Tampereen yliopisto

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PLAYER-CENTERED USABILITY AND UX ANALYSIS OF CROSSFIRE'S MAIN MENU INTERFACE

Master's Thesis in Technology
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Toni Rajamäki: Player-centered usability and UX analysis of CrossFire's Main menu interface
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Tämä tutkimus pyrkii tutkimaan, miten käytettävyyteen liittyvät ongelmat vaikuttavat pelaamiskokemukseen, keskittyen erityisesti CrossFire-pelin päävalikon käyttöliittymään. Tutkimus pyrkii parempaan käsitykseen siitä, miten nämä ongelmat vaikuttavat pelaajiin eri tavoin heidän kokemustasonsa perusteella pelissä. Tutkimus selvittää sekä aloittelevien että kokeneiden pelaajien kohtaamia ainutlaatuisia haasteita ja kuinka heidän näkemyksensä voivat auttaa parantamaan käytettävyyttä.

Tietojen keräämiseksi tutkimus käytti käytettävyystestejä, käyttäjäkokemuskyselyitä ja strukturoituja haastatteluja, tarjoten sekä määrällistä että laadullista tietoa. Tämä tieto tarjoaa arvokkaita oivalluksia vastatakseen kolmeen keskeiseen tutkimuskysymykseen.

Kuusi osallistujaa, joista kolme oli aloittelijoita ja kolme kokeneita pelaajia, osallistui kolmeen vaiheeseen, joissa käytettiin edellä mainittuja menetelmiä. Sekä kokemattomien että kokeneiden pelaajien yhdistelmä tarjosi arvokasta palautetta siitä, kuinka intuitiivinen, toimiva ja käyttökelpoinen pelin käyttöliittymä on. Tutkimuksen tulokset viittaavat siihen, että käytettävyyteen liittyvät ongelmat voivat estää uusia pelaajia ja aiheuttaa turhautumista kokeneille pelaajille. Tutkimus ottaa huomioon nämä moninaiset näkökulmat luodakseen konkreettisia parannusehdotuksia.

Avainsanat: Käytettävyys, Pelaamiskokemus, Käyttöliittymä, Aloittelijapelaajat, Kokeneet pelaajat, Pelaajan retentio, Crossfire, Käyttäjäkokemus, Käytettävyystestaus.

ABSTRACT

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This study aims to investigate how usability issues impact the gaming experience, more specifically focusing on CrossFire's main menu interface. The study attempts to gain a better understanding how these issues affect players differently based on their experience level with the game. It explores the unique challenges faced by both novice and veteran players and how their perspectives can ultimately help us to improve usability.

For data gathering, the study utilized usability tests, user experience questionnaires and structured interviews, providing a good mix of quantitative and qualitative data. This data provides valuable insights to address the three core research questions.

Six participants, including three novice and three veteran players participated in three staged sessions consisting of before-mentioned methods. A good combination of inexperienced and experienced players provided valuable feedback on how intuitive, functional and usable the game's interface is. The findings of the study imply that the usability issues can deter new players from the game as well as frustrate the current veteran players. Study considers these diverse viewpoints to create specific improvement proposals.

Keywords: Usability, Gaming Experience, User Interface, Novice Players, Veteran Players, Player Retention, Crossfire, User Experience, Usability evaluation.

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PREFACE

I would like to thank my thesis supervisor Markku Turunen for valuable feedback and guidance with my master's thesis. I would also like to thank all the volunteers who participated in this study as well as my family and friends for their support.

Tampere, 26.11.2023
Toni Rajamäki

LIST OF SYMBOLS AND ABBREVIATIONS

UI - User Interface
UX - User Experience
FPS - First-Person Shooter
OBS – Open Broadcaster Software
GP – Game Points, in-game currency that can be earned by participating in game.
ZP – Z8 Points, a premium currency that requires real-world money.
UEQ - User Experience Questionnaire
NEM – Novice–Expert Ratio Method

1. INTRODUCTION

In the world of video games, the influence of UI (User Interface) and UX (User Experience) is undeniable. It does not just make games better; it is a crucial factor in keeping players engaged and coming back for more, ultimately shaping the overall quality of the gaming journey. [1]

The main menu in a video game serves a more significant purpose than merely starting the game. It plays a vital role in guiding players between games, helping them take actions, and leading them into the next gaming adventure. This state between is often underestimated yet it still has greatly affects user immersion. The pacing between game sets the tone for player expectations and influences their choices. [2]

Crossfire, a well-known first-person shooter game, has gained particular popularity in Asia and is one of the most widely played free-to-play titles. Its lasting presence and large global player base make it a worthwhile subject of study. Notably, while the game is widely recognized, its main menu has frequently faced criticism for not matching the game's revenue and global acclaim. [3]

Current studies on UI/UX in first-person shooter game main menu interfaces are limited in scope, with few delving deeply into this crucial component. Moreover, they often overlook the diverse perspectives of players with significantly different experience levels. Therefore, a thorough investigation of the main menu is both justified and promising since exploring such diverse participant viewpoints can reveal unique insights not otherwise obtainable [4]. This research focuses on specific aspects of the main menu interface, with a primary emphasis on the basic functions that most players regularly use. Investigating fundamental functions, such as joining a game or managing in-game loadouts, is essential. Notably, the varying experience levels among participants reveal diverse challenges encountered when performing these tasks, highlighting issues that are perceived differently by novices and veterans [5].

Understanding the impact of usability issues on the gaming experience is not only necessary but also crucial for the game's long-term success and player retention. The findings have the potential to inform improvements in UI/UX design, ensuring a more enjoyable gaming experience for players at all levels by incorporating a variety of user

perspectives [6]. To comprehensively explore these matters, I have chosen three research questions.

RQ1: *How do usability issues in the main menu interface impact the overall gaming experience?*

This is important because it focuses on a key aspect of gaming that influences player contentment. It aids in grasping how a player's initial encounter with a game can mold their overall experience. It also indicates opportunities for enhancing game development, rendering it highly relevant to the creation of greater games. [7]

RQ2: *How does the usability of Crossfire's main menu interface differ between novice and veteran players?*

Question two holds significance for the thesis as it explores how user experience changes with player proficiency. This contrast can reveal design aspects that are universally easy to use or require improvement, providing specific guidance for game developers to enhance their interfaces for a wider player base. [8]

RQ3: *In what ways do the perspectives of novice and veteran users differ and what unique insights do they each contribute to usability findings?*

Question three is important because novice and veteran users offer distinct viewpoints due to their differing degrees of familiarity and skill with the interfaces. Novices might encounter problems that veterans may not even notice, offering new insights into fundamental usability and learning processes. Meanwhile, experts can provide deeper insights into more advanced features and potential long-term usability issues. When combined, these perspectives contribute to a comprehensive understanding of usability.

The implications of this study go beyond academic interest. The findings have the potential to impact game developers and designers, leading to improved usability testing viewpoint, ultimately resulting in more extensive usability issue findings. In doing so, this research attempts to make a practical contribution to the gaming industry, with a focus on improving user experiences for gamers of all levels.

2. THEORY

In this chapter, I begin by discussing traditional usability. Then, I will proceed to examine concept of usability within the context of video games, drawing upon multiple references to gain a more comprehensive understanding. Following this, the chapter explores various methods used to assess usability in games. Subsequently, it examines the importance and components of the user experience in the context of gaming. Chapter also provides a detailed examination of the user experience questionnaire, one of the chosen research methods in the thesis. Finally, I will conclude this chapter with an overview of Crossfire, the game in the study, focusing specifically on its main menu interface.

2.1 Usability

This section starts by providing a brief summary of conventional usability principles. Following this, It will look into the distinct nature of usability in the context of video games. I will then present various perspectives from different authors on the concept of usability in gaming.

2.1.1 Traditional usability

Jakob Nielsen has contributed to the field of usability since the 1980s. In his book [9], he discusses the various aspects of usability. Achieving usability in a product or service necessitates the consideration of at least five crucial dimensions, which can be seen in image 1.

