M7.450 - Design of user experience and interfaces

Project Zomboid's usability and accessibility report

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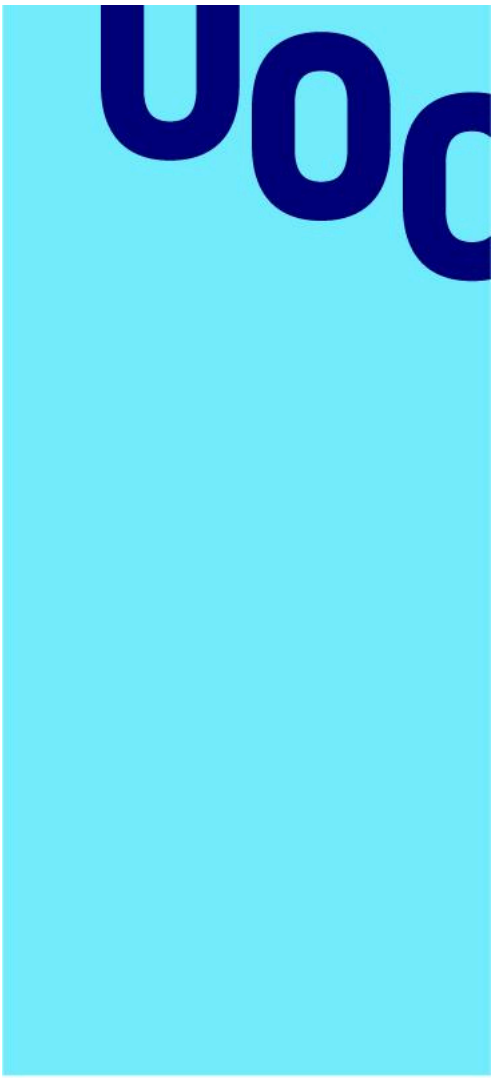

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1. Game introduction and description

Game Overview

Project Zomboid is a sandbox and zombie survivor simulator video game developed and published by The Indie Stone[1]. Launched in 2013 as an early access title, it has created a dedicated community and continues to evolve through updates and workshop modding. The experience is primarily set in a post-apocalyptic and fictional United States overrun by zombies in the 90s. The players, alone or in multiplayer, can build up the character they want to play by choosing their based careers and skills, and must survive against the adversities by searching for supplies, building fortifications, and managing their character's health through realistic ways of surviving.

Genre

Project Zomboid tags are: open-world, sandbox, survival, and zombie game, making a rich mix of role-playing, simulation and strategy. The gameplay is characterized by a fixed isometric perspective, with pre-rendered graphics, that let players interact with the different environments and manage many mechanics, including hunger, fatigue and entertainment. The game also features ‘permadeath’, meaning that once a player's character dies, they must start over, adding an intense layer of challenge and immersion to the experience.

Why Project Zomboid

I have chosen to analyze Project Zomboid’s usability and accessibility due to its unique approach to an extreme survival gameplay and its emphasis on realistic player choices and strategies. This is a really ambitious game: it incorporates a wide range of mechanics that require users to make thoughtful decisions really fast in a wide variety of situations, and most of those happens inside its menus and inventory. This complexity presents an interesting opportunity to evaluate how intuitive the game's interface is and whether it accommodates players of varying skill levels.

[1] Project Zomboid - the ultimate zombie survival RPG. (2022, October 21). Project Zomboid. https://projectzomboid.com/blog/

2. Usability and accessibility analysis

Learnability

When you first open the game, Project Zomboid provides you with a tutorial and a “survival guide” (screenshot on exhibit 5.1.) that shows you basic skills such as healing a wound or firing a firearm. However, the player needs a lot of information to learn in order to be able to handle other situations that the game does not explain. This ‘infodump’ can push players to seek external resources instead of utilizing in-game information, getting worse the learning experience. On the other side, the controls are similar to standard top-down genre conventions, which can help new players get used to the game. However, trusting on memorizing essential hotkeys adds to the cognitive load, as players must remember numerous keybindings to succeed.

Simplicity

The UI presents a paradox in simplicity. On one hand, the design features solid lines, text, and a black background, creating a straightforward aesthetic (although difficult to identify between sections). On the other hand, the arrangement of windows and information can feel cluttered and overwhelming, leading to confusion for players trying to navigate menus. While the game effectively maintains a windows-like HUD, it simultaneously imposes a significant cognitive load on players, who must remember keybindings and essential game mechanics. Also: the controls are not as simple as they could be; some actions require experimentation to discover whether a key should be clicked or held.

Efficiency

Project Zomboid is overwhelming by the need for players to manually open menus when character status changes occur. For instance, if a character is injured, players must navigate through menus to access the health window, disrupting the flow of gameplay. Although inventory management allows for bulk selections, which is a positive aspect, the overall process could be streamlined further; allowing players to make their own automations or inventory presets.

