

Inspecting the Usability Issues of *Fortnite: Battle Royale*'s Graphical Interface

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1 ABSTRACT

The 2017 video game *Fortnite* developed by *Epic Games* is one of the most popular battle royale game across the globe. Albeit widely receiving positive reviews, there are players complaining about the game's graphical interface. To investigate what gives the players bad experience, we conducted a usability research targeting on new players to this game. The players would be asked to play the game for a short time, then take surveys to reflect their experience about the game's graphical interface. By analyzing the collected data, we could gain guidance on possible improvements of *Fortnite*'s UI design, as well as insights for similar games in the future.

2 Introduction

In 2017, *Epic Games* released their online video game *Fortnite*. The game became a huge financial success quickly after being released, reaching over 10 million players within two weeks [Wik24, Tay10]. Among its various game modes, *Battle Royale* which is a competitive survival game mode, turns out to be the most popular one. [Wik24].

Albeit widely receiving positive reviews, there are players complaining about the game's graphical interface design. Some says that “*Epic* is intentionally inducing players into other game modes” [bt123]; some says that the UI design “is mobile-first” and “lacks proper beta tests because players definitely won't like it” [Red23, Pal23].

There are more issues with the in-game HUDs, which are used to deliver the players important information (e.g. HP, location, inventory) or indicate the interactable elements in the game world. Since there is too many information on the screen at the same time, the UI feels too complex and confusing. This complexity seems to disproportionately affect novice players, making the learning curve steep and often overwhelming. The game does not feature a tutorial system to guide the players. Some players might feel lost in their first round of battle, as they are unfamiliar with the goal of the *Battle Royale* mode. Also, some important systems

of the game (like the building system) could be totally missed by new players. This is because there is no in-game guidance introducing these systems to the players. The only way for players to discover them is by observing other players using these mechanics during live gameplay. But by the time they need to use the system themselves, they still don't know how to do it.

The problem we aim to address is the usability of *Fortnite*'s interface for new players who are unfamiliar with the game. By interfaces, we mean the game lobby, menus, and HUD. Our study will focus on the learnability aspect of usability, as the challenges experienced by novice players are likely linked to their ability to learn and navigate the game's interface effectively.

3 Related Work

Beside of players' disputes, the graphical interface of a video game is often discussed from two opposite aspects in academical literatures. One aspect stands on the players' subjective stance and tries to analyze the players' experiences; the other aspect evaluates the graphical interface by applying general design principles.

Player-centric

The earliest usability studies on video games could be traced back to the beginning of the 2000 decade.

S. Cornett's study in 2004 examined usability challenges faced by new players of MMORPGs, the results of which showed that huge improvements for players that are not familiar with the target genre could be done [Cor04].

In H. Fricker's study in 2012, players were asked to play a collection of high-rated FPS games for a week-long period [Fri12]. Follow-up surveys yielded some useful understandings of certain UI features used with the FPS game that players found the most helpful. We will try to follow these understandings in our research.

E. Bergman and T. Hermansson's research in 2023 specifically studied the effect of one particular form of in-game GUIs—Head-up Display (HUD)—on game immersion [BH23]. A group of experiment participants were asked to play *Fortnite* while their biometric data were being measured. The results showed no significant effect of the choice of HUD design on game immersion, but the players' subjective rating were affected by the design.

Design Principle-based

Speaking on the general design principles, J. Nielsen has proposed a set of heuristics back in 1994 [Nie94]. His work compared several published set of UI usability heuristics to determine what heuristics explain actual usability problems best.

In 2008, usability heuristics on game UI started appearing. Pinelle *et al* collected a wide range of game reviews and developed 10 usability heuristics based on the coded categories [PWS08].

Desurvire and Wiberg furtherly proposed a more refined and complete list of heuristics on game play in 2009 [DW09], called *Heuristics of Playability* (PLAY) which can be applied game development to aid game developers in usability/playability research during the development cycle.

Similar to [BH23], Fagerholt and Lorentzon tried a constructive approach by studying preliminary academic literatures in various related fields and formulating hypothesis how player immersion is connected to the user interfaces [FL09]. After evaluated by user studies and user tests, they proposed a set of guidelines that cover different aspects of the designing of an FPS game.

4 Method

We ask players with no prior experience playing *Fortnite*. Participants would be asked to perform two tasks:

1. Play Session: We ask participants to play a full round of Battle Royale mode in *Fortnite* game. This takes about 20 minutes in total.
2. Survey: After the end of the play session, we send players a link to an online survey. Refer to Table 1 in the appendix for the survey questions.

The survey begins with general questions to understand the participants' gaming backgrounds and preferences.