Image 1: *Jacob Nielsen's usability attributes. [10]*

Learnability: How easy is it for users to accomplish basic tasks the first time they encounter the design?

Efficiency: Once users have learned the design, how quickly can they perform tasks?

Memorability: When users return to the design after a period of not using it, how easily can they reestablish proficiency?

Errors: How many errors do users make, how severe are these errors, and how easily can they recover from the errors?

Satisfaction: How pleasant is it to use the design?

Nielsen and other experts in usability emphasize that the importance of these different dimensions vary depending on the use case. For instance, in the case of items like bank ATMs or museum information kiosks, the primary focus might be on facilitating ease of learning. However, in more complicated systems such as airplanes, trains or even powerplants, preventing errors takes precedence, followed by memorability and efficiency. One can envision the dire consequences of failing to remember the correct procedure during a nuclear power plant emergency.[9]

It is worth noting that since the writing of this chapter, the term "user experience" has gained more prominence compared to "usability." Professionals in the field of user experience also consider additional factors like aesthetics, pleasure, and alignment with ethical values when crafting products and services. Nevertheless, it is vital to acknowledge that these aspects of the user experience still rely on a solid foundation of usability. It is conceivable to create a visually appealing product that aligns with the values of the designers, but it may not succeed if it presents challenges in terms of learning, efficiency, or error resilience. [11]

2.1.2 Usability in games

Traditional software usability methods can assist in reducing errors, task failures, and enhancing user satisfaction [9]. While game development often requires adjustments to traditional usability methods to meet specific needs, these methods remain effective in identifying problems and gaining insights into user behavior.

Game usability is distinctly separate from factors such as entertainment, engagement, and storyline. It is often associated with the user interface, emphasizing aspects like learnability, memorability, and understandability, which are considered fundamental for assessing game usability [5]. An effective user interface should be intuitive, efficient, and unobtrusive. Game usability challenges are identified through various evaluation methods. Only after addressing usability concerns can players truly engage, appreciate the narrative, and derive complete entertainment.

In video games, achieving player immersion is paramount for a fulfilling gaming experience. Immersion requires players to reach a "flow state," characterized by heightened focus, creativity, and maximum enjoyment. In the context of gaming, "flow" signifies a state where players become energetically engrossed, leading to a shift in their perception of time and self. [12]

Game usability is a relatively recent and evolving field with various interpretations. Traditional usability emphasizes efficiency, effectiveness, and user satisfaction in task performance. While many software usability principles apply to game usability, games, especially mainstream ones, should focus on qualities such as flow and enjoyment to offer a superior user experience. [13]

Satisfaction, effectiveness, and efficiency are the most important usability attributes outlined in ISO 9241-11 [14]. Games, however, prioritize player satisfaction over efficiency and effectiveness, as the latter two may not always be applicable. Games are

meant for enjoyment, and completing a game too quickly may diminish the overall entertainment value.

Game developers should aim to create games that players can enjoy for extended periods. Encouraging replayability through different choices in subsequent playthroughs or adding multiplayer modes can help prolong the gaming experience. [15]

Satisfaction is the one attribute in the ISO definition that consistently applies to games. Games are primarily about entertainment, and satisfaction is a fundamental element of their success. Satisfaction is achieved through engaging gameplay, immersive experiences, and enjoyable challenges. Games stand out as the most immersive form of entertainment, thanks to their engaging nature, allowing players to escape reality. Immersion is enhanced when the interface seamlessly integrates into the gaming experience, so players forget they are interacting with a medium. Compelling experiences result from well-designed challenges that provide a sense of accomplishment, adding to the overall fun. [16]

While usability is undeniably crucial for games, it alone cannot ensure a fun and enjoyable experience. Evaluation of game mechanics and gameplay, in addition to usability, is essential. [17]

The research [18] conducted by Pagulayan in 2003 emphasizes the significance of the user experience in game evaluation. Traditional usability methods may not suffice to evaluate usability in games, requiring the measurement of player experiences and attitudes. Parameters such as ease of use, challenge, and pace are utilized for evaluation. Furthermore, easy-to-use controls and interfaces are closely linked to fun, acting as the gateway to an enjoyable gaming experience. Ease of use covers fundamental mechanics, tutorials, camera behavior, in-game interfaces, and intuitive controls. A challenge is also a crucial to gaming enjoyment. Overcoming well-adjusted challenges contributes to the fun factor in games. Developers must ensure that challenges are thoughtfully designed, rather than arising from poor interface or unclear goals. Challenge can be assessed through attitude review processes. Pace, the third measurement highlighted by Pagulayan, determines the rate at which a game introduces new challenges or experiences to the player. An appropriate pace keeps the player engaged while allowing for occasional rest period in fast-paced games. The ideal pacing depends on factors such as genre or the vision that the developers have for the specific gameplay experience. [18]

Some developers primarily focus on game's usability in the context of user interfaces, covering elements like screens, displays, menus, and controls. However, gameplay,

which includes story, mechanics, and interactions, is a separate concern of game usability. Game usability, gameplay, and specific requirements related to game types and platforms must all be addressed for a game to achieve success.

2.2 User experience in games

The video game industry has transformed its priorities, emphasizing the player's experience. This shift recognizes that focusing on the player during game development boosts engagement. Specialized teams have emerged to enhance the player experience, including Community Management, UX Design, and Games User Research. These teams play a vital role in ensuring the game's intended vision is effectively conveyed and experienced by the players. [8]

Another important and relevant term in this context is playability, as it stands out as a crucial aspect, seamlessly connected to the broader concept of UX. It involves how easily and enjoyably players interact with a game, directly impacting their overall satisfaction and willingness to keep playing. Playability goes beyond mere functionality; it entails crafting an experience that is both challenging and rewarding. This ensures that game mechanics, storylines, and interactive elements align with players' expectations and preferences. Prioritizing playability is vital for creating games that are not only accessible to a diverse audience but also captivating enough to maintain interest over time. [21]

UX in game design revolves around comprehending players' psychology, behaviors, and decision-making processes. Game developers use UX to deliver their game vision to players without alterations. Achieving this demands a good understanding of how players think and act. To attain this understanding, developers conduct extensive research to encourage player interaction with the game. This interaction involves initial download or purchase, continued play, and recommendations to others. [11]

Research methods and innovative technologies, such as biometric measurements, are utilized to gain insights into players' emotional responses. The ultimate aim is to create a captivating and user-friendly experience that can hold players' interest for extended periods, establishing UX as a foundation in game development. [24]

UX in game development revolves around evaluating the impact of design choices on the player's experience and providing objective feedback to the development team. This entails asking critical questions regarding game rules, feature sets, areas for improvement, and readiness for release. The UX team's role is to ensure the game's

comprehensibility and enjoyment, guiding the design team in the right direction and keeping the player-game relationship at the forefront. [25]

Distinguishing between UX and UI can be confusing. UX concerns the overall game-playing experience, while UI deals with specific elements that players interact with, such as screens, pages, and visual components like buttons and icons. UX centers on the player's journey through the game, while UI focuses on the appearance and functionality of the game's interactive elements, encompassing sounds and visual effects. Over time, the drive to improve UI has naturally led to an emphasis on enhancing UX. Peter Morville's usability honeycomb has guided UX designers in crafting effective game experiences. [26]

Image 2: *User experience honeycomb [26].*

The significance of UX design in video games cannot be overstated. A distinct and enjoyable user experience is the outcome of a meticulous development process that prioritizes the player. By consistently considering the player's viewpoint, game developers increase the chances of creating an experience that retains players. [27]

UX serves as the link between the game's design and the player, pursuing that the game is not only enjoyable and user-friendly but also aligns with the designer's vision. Video games aim to involve elaborate systems of rules and mechanics that guide players on a journey. UX's role is to make this journey coherent, engaging, and gratifying. The conventional UX approach focuses on addressing user needs, which, in the context of video games, means providing solutions within the game while presenting challenges that are both intuitive to navigate and enjoyable to overcome. [28]

