Synthesizing UI Design Trends via Analysis of Controller-Based Video Game Menu GUI

Brendan H. Contreras
California State University Stanislaus
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Introduction

The User Interface (UI) of software is the visualization of the computer's functions that interacts with the user so that the two can communicate with each other. The design of the UI of any good piece of software must be carefully and methodically structured in order to give the user the best and easiest experience possible as they learn how to use the functions of the software. It is absolutely crucial to have a good UI, so understanding what choices will make for good UI is handy knowledge.

Trends and similarities can be found among different sets of UI that were responded to positively, which suggests that there are common elements in the design of UI that users will more likely respond well to. The best way to discover these trends is to examine the real feedback from users on the designs of real UI, and so to provide the largest sample of software feedback that is the most readily available, video game menu designs will be examined.

Background and Literature Review

The history of UI starts with the Command Line Interface, which was a terminal on a monitor that displayed written commands typed by the user. The system worked, so long as you either had the manual or the memorization on how to use it, but as time moved forward, there was a dramatic shift into the Graphical User Interface (GUI). Unlike its ancestor, GUI's used actual

“pictures” and real-time interactions with a mouse and keyboard, and made computers far more approachable for most people. GUI’s took the computing world by storm because users want the UI to be easy and intuitive to use 1(Westerman, 1997).

With this want in mind, there must be systematic requirements that go into the design of good UI, and then the question is how to achieve that intuitive design. This itself has been documented in a broader sense before 2(Frishberg & Convertino, 2020), and articles like this want to broadly discuss the design of UI and the user experience from the developer’s point of view. The main focus throughout is how to improve the user experience and communicate to the user via the UI, and thus it is the user feedback that is the most powerful design tool of future UI 3(Roth, 2015).

Research Question

The basis of this all-encompassing study can be researched through a medium that young adults, those that most frequently use computers and software, are extremely familiar with: video games. It may seem silly at first, but video games are software as well, so a study into the GUI of video games can share great insight into what young adults respond well to in GUI design in more than just video games.

From this, the data can be applied more broadly so long as great care is implemented in the methods of the study to ensure that the selected GUI is not too field-specific, and so the menus of video games will be observed, since this is the most similar to general forms of software GUI. Therefore, the question is proposed: what design elements, in terms of placement, shape, color,

etc., of video game menu GUI improve overall user experience for controller-based input in comparison to design elements that hinder user experience?

Significance

It must be stressed that the UI is just as important in the design of software as its services and function. the UI is the way in which the user interacts with the system and its functions, so bad UI will lead to a bad experience of the user 5(Stone et al., 2005). A good software has to be approachable and look simple enough to learn quickly and use without hassle, or else the software will simply not last.

In short, the end goal of any good UI is to be easy to learn and use, so any and all knowledge as to how to design that UI is vital.

Methods

This study will collect qualitative data on the overall responses of selected menu GUI designs, and will implement the review analysis algorithm OPINE to define and capture positive and negative feedback 4(Popescu et al., 2005). Based on the overall comments and criticisms collected, the GUI will be rated by its response and intuition. The following websites will be searched for reviews and discussions on the selected GUI's: IGN, Gamespot, Metacritic, GameInformer, Youtube, and Steam.

The participants of this study are of the players who commented or posted reviews on the discussion forums of the selected websites, and the websites themselves who are hosting the professional reviews that will be examined.

There will be four professional reviews for each selected GUI, as well as at least 25 comments that mention the GUI. The selected GUI's are from the following games: Halo: Combat Evolved, Dark Souls, Hollow Knight, and Risk of Rain 2.

Each game will have subsections dedicated to individual design elements in their GUI, selecting at least five distinct elements, which will have two lists of criticisms or comments: a general list with all comments found, and the second list focusing on intuitive design. A point will be placed next to each of these comments to mark if it was a positive or negative criticism, and its frequency. The design element will be marked overall as good or bad design, and intuitive or unintuitive. The process will be repeated for each selected GUI. Lastly, all elements will be compared to find elements that are roughly similar, and the criticisms of these elements will be compared to find consistencies.

Figures & Charts

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Contact Information

Brendan H Contreras

CSU Stanislaus Honors Program

Email: bcontreras6@csustan.edu

Phone: (209) 606-4853