understanding of the target audience, as well as providing a comprehensive overview of the strengths and flaws of the current iteration of the project.

The Heuristic Usability Evaluation (HUE) report is centred around identifying key areas of improvement within a prototype, with the ultimate goal being to improve the overall usability, appearance and functionality of said prototype in a precise manner. This is done with the help of a group of experts, which provide an external, non-biased review of the application.

In the context of the given prototype, the HUE will be focused on the user-friendliness of the User Interface (UI), with an emphasis on key UI pylons such as "User Control and Freedom" and "Recognition rather than Recall". The combined feedback for all the covered criteria will serve as the basis for a more comprehensive, unified evaluation. The prototype being evaluated is a (semi) functional model of talio. - a sleek and minimal task management application. The prototype, created with moqups, provides an interactive overview of the main features and scenes featured in the application. It has minimalistic style language, a black/grey/white color scheme and a simple, non-cluttered UI which presents all the functionality to the user immediately. It can be found at the following link: https://app.moqups.com/XrwUxfXBNqZIBTLGVkUx5VFnTulW9qBk/view/page/ad64222d5

2 METHODS

In order to properly conduct the Heuristic Usability Evaluation, 5 experts were recruited to offer their reviews on the prototype. The experts currently follow a BSc in Computer Science and Engineering, and are all accustomed to modern technology standards, making them suitably qualified to conduct a heuristic report of the prototype. Their prior experience and interest in Software Development and general technology makes them extremely sharp in regard to identifying and isolating flaws within an application's UI.

The experts were given a Google Doc with a set of instructions and criteria to focus on during the evaluation. They were instructed to -

(1) Familiarize themselves with the interface by going over it once.
(2) Look for problems or things they disliked about the interface, and make a note of them in the 4 step format provided below.

(3) Now that they were also fairly familiar with the application, they were asked to go over the issues they found initially and classify them according to Nielsen's Heuristic Usability criteria.
(4) After completing the previous step, the experts were instructed to do an additional sweep of the application with each of the Heuristics criteria in mind, and note down any additional issues.
(5) After completing the above steps, the experts had a list of issues and their relevant heuristic categories. If any of the experts noticed a heuristic violation not described in the criteria provided to them, they were encouraged to add heuristics themselves.
(6) Lastly, after performing a qualitative analysis of the application, the experts were asked to rank each of the issues from 1-10 with regards to "frequency" and "impact" in order to provide a quantitative basis to the evaluation.

The prototype presented to the experts for review was an interactive and navigable mock up of the final application, which allowed the experts to get a feel of how a user might actually use the program, and really hone in on each of thte criteria in a realistic environment. The format they were asked to use when describing the issues is provided below.

(1) Problem Description
(2) Likely/actual Difficulties
(3) Specific Contexts
(4) Assumed Causes

This template allowed the experts to identify key issues as well as pinpoint the contexts in which these issues were most likely to appear, making them easier to address in the improvements section. As mentioned, in addition to the format above, the experts were asked to classify the errors in the context of Nielsen's Usability Heuristics criteria. Since many of Nielsen's criteria are centered around the intuitiveness of the user experience, the experts were prompted to share any scenarios in which they felt our design decisions felt counter-intuitive, and were thereby asked to classify them according to Nielsen's criteria, which are as follows:

(1) Visibility of system status
(2) Match between system and the real world
(3) User control and freedom
(4) Consistency and standards,
(5) Recognition rather than recall
(6) Flexibility and efficiency of use
(7) Aesthetic and minimalist design
(8) Help and documentation.

The aforementioned criteria were briefly described in the document, with much more documentation available online. Once an expert found a flaw in our design, leading to what they felt was a counter-intuitive or generally unpleasant user experience, they were encouraged to provide criticism in the following format: Page;

Type; Category; Description, which greatly helps in identifying exactly where and how any issues are occurring, making them easier to address in the development process. Given the aforementioned criteria and structure, the experts were able to provide qualitative and quantitative feedback which could be categorised by where it occurred, the respective category in Nielsen's Heuristic Criteria and their relative frequency and impact on the user experience.

3 REPORT

This section contains the problems reported by evaluators, grouped by page and ordered by perceived severity of the issues. In the table below you will find an overview of the issues, a short description and a rating based on *frequency* and *impact* on a scale of 1 to 10. Also, there's an indication of which heuristics apply to the issue, matching the numbers in *Section 2 Methods*. The feedback was provided in the following format and was summarized in the table for a nicer reading experience.