UX in games is a dynamic and indispensable aspect of game development. It constitutes a multifaceted discipline that requires a deep understanding of the player, a commitment to research, and a dedication to refining the game until it meets the high standards of today's gaming community. An effective UX design can help game developers to create immersive and enduring gaming experiences that resonate with players and withstand the test of time. [29]

2.2.1 User Experience Questionnaire

UEQ (User Experience Questionnaire) is a powerful tool for evaluating and enhancing the user experience in various areas, including gaming. It was developed by Martin Schrepp. UEQ holds great importance in usability testing, providing insights into user satisfaction and highlighting areas of improvement. Through structured surveys and assessments, UEQ uncovers the factors of the user experience that may otherwise remain hidden, making it an invaluable asset for game developers and researchers. [30-31]

UEQ offers a comprehensive analysis of the UX, offering a holistic view of how users interact with a product or service. Its versatility is a notable advantage, as it can be applied across different domains, including the complex world of gaming. In the context of games like CrossFire, UEQ plays a crucial role in enhancing the gaming experience by identifying areas where improvements can lead to greater user satisfaction. By focusing on both usability and non-task-related qualities, UEQ provides a well-rounded assessment that captures the functional and emotional aspects of the user experience. [31-32]

UEQ is structured around two essential dimensions: Pragmatic Quality and Hedonic Quality. Pragmatic Quality focuses on usability and task-focused qualities, evaluating how efficiently users can achieve their objectives within the game. On the other hand, Hedonic Quality examines the non-task-related aspects, such as the fun and novelty elements that contribute to overall enjoyment. This division allows better understanding of the UX, encompassing both the functional and emotional aspects. UEQ's structure aligns with common UX models, making it a well-established tool in the field. [30, 32-33]

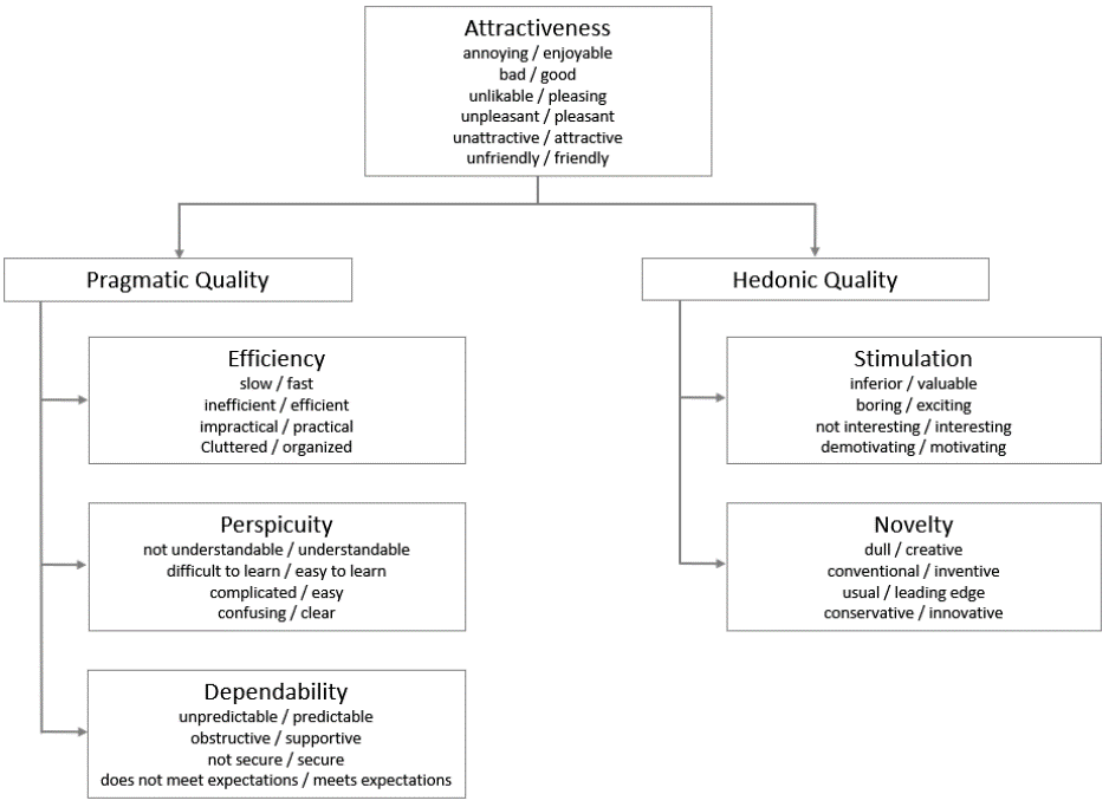

Image 3: *Assumed scale structure of the UEQ [30].*

UEQ assesses the UX through six dimensions: Attractiveness, Perspicuity, Efficiency, Dependability, Stimulation, and Novelty. Each dimension provides valuable insights into different factors of the user experience, focusing on what makes a games engaging and enjoyable. For instance, Attractiveness estimates the visual appeal of the game, while Efficiency evaluates how effectively players can navigate menus and interfaces. These dimensions serve as a compass, guiding game developers in their quest to create immersive and satisfying gaming experiences. [33]

Implementing UEQ in the evaluation of CrossFire involves having test users participate in usability tests and then collecting data on their experiences. Hypothetically, UEQ may reveal that the game excels in Attractiveness and Stimulation but falls short in terms of Efficiency and Dependability. Such findings could lead to specific improvements, such as optimizing menu navigation or enhancing server stability. By using UEQ, CrossFire developers could fine-tune the game to align more closely with player expectations, ultimately elevating the gaming experience. [31]

In short, UEQ offers a robust framework to evaluate and enhance user satisfaction. Its application in games can uncover valuable insights and guide developers in creating more enjoyable and immersive experiences. As the gaming world continues to evolve,

tools like UEQ will play a fundamental role in ensuring that players receive the best possible gaming experiences, ultimately benefiting both developers and gamers alike. [30]

2.2.2 Usability testing in games

Usability testing in games closely resembles traditional testing for various systems, and it is crucial for enhancing the player experience. This testing process includes critical stages such as planning the test, which entails establishing objectives, defining the methodology, selecting participants, and specifying data collection preferences. Additionally, various usability testing methods are available, and the most widely used ones consists of playtesting, user questionnaires, task completion tests, cognitive walkthroughs, and heuristic evaluation. These methods help assess different factors of game usability and identify potential issues impacting the player experience. [19-20]

- **Playtesting**: This method involves observing how players interact with the game in a real-world context, offering valuable insights into the player experience and uncovering usability issues. [21]
- **User Surveys/Questionnaires**: Collecting player feedback through surveys and questionnaires is a straightforward and frequently employed technique for assessing different aspects of game usability. [2]
- **Task Completion Tests**: Assessing how well players can perform specific in-game tasks is a fundamental approach to evaluate usability. [2]
- **Cognitive Walkthrough**: Game designers and experts often conduct cognitive walkthroughs to identify potential usability problems by analyzing the game's interface and gameplay. [22]
- **Heuristic Evaluation**: Experts assess the game's design against established usability heuristics, identifying usability issues based on recognized principles. [2, 21]

Next the focus shifts to participant recruitment, which can be accomplished by various strategies, most common being a well-crafted questionnaire. Then, test materials are prepared, and the test environment is designed, whether in-person or remote. The usability test is then conducted after a dry-run tests to address potential data collection issues. The data analysis phase can be time-consuming and is influenced by the methods used, as well as the size of data. The choice of analysis methods on the other hand depends on factors such as the type of data and the desired insights. Different

analysis methods have unique strengths and weaknesses, making their selection dependent on specific research goals. [20,23]

2.3 Crossfire

CrossFire is a video games known for its tactical first-person shooter gameplay. Developed by Smilegate, the first game was released in May 2007 and has gained significant popularity globally. This thesis will be focusing on the 2007 version of the game. Originally available on Microsoft Windows, the franchise expanded to include titles on various platforms, including Xbox One, Xbox Series X/S, iOS, Android, and PlayStation VR2 for virtual reality. CrossFire is primarily characterized by its objective-based modes, such as search-and-destroy, which add a competitive and strategic element to the gameplay [3, 34].

