CMPUT 302 Deliverable 2

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ABSTRACT

We analyze the functionality and quality of Illumia Lab's *Scenario Builder* to comment on potential improvements and provide a short-term roadmap for development and improvement of the application. We encounter and provide solutions for various problems in the UI, the functionality of the system and the documentation of the program with respect to Human-Computer Interaction principles, Gestalt principles and CRAP design principles. Our solutions follow previously established results from the field of HCI, colour theory as well as results from our experiences as users.

KEYWORDS

Human-Computer Interaction, UX Design

ACM Reference Format:
Ayrton Chilibeck, Eric Kim, Yu Liu, Vedant Talati, and Marcus Wilson. 2024. CMPUT 302 Deliverable 2. In *Proceedings of (CMPUT 302 '24: Illumia Labs).* ACM, New York, NY, USA, 3 pages. https://doi.org/N/A

1 INTRODUCTION

We evaluated the Illumia Lab's *Scenario Builder* for

2 SYSTEM FLAWS

During our exploration and use of the system, we encountered problems in the UI, the program functionality and the documentation of the program. We outline the most important findings in the following sections.

2.1 UI

Our results from UI analysis are largely cosmetic, but the current state of the software impedes effective use of the system by the end users. The layout of the system does not efficiently show the information in a given scene and the process of changing a scene takes a large amount of work from the user. Additionally, the system does not have clear indication of the correct user actions and fails to introduce the user to the potential actions at any given point in the scene building process.

2.1.1 Colour-Scheme. The current colour scheme (Purple (`#07012F`), Blue (`#0191FD`) and Red (`#FC5C00`)) is jarring to the eyes. The literature establishes that red and purple are particularly hard for users to look at for extended periods of time [6].

2.1.2 Tab Display. The current display of tabs in the scene builder fails to effectively show the user the state of the program. Tabs for each scene do not give the user context on the scene's purpose or the information contained therein. The preview pane attempts to mitigate these shortcomings, but the scene-graph display is lacking in relationships to other scenes.

2.1.3 Preview Pane. The alignment in the preview pane is poor, in addition to an absence of dynamic sizing of the screen (for mobile and re-sizable web pages) the utility of the data presented is questionable.

2.1.4 Ease of Use. Building a scene currently takes a minimum of 9 clicks. Although the community has debunked the '3-click rule' [3], the importance of ease of access for information is still paramount in design. Current research into the concept of 'Interaction Elasticity' [5] rather enforces the significance of eliminating useless interaction. Currently, the scene builder presents the user with a great deal of useless interaction in the form of these clicks.

2.2 Functionality

The website currently has a number of usability-impacting, unimplemented features. We list the systems impacted here.

2.2.1 Saving. Currently, the system does not allow for saving of a scene or working on a previously saved scene. This prevents the user from creating a well-though-out, well-crafted scene.

2.2.2 Avatar. The use of an avatar does not feel necessary to the development of a scene, and the stated requirement in the builder is not reflected in the business logic.

2.3 Documentation

In general, the builder lacks documentation. A number of terms and interactions with the software are not explained by the user's interactions with the program.

*All authors contributed equally to this research, and are listed in alphabetical order for simplicity

CMPUT 302 '24: Illumia Labs, January 2024, Edmonton AB

ACM ISBN N/A
https://doi.org/N/A

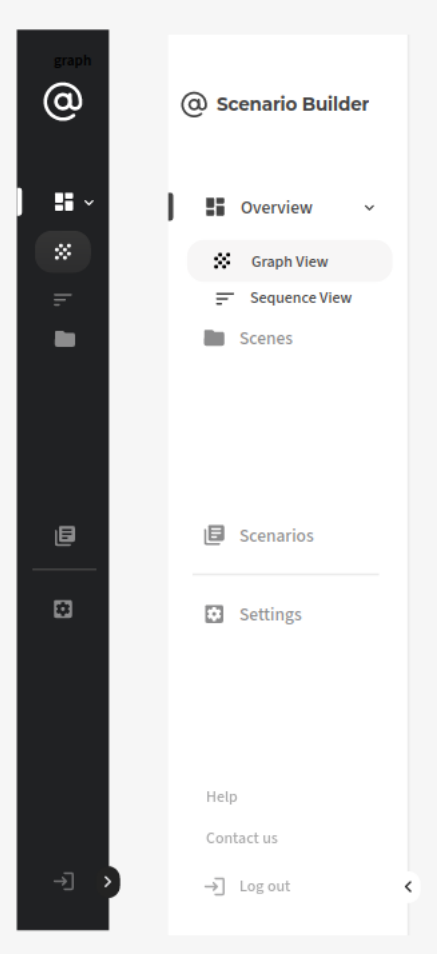

Figure 1: A prototype sidebar navigation system.

3 REMEDIATIONS

We propose a number of possible solutions to the problems mentioned above that will improve the usability of the application and touch on additional, smaller problems that we neglect to mention in this report, but are nonetheless important.

3.1 UI

We suggest a sidebar-based UI such as pictured in Figure 1. This UI paradigm will provide the user with more information on any given scene in the program and allow the user to recognize the full state of the program at a glance without wading through screen after screen of data.

When combined with an information page for the selected screen (or the graph view of connections between scenes), we can give the user a more granular view of the data. It is important to note that this type of modification is an overhaul of the frontend design for the website, so the transition will not be easy but the application of this type of UI is well loved in modern UI design [4] [2] [1]. Adding the flexibility for the user to navigate to any scene in a single click will then reduce useless interaction with the program, bettering the user experience.

This type of UI will also make user error handling more visible to the user. Instead of using the single exclamation point, we can highlight all the fields invalid data in the associated page and provide a clear message to the user with respect to the nature of their violations all on one screen. We can also highlight the issues in all scenes by highlighting nodes on the sidebar as required. This way, the user does not need to chase every bug individually and can rather see where every bug is without having to perform trial and error modifications.

3.1.1 The Scenarios Folder. You will notice in the mockup that we have added a scenarios folder, this serves to give the user a space to switch between different scenarios they are beginning to develop and possibly to store other scene elements they use frequently. This will require the implementation of the saving system, but will improve the user's ability to reuse gode as required.

3.1.2 Log Out. The sidebar also contains a Log-Out button, it is assumed that eventually the avatar will be associated to the user in order to create some kind of account for the user to log in and out with. This would be an easy way to implement this feature.

3.1.3 The Scenario Page.

3.2 Functionality

3.3 Documentation

4 SUGGESTED ROADMAP

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4.1 Scene Representations

4.2 Documentation

4.3 Effective UI

4.4 Color Scheme

5 CONCLUSION

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6 ACKNOWLEDGMENTS

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APPENDICES

A RESEARCH METHODS

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B ONLINE RESOURCES

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