

Heuristic Usability Evaluation Report – Team 54

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1 INTRODUCTION

The primary objective for this usability evaluation is to not only identify a diverse range of existing usability issues in the application that adversely impacts the user experience but to also understand their extent, severity, and probable cause. The underlying purpose is to improve the overall user experience as well as the quality of the application, which will be measured with respect to pre-established heuristics.

For the evaluation, the latest state of the application is designated as the prototype: a walk-through video, showcasing the current features and functionalities of the application that are available through the user interface. The features and functionalities include server connection and disconnection; board creation, access, and renaming; card and column creation, modification, and deletion; drag-and-drop features; auto-synchronization of changes; error prevention features; and user interface design. The video presents the aforementioned in multiple scenarios, under diverse conditions, and with different user inputs in order to account for possible user behaviors; this is done to counteract the lack of direct interaction by the evaluators with the application due to the static nature of the video.

2 METHODS

The expert evaluators consist of six OOP-Project Course students, who are familiar with heuristic usability evaluations and with the requirements of the applications. Although the evaluators are all from the same team, each should complete the evaluation individually and independently to ensure the diversity and distinctiveness of reported usability issues. Notably, the particular demographics of the evaluators was not considered in this evaluation, so the diversity of the evaluators in terms of usage and accessibility cannot be established.

In order to facilitate the evaluation, the expert evaluators should have received an *Expert Instruction* document which details the available resources, the procedure for the evaluation, as well as the recording process and format for the encountered usability issues. Before beginning the evaluation process, each expert evaluator was asked to thoroughly review the instruction document.

Once the experts clearly understood the instructions, they should open both the prototype video and the Google Form document for the recording of the usability issues. Expert evaluators were asked to firstly watch the prototype video in its entirety to gain a complete understanding of the application's purpose and functionality. After the initial viewing, they were asked to examine each feature and functionality that is presented in the video separately. To that end, the video is divided into sections, each showcasing a specific feature or functionality that is identified by a bottom-left annotation.

Whenever an expert evaluator identifies or encounters a usability issue, they should create and fill a new form entry, which can be done through the provided Google Forms document; Google Forms

facilitates the recording and submission process. For each issue, the evaluators should fill out a new entry in the provided Google Form document, ensuring that experts can efficiently share their feedback with us, facilitating the collection of the results.

As per an heuristic evaluation design, experts were asked to consider the following heuristics [2] as guidelines in order to determine whether a particular design, feature, or functionality contains an usability issue.

- (1) visibility of system status – The user interface should display any ongoing application processes, results, and their availability, and the current settings of the application as needed.
- (2) match between system and the real world – Information and data in the application should reflect the real world.
- (3) user control and freedom – Users should be able to deliberately and conveniently control the user interface for their own needs with a wide variety of control operations.
- (4) consistency and standards – The application should adhere to common, or agreed-upon, standards and measures. The application should be consistent in design.
- (5) error prevention – The application should have built-in measures to prevent users from committing errors, especially those of the irreversible kind.
- (6) recognition rather than recall – The application should be able to intuitively prompt the user to perform actions when need or to understand information as presented without much additional operational knowledge.
- (7) flexibility and efficiency of use – Users should be able to use the application effectively, efficiently, and quickly.
- (8) aesthetic and minimalist design – The design of the application does not contain any superfluous or redundant elements.
- (9) help users recognize, diagnose, and recover from errors – The application should efficiently and effectively inform the users on encountered problems, and how to resolve them.
- (10) help and documentation – The application should have accompanying set-up and operational information that users can use.

In order to report the encountered, the experts were asked to provide information in the following efficient format[1]:

- a short specification of the usability issue
- a list of possible or actual difficulties that the issue will cause to the users
- the specific context in which the issue arises
- a probable cause

REFERENCES

- [1] Cockton, G., Woolrych, A., Hall, L., & Hindmarch, M. 2004. Changing analysts' tunes: the surprising impact of a new instrument for usability inspection method assessment.. In *People and computers XVII—Designing for society*. Springer, London, 145–161.
- [2] Nielsen, J. 2003. 10 Usability Heuristics for User Interface Design. Nielsen Norman Group. <https://www.nngroup.com/articles/ten-usability-heuristics/>.