Image 4: *In-game screenshot from CrossFire (2007).*

Since its inception, CrossFire has undergone several developments and expansions. CrossFire HD was created for the Chinese market, CrossFire Zero targeted Chinese and Southeast Asian audiences with classic and battle royale modes, and CrossFireX introduced a new single-player campaign for Xbox consoles, developed by Remedy Entertainment. The most recent release, CrossFire: Sierra Squad, became available in August 2023, designed for Windows and the PlayStation 5's VR2 headset. Different versions and release years have been collected in table 1. [2, 34]

Table 1: *Different CrossFire titles by year released.*

Year	*Game Version*	*Platforms*	*Notes*

2007	CrossFire	Microsoft Windows	The original release of the series.
2015	CrossFire Mobile	iOS, Android	Also known as CrossFire: Legends, now operates only in China.
2020	CrossFire Warzone	iOS, Android	-
2020	CrossFire HD	Microsoft Windows	A remastered version for China, released in 2021.
2020	CrossFire Zero	Microsoft Windows	Released for China and the Southeast Asian market.
2022	CrossFire Legion	Microsoft Windows	-
2022	CrossFireX	Xbox One, Xbox Series X/S	Included a single-player campaign by Remedy Entertainment.
2023	CrossFire: Sierra Squad	Windows, PlayStation VR2	-
TBA	Codename: Crossfire 0	TBA	Upcoming in the series with no specified release date yet.

CrossFire's success can be quantified by its considerable player count and cultural impact. As of 2023, the game had one billion registered users, with daily player counts consistently reaching into the tens of thousands across its various modes. This large player base has fostered a competitive eSports environment, leading to tournaments and a thriving player community. The game's appeal is broad, owing to its diverse selection of weapons and game modes with customization options, making it accessible to players of different skill levels [35-37]

Developer's commitment to updating and expanding the game's content, as well as its adaptability to new platforms and gaming trends, has contributed to its continued relevance in the competitive gaming market. CrossFire's consistent ability to attract a large player base over an extended period is a proof to its value.

2.3.1 Crossfire main menu interface

The main menu in CrossFire holds significant importance in shaping the initial impression for new players. It serves as the first point of contact and can either captivate users or create doubts depending how it is perceived. This section will present a basic overview of the current main menu interface in CrossFire.

CrossFire's main menu is organized hierarchically, featuring primary tabs such as the black market, item shop, clan, settings, and various other options. However, the depth of sub-menus within this hierarchy presents a challenge, particularly when essential functions like joining a game room require navigating through multiple layers. Evaluating the impact of this complexity on user experience is essential in assessing the overall effectiveness of the interface.

In this section I will additionally be showcasing several images that focus on the interfaces that the typical user frequently engages with while waiting between games. Image 5 provides a glimpse of the main lobby view, which serves as the initial menu when players log into the game. Image 6 showcases the storage interface, where players can modify their loadouts, manage items, weapons, and other utilities. Lastly, Image 7 illustrates one of the various room list interfaces, offering a glimpse into different playable rooms that users can join during their gaming session.

Image 5: *Main lobby of CrossFire.*

Image 6: *Storage interface of CrossFire.*

Image 7: *List of rooms interface in CrossFire.*

The navigation process within the main menu can be cumbersome, particularly for first-time users. Joining a game room, for instance, necessitates traversing through at least four menu layers, which can be both confusing and time-consuming. Understanding the design choices that have led to such a complex system is crucial for identifying potential areas of improvement. Having such a deep hierarchy in the interface navigation poses a significant learnability challenge, which might lead to frustrations later. This

combined with unconventional naming of some primary action tied buttons have serious potential to lead confusion of new players.

3. METHODLOGY

In this chapter, I will be discussing the procedures conducted during the data collection phase and analyses. I will begin by outlining the process of recruiting test users, highlighting the criteria and methods I used for their selection. Then, I will provide a detailed walk-through of the processes. Additionally, I will describe the analytical techniques I utilized to analyze the data gathered during my study.

3.1 Overview of the process

In visual representation provided below in image 8, I have outlined the comprehensive structure of the data gathering methodology used for this study. Followed by this phase three is the data analysis chapter, where I focus on how I completed the analyses for each of the method used in data gathering. The methodology is systematically organized into three distinct phases, each contributing to the overall research process:

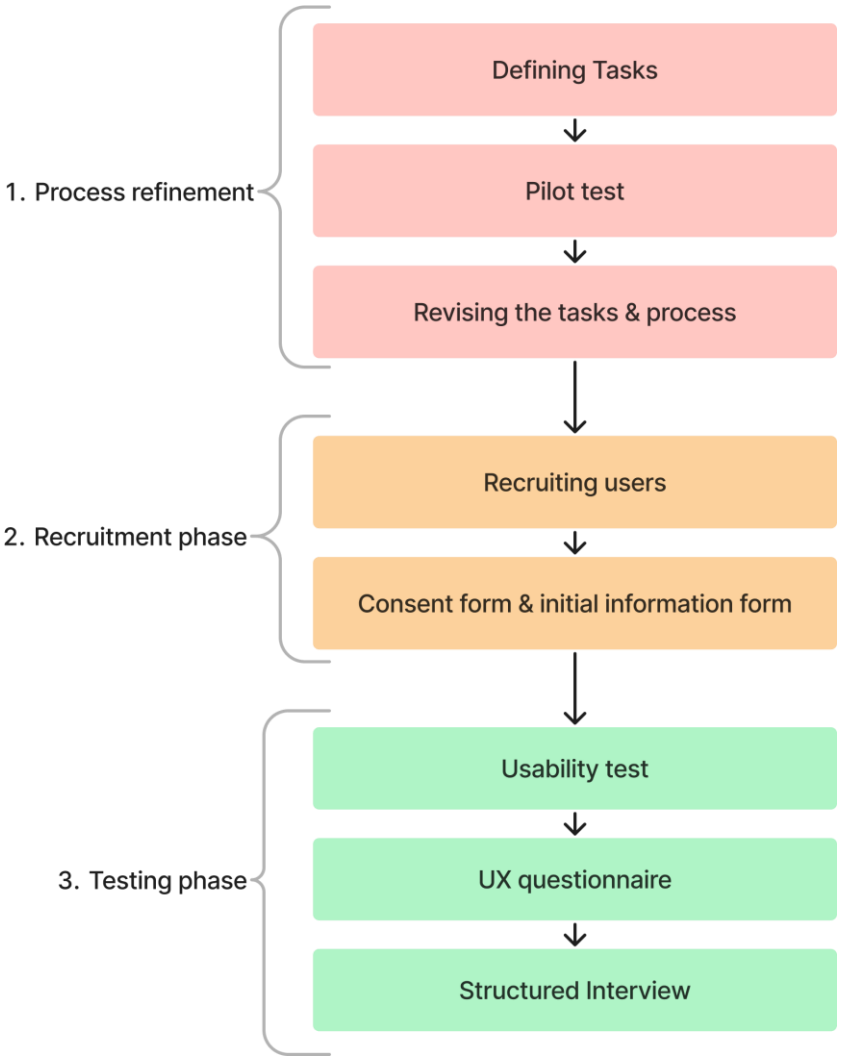

Image 8: *Visual presentation of data gathering process.*

Phase 1: Process Refinement

In this initial phase, my object was refining the research process. It includes several critical components:

- **Defining Tasks**: This section delves into the process of crafting the usability test tasks and explains the motivation behind their selection. It also provides insights into the pilot testing procedure.
- **Pilot Testing**: Entails details of the pilot testing process, emphasizing its significance in refining the research methodology.
- **Task and Process Refinement:** This section elaborates on the crucial changes made to both the usability test tasks and the overall process, guided by insights acquired from the pilot test.