Aesthetics

As mentioned before, the UI aesthetic is consistent and complemented with diegetic feedback (player animations and contextual sounds). While the game features a windows system design that led players to perceive most of the game states, it does not effectively convey critical information through alerts or notifications when character actions result in damage or item degradation. This absence of feedback can lead to confusion and frustration among players, detracting from the immersive experience.

Moreover, the interface lacks visual cues indicating which items are interactable, leaving players uncertain about their options. The graphics and sound effects are adequate, specially the animations, which create good feedback of the user's action together with a progress bar.

3. Improvement proposals

3.1. Crafting Menu Improvement

Problem

The crafting menu is not intuitive, leading to confusion and frustration for players. The filtering system displays results based on item states (e.g., open/closed umbrellas), resulting in repetitive listings and making it challenging for players to locate necessary crafting items (screenshot on exhibit 5.2.).

Context

This is a common mechanic in survival games. Players often rely on a crafting menus to create essential items to face the encounters the game can offer, usually giving this way a sense of progression.

An intuitive system is crucial for maintaining engagement and immersion in the game. When players encounter a cluttered menu, it detracts from their experience and may lead them to abandon crafting mechanics and find items they need around the world directly. This is the case of Project Zomboid (without mods).

Forces/Influences

- Players expect a straightforward crafting experience, similar to other survival games.
- Needs balance between complexity in crafting options and usability.
- The demanding survival gameplay pushes players for quick responses, but the menus do not offer fast access to information and actions.

Solution

Redesign the crafting menu to incorporate a more intuitive filtering system that let players decide if it displays relevant items based on player inventory or not. Also, I would ignore the item's state (actually, this may be a bug of the current game build, but there is no official information about this topic). Additionally, it could provide contextual tooltips that describe what items when are needed for specific recipes and where to find them, helping this way players locate necessary components easily.

Justification

This improvement would reduce cognitive load on players, allowing for quicker access to crafting options. By providing clear results and tooltips, players would spend less time navigating menus and more time engaging with the core mechanics of the game. Making the crafting system feel more responsive and less frustrating, it would become an important mechanic in the game that users will want to use more frequently.

Examples

Many successful survival games, such as *Don't Starve* (Klei Entertainment) or *The Forest* (Endnight Games), feature streamlined crafting menus that clearly display available recipes based on player inventory and context, allowing for a more efficient crafting experience.

3.2. User Interface Size Customization

Problem

Players cannot adjust the UI size if it is not changing the font size, which is not intuitive and does not modify the resolution of all the visual interface elements (screenshot on exhibit 5.3.).

This lack of UI customization drives away players with visual difficulties or those who simply prefer larger HUD elements. Moreover, icons always maintain the same resolution and can not be scaled. This is a real problem taking into account the ever greater diversity of market resolutions[2].

Context

A diverse player base includes individuals with varying visual capabilities. As accessibility in gaming becomes increasingly important, offering customization options ensures all players can enjoy the game without straining to see crucial information.

Forces/Influences

- The need for inclusivity and accessibility in gaming experiences.
- Balancing visual aesthetics with functionality and readability.
- Players may have different preferences for UI visibility based on their gaming setup (e.g., monitor size, distance).

Solution

Implement a UI customization option that allows players to independently adjust the size of interface elements, including icons, menus, and HUD components. Provide preset options (small, medium, large) and a slider for fine-tuning.

Justification

Allowing players to modify the UI size will enhance accessibility and usability, targeting to a broader audience. This flexibility promotes an inclusive gaming environment where players can tailor their experience to their individual needs and preferences. Sounds obvious but, as Ian Hamilton (2017, p. 133) mentions in a statement for “The Gamer’s Brain” book[3]: “Accessibility is a hugely important field for our industry [...] according to government data, around 18% of the population has some kind of disability.”

Examples

Games like *World of Warcraft* (Blizzard Entertainment) and *League of Legends* (Riot Games) offer extensive UI customization options, allowing players to modify elements to suit their preferences, significantly improving their overall experience.

[2] Steam Hardware & Software Survey: September 2024 (s. f.): https://store.steampowered.com/hwsurvey/Steam-Hardware-Software-Survey-Welcome-to-Steam
[3] Hodent, C. (2017). The gamer’s brain. En CRC Press eBooks. https://doi.org/10.1201/9781315154725

3.3. Action Feedback System

Problem

The game lacks effective alerts or notifications when the character's body or its cloth receive damage (screenshot on exhibit 5.4.), resulting in players being unaware of critical status changes. There are no differences between the type of damage: whether you receive a small scratch or a large bite, the symbol of the health menu moves a little and that's it, not letting the player know the seriousness of their character's condition.