> **Page:** Board View
>
> **Problem Description:** The board view appears to be intuitive. However, the sharing button appears very small in comparison to the other main functionalities. As a user, I would be appreciative if the invite key were displayed closer to the title of the board.
>
> **Likely/ Actual Difficulties:** The user may not be able to find/ use the button
>
> **Specific Contexts:** The user may want to share a specific board and may not be able to find the functionality.
>
> **Assumed Causes:** The sharing button appears very small in comparison to the other main functionalities
>
> **Heuristic Category:** Consistency and standards - the button is not consistent in size with the rest of the UI.
>
> **Frequency:** 9 **Impact:** 7

3.1 Issue Table

Issue	Description	Frequency	Impact
Server Join Screen			
Default port (1) Heuristics: 6	When entering a server address, you also need to enter the port number, which most of the users could be unaware of	6	8
Welcome Screen (2) Heuristics: 8	The "Join Server" screen currently has only a text field for entering the server IP, but no explanation about what a server address is and how to use it	6	4
Home Screen			
No workspace indication (3) Heuristics: 5, 8	When joining a server, you are presented with the home screen/dashboard, however there is no indication what the current screen is	8	2
Disconnect from server (4) Heuristics: 3, 6	On the dashboard, there is no option to disconnect from the current server. If a user wants to connect to another server, the whole app needs to be restarted	2	9
Board Overview			
Join-key (5) Heuristics: 6, 8	The join key is currently hidden in the board settings and the link button. Inexperienced users may find it difficult to share the board	9	7
Where's the description? (6) Heuristics: 1, 5, 7, 8	It's not clear if there is and how to edit the description of a card, because currently there's no indication of the feature	7	8
Unclear board settings (7) Heuristics: 3, 5, 8	It is unclear where the board settings are to be found in the board overview	5	7

The *frequency* and *impact* scores in the given table can be plotted on a 2D graph with the *frequency* and *impact* as the axes, where in the top-right corner are the most severe issues (frequent and impactful) and in the bottom-left corner the least severe issues (in-frequent and impactless).

3.2 Initial Join Server

The most severe issue reported for this page was that it was not very intuitive and lacked the necessary descriptions or instructions, without which the new users could feel lost. Two evaluators also pointed out that a default server address was missing, which would make things much more evident. A default port number was also

Issue Quadrant Plot
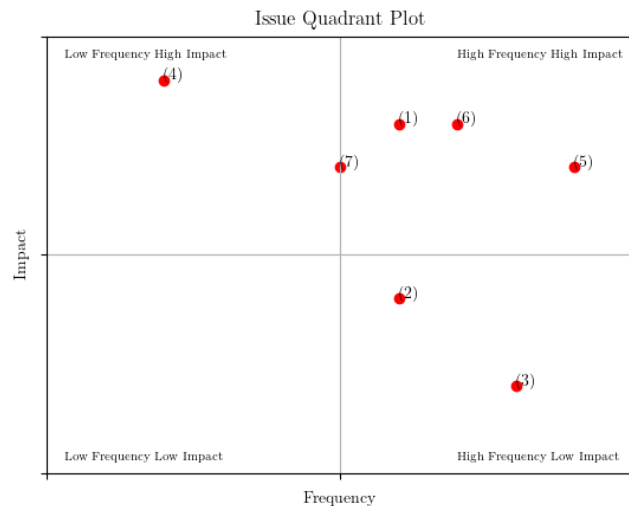
requested.

Another piece of feedback, was that we need to rigorously error check and throw corresponding error messages on the "Server Connection" screen, so that users know what's going wrong.

3.3 Home

A very general issue raised by a reviewer was the concern that users may be disoriented when first arriving on the Home page if they haven't used the app before. A proposed way of fixing this is to add a "Workspace" or "Dashboard" label to the page. Changing the header of the page to read "Talio: Dashboard" could certainly help some users understand exactly what they are looking at and make sense of the various buttons and boards.

One piece of functionality that we forgot to display in the prototype is the ability to disconnect from the current server and reconnect to a different one. The current prototype would not allow for any such change: after connecting to a server once, it would not reopen the "Server Connection" screen as it does the first time that one launches the app. This was simply an oversight in prototype design and we will make sure to have an option for this on the home page, which reopens the "Server Connection" screen with an additional "Cancel" option, as planned.

3.4 Board Overview

An issue users may face on the Board Overview page is finding the Board settings. The prototype allows access to this by clicking on the board name at the top of the screen, which also displays a pencil icon, indicating editing, when hovering over it. A reviewers speculation as to why this may not feel so intuitive, was that the board name is very large and feels more like a static title than a functional element.