Phase 2: Recruitment Phase

Phase 2 centers on the recruitment of participants, introduces targeted user group for this thesis. It contains the following key elements:

- **User Recruitment**: This section explains the strategies and methods used to recruit participants for the study.
- **User Demographics:** Briefly outlines the characteristics of the recruited participants, providing context for the developing research.

Phase 3: Testing Phase

The most extensive and practical phase of the methodology, Phase 3, comprises the core research activities. It includes:

- **Usability Test**: A comprehensive section dedicated to detailing the execution of the usability test, including its methodology, procedures, and key aspects of implementation.
- **User Experience Questionnaire**: This part introduces the UEQ, explaining its selection, purpose, and background. It outlines the reasoning behind its incorporation and its role in gathering valuable quantitative data.
- **Semi-Structured Interview**: I discuss the rationale behind conducting structured interviews, how they were designed and why.

This structured methodology provides a clear roadmap for how study was conducted.

3.2 Usability test

In this section, I dig deep into the usability test conducted for CrossFire, focusing primarily on evaluating the user interaction with the main menu interfaces. I aimed to assess the user experience from two different perspectives: complete novices who are venturing into the game for the first time, and seasoned veteran players who have amassed at least 1000 hours of gameplay.

CrossFire's main menu offers a plenty of activities, including player interactions and extensive customization options for character and weapon profiles [34]. Through personal gameplay experiences and discussions with the player community, I have observed a trend: navigating through this interface is not the most user-friendly or intuitive. I hy-

pothesized that novice users might find themselves overwhelmed with the extensive range of options, resulting in substantial difficulties and slower task completion times. Moreover, I anticipated that even veteran players might face challenges with certain tasks within the interface.

To validate these hypotheses, I coordinated a series of usability tests involving two distinct groups: novices and veterans with a minimum of 1000 hours in gameplay experience. I assigned each participant a set of predefined tasks within the main menu, ranging from basic actions like finding and joining multiplayer games to more complex operations such as customizing character attributes and weapon loadouts. Through this approach, I gathered both quantitative data, such as task completion times and success rates, and qualitative data from user feedback and observations. Goal was to acquire a holistic understanding of the challenges users encountered and their overall experience with the main menu interfaces.

As I move forward, I intend to present a detailed analysis of the usability test results, pinpointing the strengths and weaknesses of the CrossFire main menu interfaces. This analysis will not only illuminate the areas where users struggled but also guide recommendations for enhancing user interaction and satisfaction within the game's interface, ultimately aiming to foster a more enjoyable and seamless gaming experience for both novice and veteran players [8].

3.2.1 Recruiting test users

Recruiting test users for this usability study was aided by leveraging my personal network and active participation in the CrossFire gaming community. This approach proved highly effective in gathering a diverse group of participants.

Primarily, I tapped into my circle of real-life friends who were devoted CrossFire players. Additionally, I reached out to friends who were active gamers but had yet to explore the CrossFire. A significant portion of the recruited participants came from my personal connections within the gaming community, both in real life and in the game itself. This included in-game friends who expressed their willingness to partake in the usability test.

The recruitment process was conducted primarily through phone calls or Discord, ensuring clear communication and coordination with all recruits. This approach streamlined the logistics of the usability test, contributing to its overall efficiency.

3.2.2 Test users

For the usability test, a total of six participants were involved, excluding the individual recruited for the pilot test. The primary criterion for selecting these test users was their level of experience playing CrossFire. Additionally, each user received an information form to gather basic details about them.

All test users were regular gamers, ensuring a familiarity with interactive digital environments. The age range for all participants fell between 25 and 34 years old. Out of the six users, four were from Finland, while the remaining two were from Germany. Participants evaluated their gaming activity over the last year using a scale. This scale ranged from 'very low', defined as less than an hour per day, to 'very high', meaning more than six hours daily. Ratings of 'low', 'moderate', and 'high' fell in between, though these were not explicitly defined. This diverse pool of participants aimed to provide valuable insights into the usability of CrossFire's main menu interfaces from both geographical perspectives, adding depth to the study's findings.

Here we can see detailed table about different backgrounds of usability test users. Data was collected through the initial information form.

Table 2: *Participant list.*

ID	*Age*	*Gender*	*Play hours in CrossFire*	*Playing Activity*	*Interview method*
Pilot	34	Female	0	Very low	In person
Novice1	31	Male	1	High	In person
Novice2	19	Female	0	High	In person
Novice3	24	Male	0	Low	In person
Veteran1	22	Male	5000	High	Online
Veteran2	24	Male	2000	Moderate	Online
Veteran3	26	Male	5000	Very High	Online

3.2.3 Setting

The usability tests were conducted in two distinct settings to accommodate the needs and preferences of the test participants.

For novice users and the pilot test, the sessions were conducted in person. In this setup, three novice users participated, and the pilot test was held using my desktop PC. I sat alongside the participant, closely monitoring their interactions with the main menu interfaces, and verbally provided them with the tasks. These sessions were smoothly executed and recorded using OBS (Open Broadcaster Software) for future reference and analysis. Notably, the user's face was not recorded in this setting.

In the other setting, I utilized Discord to establish a video call with the user, who then shared their screen. Through this setup, I communicated the tasks both through chat and speech during the video call. This arrangement allowed for real-time assistance when required and ensured a seamless testing experience. Fortunately, there were no technical issues encountered during these sessions.

The recorded sessions from both settings proved invaluable for following analyses of the usability tests, complementing the concise in-person notes and providing a comprehensive basis for further evaluation and improvement of the main menu interfaces.

3.2.4 Defining Tasks

As previously noted, CrossFire's main menu interfaces offer a multitude of options, activities, and features for players to explore and control. This complexity can be daunting, regardless of a player's experience with the game. Therefore, the usability test aimed to shed light on how users, regardless of their familiarity with CrossFire, interacted with its menus.

When selecting tasks for the usability test, my primary objective was to craft realistic tasks that any CrossFire player might encounter during their gaming journey. This involved ensuring that the tasks represented a wide spectrum of in-game activities, from essential actions to more intricate maneuvers. During the task selection process, I intentionally refrained from considering the difficulty level of each task. Instead, my focus was on measuring how efficiently and quickly users could complete these fundamental tasks, emphasizing the user's experience over the complexity of individual tasks. The initial task list used in pilot test can be seen in table 3.

Table 3: *Initial set of tasks for usability test.*

#	*Task*

1	Go to **settings** and **mute** background **music.**
2	Go to your **storage**, and **equip GRENADE** on your bag 1.
3	Equip **AK-47**, for your **bag 2**.
4	Navigate to **shop** and **purchase** any new **character** with **GP**.
5	Go back to your **storage** and **switch** your main **character**.
6	Go to **Clan tab**, and **apply** for clan **'Test'**.
7	Go to **Clan tab**, and **cancel** your **application** for clan 'Test'.
8	Go to **settings**, and change your **crosshair** to circular yellow.
9	**Join** a game (**room**) with real players.
10	**Create** new "**Mutation Mode**" Room.
11	**Find** a **mode explanation** for "**Zombie Mode**".
12	**Look up** how many **Headshot kills** you have.
13	**Set** the next **"Headshot Master" achievement** as your **goal achievement** and see the **details** how you can achieve it.
14	**Find** out what are the **daily** and **weekly missions**.
15	**Look up** who's the **rank 1** player in **Event ranking** hiscores.