We then will move to questions focused on their perceptions of different usability elements in the game, such as how easily they were able to navigate the game menus, how quickly they could find the information they needed on the screen, and what percentage of the interface elements they believe they understood.

To gain deeper insights, we will include more detailed questions, about specific graphical elements on the game screen. Participants will be asked to explain the meaning and usage of these elements to verify their understanding.

After all data is collected, we will analyze it by coding the player responses into categories. Then we will discuss on each topic to see how they are reflected in the game and compare them to usability and design principles proposed by other researchers preliminarily.

5 Results

After the survey data is collected, we applied qualitative method on it by analyzing the important information and coding them into key themes. Below are the codes we've found in the data.

Lacking Clarity

"I don't know what this symbol mean. I don't know how to use that thing."

Difficulty on Finding Information

"I couldn't find that info that I was looking for."

Simplicity/Minimalism

"Too much info that I didn't even look..."

Lacking Guidance

"I was looking for tutorials in the game but I couldn't find them."

"I learned that by watching a quick tutorial on youtube."

"I learned that by other players doing it."

Enjoyment

It's interesting because even the players that complaint so much about the game, had a few moments of enjoyment.

"I enjoyed the game the second time I played. Doing that thing was so cool."

6 Discussion

Inspecting through all the pre-existing heuristics in academical literatures, we found that, surprisingly, Nielsen's work in 1994 [Nie94] matches our result best. After furtherly analyzed our results under the direction of Nielsen's heuristics, we recognized three major aspects where *Fortnite: Battle Royale*'s designers could work on to improve plaer experience.

Visibility of System Status & Consistency

The game's interface fails to deliver information to players clearly and consistently. Certain symbols or icons are confusing to players, making them uncertain what the data appearing on screen means. Sometimes, the information players are looking for couldn't be easily found with one spot. These would cause unnecessary difficulties for new players who are yet unfamiliar with this game.

Recognition Rather Than Recall & Help and Documentation

It is adviced that an user interface should minimize the user's memory load by making elements, actions, and options visible; that is, to let users recognize, rather than recall. It is so obvious that the game heavily relies on letting users recall. There are little visual guidance or official documentation provided within the game. Players would often need to seek for external help such as video tutorials to learn vital mechanisms. It would certainly augment the friendliness towards new players of the game if the development team could add proper guidance elements.

Aesthetic and Minimalist Design

Interestingly, the results include mixed opinions regarding the game's information density. While some players feel overwhelmed by the amount of information presented, others appreciate the complexity. This divergence shows that there is a balance between the simplicity of the game interface and its richness. The game designers should take more care on thinking what's really needed for the game, and what could be hidden under the sublevels of the graphical interface. It is also possible to implement an adaptive UI system that could be customized based on players' preferences or level.

7 Limitations and Future Work

This is a small research project with a short time window for about one month. There certainly are some aspects which the research team wanted to but didn't have a chance to explore.

- Sample size and demographics: Our research only reached to a small group of players. Their ideas might not be able to fully represent the full spectrum of *Fortnite*'s player base. Although there is no standard of how big the sample needs to be in order to be qualified to represent the entire spectrum, it is always welcomed for future researchers to expand the base as much as possible within the range of their ability.
- Methodological constraints: Our research is based on survey questions. This approach, while informative, may not be able to capture the full depth of players' experiences, especially the ones that were generated during gameplay. If combined with other researching approaches, e.g. a think-aloud protocol, we could get grasp of a more complete view of players' experiences.
- Lack of longitudinal perspective: Our approach only focus on the first rounds of battle of new players, but as the players keep playing the game, their perceptions might evolve over time as they become more familiar with it. Future researchers could conduct longitudinal studies on a selective sample of *Fortnite* players.
- Absence of comparative analysis: It's hard to say whether these issues are unique to this title or common across the genre without comparing *Fortnite* to

other battle royale games. The easiest way to test this, we think, is to perform a quasi-experiment to test out if the addressed issues exist on other games of the same genre.

8 Conclusion

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10 Appendix

No.	Question
1	Have you played any battle royale games (like <i>PUBG/Unturned</i>) previously? How familiar are you with this genre/mode?
2	What's your thoughts on <i>Fortnite</i> based on your first round of play?
3	Have you played any battle royale games (like <i>PUBG/Unturned</i>) previously? How familiar are you with this game mode?
4	Were you able to find the <i>Battle Royale</i> mode easily?
5	What weapons/props have you used in the play?
6	Did you build any structures in the game? If yes, how did you learn the building mechanic?
7	Were you able to find the information you need easily on the screen?
9	Did you find the on-screen signs and elements easy to understand?
10	[Show a picture] Could you briefly explain the meaning of each of these numbers in this picture? How did you learn them?

Table 1: The questions used in the survey.