A similar issue was raised about how copying the board code feels a bit unintuitive. The code can be found both under the board settings modal as well as copied by clicking the paperclip icon at the top right.

A reviewer noted that (if we wish to complete the advanced features) cards should have both a title and a description. They will have these features, they were just not clearly communicated in the prototype.

One reviewer noted that the edit list and edit tags modals are not implemented in the prototype.

Another reviewer expressed concerns that some of the mock cards don't have tags, don't have titles, or don't have descriptions, and that this may confuse users. The prototype is not fully fleshed out and therefore not all the cards are entirely prepared. Only some of the cards had all the features implemented to briefly demonstrated what that will look like. In the final application the user will only be presented with a single empty list upon creating a board so there is no need to worry about the users impression of the specific mock cards in the prototype. They can add tags as they wish and cards will require a title.

3.5 Client Settings

All the reviewers were satisfied with the settings.

4 IMPROVEMENTS AND CONCLUSIONS

In the initial join server page, we will:

- briefly describe what is expected from the user, so that non-technical users are not confused - this will be done with a short description
- provide a default server address for users to connect to and auto-complete the port so that inexperienced users do not struggle

- provide users with the option of hosting their own server
- guide users to provide a valid server address with precise and helpful error messages. The cases we have decided on are for when a user does not provide any address or provides an invalid address. In case the server is not responding, this will also be conveyed in a non-technical, user-friendly manner.

To the home page, we will:

- provide a way for users to disconnect from the current server so that they can join another server
- make it more evident that this page is the dashboard, perhaps by putting such a label at a prominent position near the top of the page

Samuel Bruin, Rafayel Gardishyan, Tejas Kochar, Jannes Kelso, Danylo Kozak

- more clearly indicate that the board settings can be accessed by clicking on the board title - this will be done by removing the other settings button to avoid confusion.
- clearly indicate how to copy the board invite code by changing the paperclip icon to text reading "Copy Code" and moving the button into the upper bar aside the settings and tag buttons
- the lists currently have a pen indicating an editing feature, but those will be replaced by X's to indicate deletions, as the only other feature, renaming, can be done by clicking on the title of the list

- the edit tags modal had not been implemented yet in the prototype, but will follow a similar minimal style as the rest of the app and have the following features:
  - OK (finalize changes and leave modal)
  - Cancel (revert changes and leave modal)
  - Add new tag and set name
  - Remove tag
  - Rename tag
  - Change tag color
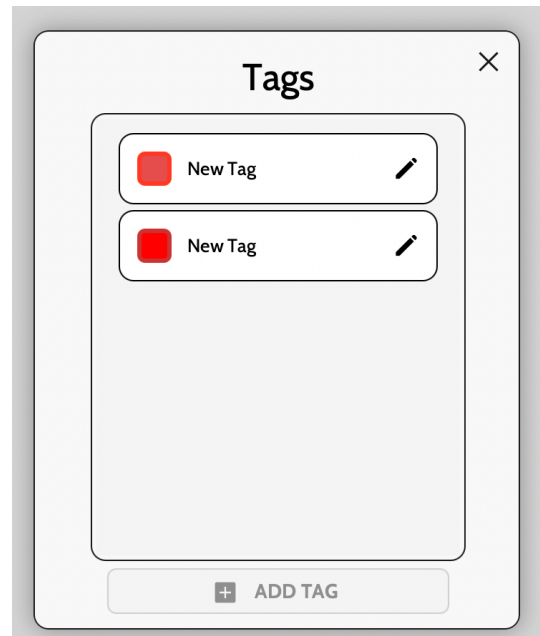
The Board overview was the page with the most features, and also the most reported problems. To fix these, we will

- make the board settings easier and more intuitive to find by placing the lock button near it which allows the user to "discover" the settings menu
- Make the copy board button stand out more, making it more easy to identify.
- provide cards with both a description and a title, as opposed to just a block of text as they have now.

REFERENCES

The mock up of the application provided to reviewers for reviewing

https://app.moqups.com/XrwUxfXBNqZIBTLGVkUx5VFnTulW9qBk/view/page/ad64222d5

The Google Doc provided to reviewers with methodology for reviewing:

https://docs.google.com/document/d/1Cwgwr2NcOuIGcpSJRiQYxkqdD2SJsKTX edit

Used as a basis for the heuristics we used:

https://www.nngroup.com/articles/ten-usability-heuristics/