Looking at the task list, it includes some very basic actions such as logging into the game, equipping a grenade, and joining a game with other players. These tasks should inherently be straightforward, intuitive, and easy to execute in any typical online multi-player FPS game. These foundational tasks acted as benchmarks to assess the menu's different metrics, such as usability, user-friendliness etc. Additionally, the task list involved basic interactions with other players within the game, such as joining a

clan. This was done to not only evaluate the ease of these interactions but also to assess how well the menu aided social engagements, enhancing the overall gaming experience. Furthermore, there were tasks designed to guide players through adjusting essential game settings and acquiring information about the various game modes available. These tasks were strategically placed to ensure that users could seamlessly access and tailor their gaming experience within the interface.

By including tasks ranging from the most elementary to slightly more complex actions, the usability test aimed to comprehensively evaluate the accessibility and efficiency of the main menu interfaces. This approach allowed me to assess not only the intuitiveness of basic functions but also the user-friendliness of more advanced features, contributing to a holistic evaluation of the interface's usability.

3.2.5 Pilot test

Initially, I formulated a set of 15 tasks for the usability test. However, before diving into the main study, I recognized the importance of conducting a pilot test to assess the viability and effectiveness of these tasks and to catch any confusion around tasks.

The pilot test was conducted in my home and involved a close friend who had no prior experience with CrossFire. This choice aimed to eliminate any potential biases that may arise from familiarity with the game. Since I personally have a lot of experience with this game, I acknowledged the possibility of holding some subjectivity in creating reference times for task completion, and perhaps even nurturing somewhat unrealistic expectations regarding the success rates of various tasks.

The pilot test served as a valuable opportunity to uncover any issues that might have eluded my initial planning. Beyond task evaluation, it provided insights into the overall technical process, ensuring that all systems and tools were functioning as intended. It also gave a chance to validate the effectiveness of the structured interview framework. By conducting the pilot test, I could refine the usability test design, address any unforeseen challenges, and enhance the overall robustness of the study.

3.2.6 Changes

Following the pilot test, several concrete changes and improvements were identified, aimed at enhancing the usability evaluation process and the clarity of the tasks.

One significant observation was the need for clearer task descriptions. For instance, Task 4, which required users to equip an "AK-47," was revised to specify that any of the multiple AK-47 variants with alternative skins were also acceptable. The goal was to eliminate ambiguity and ensure that task completion criteria were unmistakable. To further enhance clarity, the ending point for each task needed refinement to provide clear criteria for task completion. This adjustment aimed to eliminate uncertainty and ensure a standardized approach to measuring task success. Additionally, it was recognized that deliberately keeping task descriptions concise had drawbacks. Some tasks would benefit from more detailed descriptions to provide users with additional context and guidance. Next up is the revised task list with specific starting point, end conditions and much more detailed task descriptions. I also got rid of some old tasks and reworded others. Revised task list can be seen in table 4.

Table 4: *Revised set of task for usability test.*

#	*Starting point*	*Task*	*Clear condition*
1	Main lobby	**Go** to **settings** and **mute** background **music**.	Music is muted.
2	Main lobby	CrossFire has inventory system called storage, where you can find all the weapons/grenades/characters and other utilities you can use in the game. Player also have ability to switch between different “bags” mid-game. These bags are predetermined loadout sets that can be configured in storage. **Go** to your **storage**, and **equip GRENADE** on your **bag 1**.	Grenade is equipped in bag 1.
3	Storage	**Add** any **AK-47** gun to your loadout **bag 2**.	Any AK-47 gun is placed in bag 2.
4	Storage	CrossFire has in-game shop. Here you can purchase lots of different guns/characters and utilities you can use in-game. There is 3 different currencies in the game: GP, ZP and MP. **Navigate** to **shop** and **purchase** any **new character** with **GP**.	Character is successfully purchased with GP.
5	Shop	**Go** back to your **storage** and **switch** your main **character**.	Main character is switched and set to any other character.
6	Storage	CrossFire has clans, these are usually small communities who like to play with together. **Go** to **Clan tab**, and **apply** for **clan** ‘**Test’**.	Application has been successfully done for clan ‘Test’.
7	Main Lobby/Clan tab	Crosshair is the aiming marker you can use in game to target your enemies. It is the marker that shows where the bullets travel while shooting. **Go** to **settings**, and **change** your **crosshair** to circular yellow.	Crosshair is set to Yellow, Type C and settings has been saved.

8	Main Lobby	CrossFire has multiple servers you can join, and each server has channels and rooms. These rooms are live games you can join in to. **Navigate** to a **view**, where you can see **listing of games** (rooms) with other players.	User successfully navigates to server > channel that has players and joins a room.
9	Room listing	There is 10's of different modes you can play in CrossFire. Mutation mode is one of these mods. Any player can create room with different mode. **Create new** "Mutation Mode" **Room**.	User successfully creates any room with mode that fits under blanket term 'mutation mode'.
10	Room listing	Like mentioned before, there is multiple different modes in CrossFire. And there is short mode explanation created for each of these mods. **Find** a **mode explanation** for "**Zombie Mode**".	User finds and recognizes that he/she has found the mode explanation for 'Zombie mode'.
11	Room listing	CrossFire tracks your activities in game and creates some statistics you can view, including deaths/kills/ headshot kills etc. **Look up** how many **Headshot kills** you have.	User is able to find and report how many headshot kills are associated with that player.
12	Room listing	CrossFire has achievement system that encourages players to pursue different types of gameplay. These achievements are kind of like digital medals. **Set** the **next** "**Headshot Master**" **achievement** as your **goal** achievement and see the **details** how you can achieve it.	'Headshot master' achievement is set as goal achievement and requirement details are reported.
13	Room listing	**Find** out what are the **daily** and **weekly missions**.	User finds daily and weekly missions.
14	Room listing	CrossFire is tracking multiple different hiscores between players in different categories. **Look up** who's the **rank 1** player in **Event ranking** hiscores.	User is able to find the hiscores for Even ranking and reports whos the current rank 1.

Changes were also implemented in the process itself. The visible use of a smartphone timer during tasks was noted to induce unnecessary stress in the test users. In response, this practice was discontinued to create a more relaxed testing environment. To improve timing accuracy, the timer now begins only when the user is entirely clear about the task instructions. In the pilot test, starting a fresh timer with each new task introduction was found to be less effective, as the focus was on usability rather than assessing reading comprehension. Incorporating hints for tasks became another valuable addition. If a user struggled for 60 seconds or more on a task, a subtle hint pointing them toward the correct parent interface was provided. This adjustment aimed to ease progress without overly guiding the user.

In the study, a three-minute time limit was determined for each task based on the pilot test where several tasks were completed between two and three minutes. This

timeframe was selected to ensure participants had sufficient time to tackle even the more difficult tasks. Furthermore the time limit was serving as a marker for early task termination if needed. This limit ensured efficient testing without unnecessary delays. Reflecting on the overall task quantity, two tasks were removed, as it was noted that a slightly more streamlined evaluation process could be achieved with fewer tasks. Upon closer inspection, specific tasks were found to have issues. The task requiring the user to join any room with players was modified to specify joining a server and channel with rooms featuring real players. This change addressed the simplicity of joining a game through the main lobby's "play" button, which bypassed critical decision-making elements. Furthermore, the task mandating the creation of a "mutant mode" room was adjusted to accept any "mutation" mode, given the confusion surrounding this requirement. Lastly, the task involving user application cancellation for the clan was removed due to its proximity to the previous task and its potential lack of realism. These adjustments aimed to refine the usability evaluation, ensuring a more accurate and user-focused assessment of the main menu interfaces.

3.2.7 The testing process

This section provides an in-depth look into how usability tests was meticulously conducted.

Upon successfully recruiting a user, we promptly scheduled a date and time for the actual usability test, ensuring it aligned with their convenience and availability. In some cases, the test could be conducted on the same day as recruitment, while in others, it occurred within couple days of initial contact. Before proceeding with the usability test, I sent the test users a background information form and a consent form. The consent form sought their permission to record the meetings and comprehensively explained the legal aspects, use cases, and the purpose of the recording.

During the usability tests, I began by explaining the study's objectives, emphasizing that the primary goal was to evaluate the game's usability and not the test user's performance. Furthermore, I encouraged users to vocalize their thought processes as they attempted to complete the assigned tasks, enabling a deeper understanding of their decision-making.