Context

Feedback is essential in any game, as it informs players about the consequences of their actions and the state of their characters and items. The absence of clear alerts can lead to confusion and negatively impact gameplay immersion. It is important to note that these frictions can also be fixed with workshop mods, but this should not be a justification to ignore this problem in the game base as a built-in feature.

Forces/Influences

- The need for players to be aware of their character's status to make informed decisions.
- Balancing visual and auditory feedback without overwhelming the player.
- Ensuring that feedback aligns with the game's survival theme.

Solution

Implement a notification system that provides visual and auditory feedback when significant events occur, such as character injuries or item degradation. Use color-coded alerts (e.g., red for damage, yellow for warnings), icons and sound cues to signal these changes. Icons could appear near the HUD to indicate changes in the character's items status apart from those of himself.

Justification

An effective feedback system will enhance player awareness and immersion, allowing them to respond to threats and manage resources more effectively. It would also avoid player frustration, because as it stands now it frustrates players to realize they have been stuck with a setup they do not want for who knows how long. This aligns with principles of usability by ensuring players can easily recognize and react to critical game events.

Examples

Games like *Dark Souls* (FromSoftware) and *The Last of Us* (Naughty Dog) effectively use visual and auditory feedback to convey character status and events, keeping players engaged and informed about their surroundings and what happens to their character, which contributes to their overall experience.

4. Conclusion

My experience with Project Zomboid is limited, but I know several individuals who are deeply passionate about the game and fully immersed in its world. This exploration led me to question why I haven't connected with its complex mechanics in the same way. Through this analysis, I've come to realize that a significant factor is its usability and accessibility; the game does not facilitate an easy playing experience. In fact, the roughness of its design aligns with its survival theme, often making it more challenging for players to engage fully.

While I appreciate that the developers aim to evoke a sense of challenge, and I recognize the limitations they face as a small team, I believe the game would greatly benefit from implementing the “quality of life” improvements discussed in this report. By doing so, they could expand their audience, attract new casual players, and alleviate frustration for existing fans.

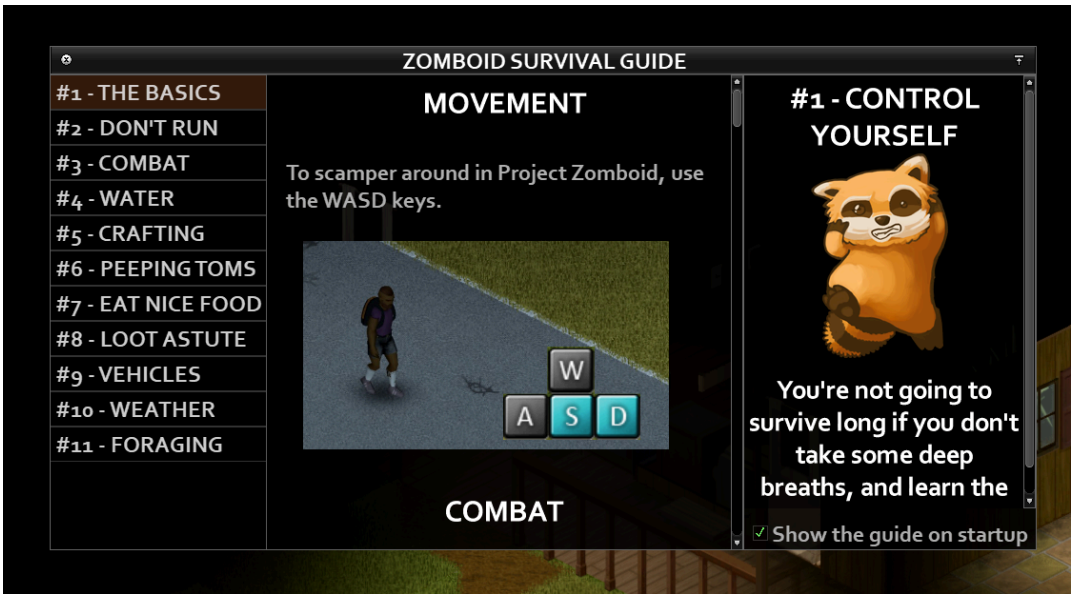
At times, the game feels overly realistic, while other moments veer into the fantastical (such as being able to save a microwave item into your pocket). Striking a balance between these elements could create a more cohesive and enjoyable experience for all players.