To prevent any additional issues arising from CrossFire's less responsive design, I ensured that users had appropriate display settings in place. After this preparation, we

proceeded with the actual testing. The initial tasks were intentionally straightforward and were typically executed quickly and without complications. If a user exceeded the allotted time limit of 3 minutes for a single task, I informed them that we would move on to the next one, optimizing the testing process and minimizing potential user frustration. On average, the testing phase took approximately 30 minutes to complete.

Following the usability test, I conducted a structured interview with the user. Notably, I did not take notes during the interview, as I recorded the sessions for later transcription. Transcriptions of the interviews are available in appendixes. After concluding the interview, the final step involved administering a user experience questionnaire. To gather quantitative data, I provided users with a link to a Google Form featuring a short, straightforward questionnaire. This questionnaire aimed to complement the qualitative insights gathered during the interviews, providing a comprehensive overview of the user experience within the main menu interfaces and ensuring a well-rounded evaluation.

3.2.8 Analyse methods

As I have collected both quantitative and qualitative data from the usability testing, it is essential to employ distinct methods for each data type. For the quantitative data, which includes task completion rates and completion times, I am computing means and standard deviations and variances to provide a clear statistical understanding of the results. Additionally, I am comparing the completion times against predefined reference times to assess the efficiency of task execution.

In contrast, the qualitative data obtained from the usability testing undergoes thematic analysis to identify recurring themes and issues. My approach to this involves a task-oriented analysis rather than examining videos individually. This method enhances efficiency and assists the discovery of themes for each task. I am systematically analyzing each task across all test users and identify the topmost dominant themes. Then, by comparing the themes identified for each test user, I am able to determine the overall most dominant themes for each question. Finally, I have reported the main dominant themes that emerge throughout the entire usability testing process in chapter 4.

Moreover, I conducted comparative analyses based on the participants' prior experience with the game. The hypothesis guiding this analysis suggests that users with more gaming experience will exhibit higher task completion rates and shorter task completion times. This comparative analysis will provide insights into how participants' familiarity with the game impacts their performance during the usability testing.

3.3 User experience questionnaire

In the scope of measuring UX I have opted for Schrepp's UEQ as one of the primary methods. While I have covered the details of this choice in the theory chapter, I believe it warrants a brief mention here due to its excellent suitability for this use case. Schrepp's UEQ offers a robust framework for collecting valuable quantitative data, making it an ideal tool to assess and improve the user experience. What sets UEQ apart is its well-established reputation, extensive testing, and validated methodologies. Furthermore, it provides readily available analytical tools, simplifying the process of deriving meaningful insights from the gathered data. [30]

The UEQ comprises 26 items, each structured as a semantic distinction, which can be seen in table 5 below. In this format, every item consists of two terms, each with opposing meanings. The arrangement of these terms is randomized for each item, with half of the scale items commencing with the positive term, while the remaining half commences with the negative term. All the items used in questionnaire can be seen in table below. Table also has also color coded the scales for easier inspection. This is also the same order that each item is set on the questionnaire.

Table 5: *UEQ's list of items.*

#	Item	Scale	Quality
1	annoying/enjoyable	Attractiveness	-
2	not understandable/understandable	Perspicuity	Pragmatic
3	dull/creative	Novelty	Hedonic
4	difficult to learn/easy to learn	Perspicuity	Pragmatic
5	inferior/valuable	Stimulation	Hedonic
6	boring/exciting	Stimulation	Hedonic
7	not interesting/interesting	Stimulation	Hedonic
8	unpredictable/predictable	Dependability	Pragmatic
9	slow/fast	Efficiency	Pragmatic
10	conventional/inventive	Novelty	Hedonic
11	obstructive/supportive	Dependability	Pragmatic
12	bad/good	Attractiveness	-
13	complicated/easy	Perspicuity	Pragmatic
14	unlikable/pleasing	Attractiveness	-
15	usual/leading edge	Novelty	Hedonic
16	unpleasant/pleasant	Attractiveness	-
17	not secure/secure	Dependability	Pragmatic

18	demotivating/motivating	Stimulation	Hedonic
19	does not meet expectations/ meets expectations	Dependability	Pragmatic
20	inefficient/efficient	Efficiency	Pragmatic
21	confusing/clear	Perspicuity	Pragmatic
22	impractical/practical	Efficiency	Pragmatic
23	cluttered/organized	Efficiency	Pragmatic
24	unattractive/attractive	Attractiveness	-
25	unfriendly/friendly	Attractiveness	-
26	conservative/innovative	Novelty	Hedonic

Schrepp in his handbook [30] defines the 6 scales of the UEQ as follows:

- **Attractiveness:** Overall impression of the product. Do users like or dislike the product?
- **Perspicuity:** Is it easy to get familiar with the product? Is it easy to learn how to use the product?
- **Efficiency:** Can users solve their tasks without unnecessary effort?
- **Dependability:** Does the user feel in control of the interaction?
- **Stimulation:** Is it exciting and motivating to use the product?
- **Novelty:** Is the product innovative and creative? Does the product catch the interest of users?

3.3.1 Administering UEQ

Schrepp's handbook provides valuable guidance on the practicalities of administering it, including the timing. It recommends that participants receive the questionnaire immediately after completing the test tasks. This timing is crucial because it aims to capture the users' immediate impressions of the product. By administering the questionnaire before engaging in any discussions about the product, it ensures that the responses remain uninfluenced by external factors. This approach allows to gain a genuine and unfiltered understanding of the users' experiences. [30-31]

Additionally, Schrepp suggests the importance of informing participants that the questionnaire is scientifically designed and measured. This simple act of transparency can

significantly enhance the quality and consistency of the responses. Participants are more likely to engage thoughtfully and provide accurate feedback when they understand the rigorous and systematic nature of the evaluation process. Therefore, communicating the scientific validity of the questionnaire reinforces the credibility of the study and ensures that the data collected is reliable and insightful. [30, 32]

With these practical guidelines in mind, I carefully followed the recommended approach for UEQ administration. Immediately after the completion of the usability tests, I ensured that participants received the UEQ questionnaire promptly. To streamline this process, I opted for the convenience and accessibility of Google Forms. After crafting the survey using Google Forms, I shared the questionnaire link with each participant right after they concluded their respective usability tests. In cases where the tests were conducted online, I simply provided the link for the test user to access. For in-person tests, I guided the user on how to navigate to the Google Forms using an incognito mode in the Chrome browser, ensuring a seamless transition from usability testing to questionnaire completion.

While an official Excel version of the questionnaire exists, I recognized that not all online test users may have access to Excel. Consequently, I chose the more widely accessible Google Forms platform. To maintain reliability to the official Excel version, I thoroughly recreated the questionnaire within Google Forms, striving to retain its structure and content.

The official questionnaire includes a brief half-page explanation of the process. This explanation serves as a user guide, instructing participants on how to complete the questionnaire effectively. It comprises a prompt encouraging users to answer spontaneously without overthinking, emphasizing that their personal opinions matter most, and there are no right or wrong answers. Furthermore, it reinforces the notion that the questionnaire results will be measured scientifically, aligning with Schrepp's guidance in his handbook. This transparency is key to ensuring the credibility of the study and fostering honest and thoughtful responses from participants. [30]

In image 9 there is an example of how each individual item was presented in the google forms.