Project Zomboid boasts an enthusiastic community, and the various mods available significantly enhance the user experience. However, this flexibility should not overshadow the need for the core game to meet higher standards of usability and interface design. Given its growing popularity in recent years, it’s crucial that more effort and resources are dedicated to game testing and optimization.[4]

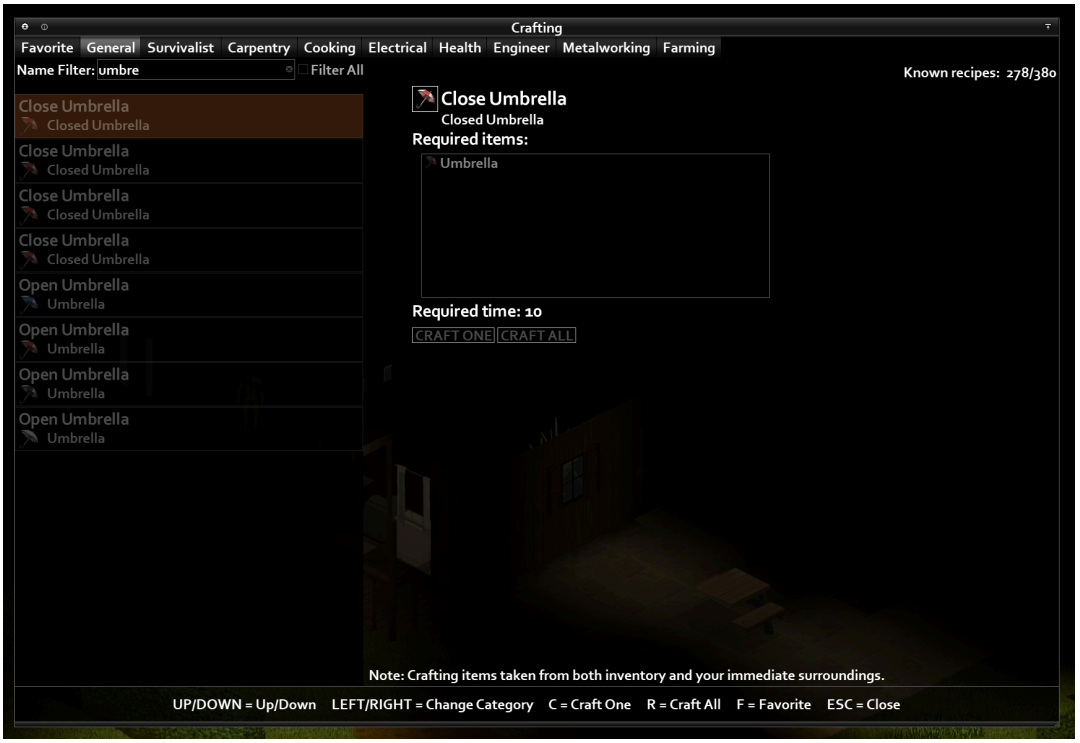
[4] AI-Refined Text.

5. Exhibit

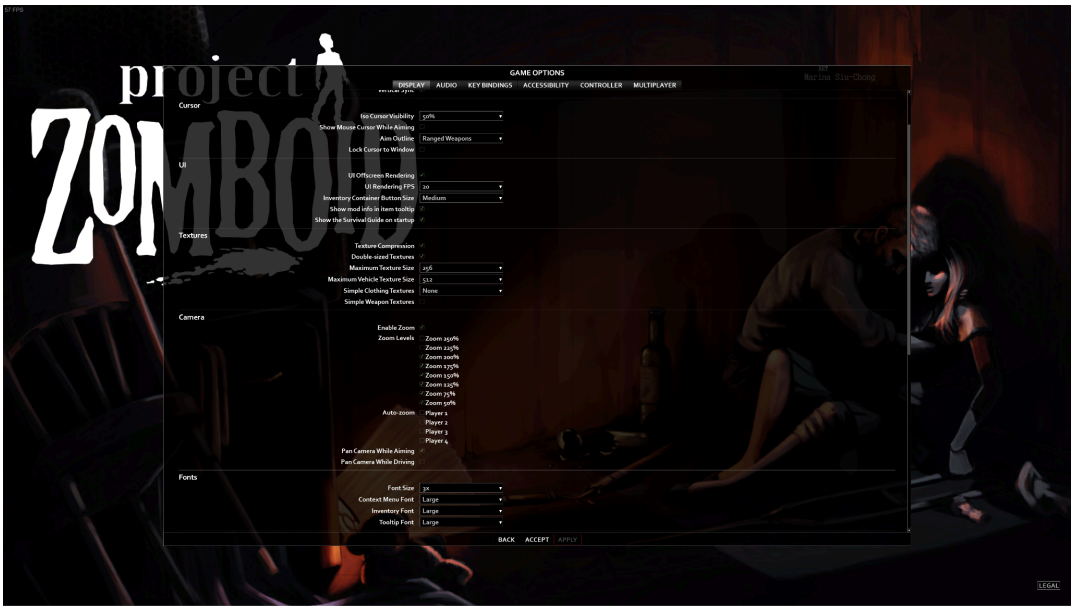
5.1. Survival Guide



5.2. Crafting system



5.3. UI size customization options



5.4. Cloth inspection