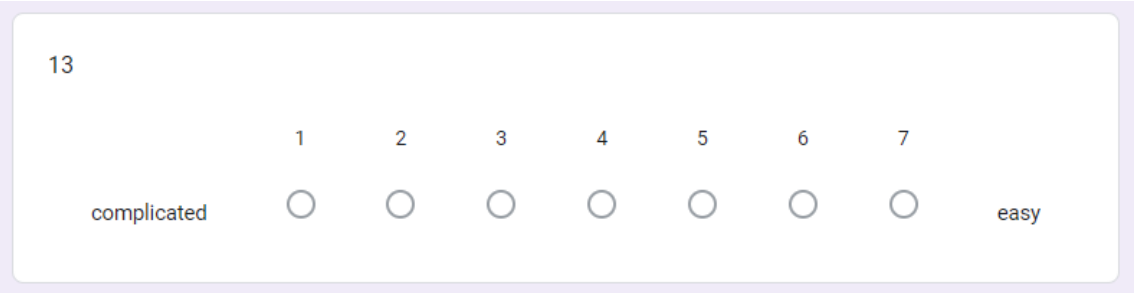

Image 9: *An example UEQ item in google forms format.*

3.3.2 UEQ Analyse methods

In this chapter, I will present the methods I used for analyzing the quantitative data gathered through the UEQ. As previously mentioned in Chapter 3.2, one of the primary reasons for selecting the UEQ was the inclusion of extensive analytical tools that simplify the process. These tools were thoughtfully designed by Dr. Martin Schrepp, enhancing their reliability and effectiveness. To initiate the analysis, I seamlessly transferred the data acquired from Google Forms into Excel, where the UEQ analysis tool automatically generated all the essential statistical calculations required for interpreting the results. Additionally, the tool offers a excess of graphical representations, helping the presentation of findings. Furthermore, the tool's multilingual support reduces language barriers, and it provides clear explanations for each data visualization, aiding in easier interpretation.

The UEQ analysis tool offers a diverse range of data analysis methods, including some advanced techniques like suspicious data analysis, which aids in detecting irregular data patterns, and confidence interval analysis, which gauges the precision of scale mean estimation. However, for my analysis needs, I chose to utilize more straightforward and practical tools. These include:

Answer Distribution: Given the relatively low N (sample size) in my questionnaire, it is reasonable to display individual tester responses regarding the six scales. This approach provides a comprehensive view of how participants rated each aspect of the user experience.

Item Means: A common method in UX questionnaire analysis involves examining the means of the questions. This includes assessing variance and standard deviation, which help to understand the spread and consistency of responses.

UEQ Scale Means: Analyzing the mean values for each of the six UEQ scales provides an overarching perspective on the user experience, highlighting the strengths and weaknesses in different aspects of the main menu.

Mean Value per Item: This analysis method allows me to evaluate trends for each individual item within the questionnaire. It helps identify specific areas of improvement or concern in the user experience.

Lastly, I am discussing the balance between pragmatic and hedonic quality, as this plays a crucial role in understanding the functional and emotional aspects of the user experience. This balance will aid in pinpointing areas for enhancement that cater to both the practical and emotional needs of the users.

3.4 Interview

In this study, the decision to use a fully structured interview approach was made after careful consideration of various factors. This approach, chosen to ensure data collection consistency and reliability while minimizing the risk of introducing bias, involved using a standardized set of questions. By employing this standardized format, the structured interview guaranteed dependable data gathering, ultimately enhancing the quality of the study's findings. [38]

Structured interviews offer a systematic and controlled means of data collection, even for interviewers lacking extensive experience. The standardized format, with predetermined questions, reduced the potential for interviewer-induced variations, reinforcing the reliability of the data collection process. Moreover, a structured interview allowed for a comprehensive examination of the system's usability, with each question designed to systematically probe specific aspects of the user experience within CrossFire, making it an ideal choice for this research. [38]

Efficient data analysis was another key advantage of the structured interview. The uniformity in responses and data format simplified the analysis process, enabling seamless compilation, organization, and the extraction of meaningful insights from the collected data [38]. Additionally, the choice of a structured interview method took into account the time and resource constraints faced by test users. Structured interviews were a good fit because it also allowed ensuring that participants' prior commitments to the usability test and UX questionnaire were respected.

Moreover, there was a consideration of potential user fatigue following their involvement in the usability test and questionnaire. The structured interview, with its predefined questions and focused approach, aimed to capture valuable insights without overtaxing participants' attention spans, making the interview process less demanding on the participants. This approach ensured a productive and efficient interview process while minimizing the risk of participant exhaustion and maintaining the overall quality of the data collected.

3.4.1 Choosing the interview questions

For the structured interview component of this study, a set of carefully crafted questions was developed, with each question serving a specific purpose in gathering insightful data. This set comprises five questions, each structured to get valuable information. Each question follows a pattern: a broad main question followed by a more detailed inquiry to obtain specific responses. The questions can be seen on table 6 below.

Table 6: *List of questions used in structured interviews.*

#	*Question*
1	How did you find the overall usability of CrossFire's main menu interface during the test? Were there any specific aspects that stood out as particularly user-friendly or challenging?
2	Can you recall any specific tasks or interactions within the main menu that you found particularly easy or difficult to accomplish? What made them so?
3	Were there any moments during the usability test when you felt confused or frustrated while navigating the main menu? Please describe those instances and any suggestions for improvement.
4	In your opinion, did the test tasks accurately reflect the typical actions a player might take within CrossFire's main menu? If not, what important tasks or interactions were missing?
5	Did you encounter any unexpected issues or surprises while using the main menu? How do you think these issues might affect the overall gaming experience?

Question 1: This question serves as a means to gather general feedback from participants and encourages them to provide detailed responses. It opens the floor for users to express their overall impressions and experiences.

Question 2: Focusing on specific tasks within the usability test, this question focuses into the details, prompting participants to share their in-depth insights about their experiences with particular tasks.

Question 3: Designed to identify any areas of frustration or confusion, this question encourages participants to provide constructive feedback. It seeks to pinpoint aspects of the usability test or the main menu interface that might have posed challenges.

Question 4: This question evaluates the relevance of the usability test from the users' perspective, focusing on whether the tasks align with their gaming experiences. It also encourages participants to engage in critical thinking about the test's content and its significance.

Question 5: With the objective of uncovering unforeseen issues or potential improvements, this question invites users to reflect on their experiences beyond the predefined tasks. It seeks to capture any additional insights or concerns users might have encountered during the usability test and questionnaire.

3.4.2 Interview analyse methods

In the analysis of the interviews, I opted for two distinct methods: thematic analysis and comparative analysis. They work together harmoniously and yield unique comprehensive insights. [38]

Thematic Analysis: Thematic analysis proves to be a robust and efficient approach for categorizing and comprehending qualitative data. This method offers a standardized means of identifying patterns within qualitative data, making it a valuable tool for recognizing recurring themes. Drawing from my extensive experience, thematic analysis has consistently proven to be a powerful tool. Notably, it plays a crucial role in minimizing potential biases while aligning seamlessly with the objectives of this thesis. Given the nature of the data collected, thematic analysis stands as a highly suitable choice. [38]

Comparative Analysis: Complementary to thematic analysis, comparative analysis involves the examination of data in a comparative context. This method places particular emphasis on identifying strongly contrasting opinions or perspectives. It serves as an ideal counterpart to thematic analysis, especially within the structured interview frame-

work. Comparative analysis excels in its ability to differentiate data and highlight divergent user viewpoints, providing a well-rounded understanding of the collected insights. [23]

4. FINDINGS

This section delves into the findings of the study. It starts with an exploration of the Usability Test results, which provide both quantitative and qualitative data. Following that, it presents the outcomes derived from the UX Questionnaire, offering a comprehensive look at the quantitative data accompanied by various graphical representations for better data visualization. The section concludes by presenting the analyzed data from the structured interviews.

4.1 Usability testing findings

In this section, we will examine the outcomes of the usability evaluation test. Initially, I am providing an overview of the overarching trends and statistics covering the entire test. Following this, section will delve deeper into the specifics of the test, offering insights derived from each task individually. This structured approach will allow for a thorough presentation of the usability testing results, ensuring a in-depth understanding of the collected data.

In Table 7, the presence of '1' signifies the successful completion of the task, while '0' indicates a failure due to the task exceeding the allocated time limit. The three columns on the right side of the table display the distinct success rates for novice users, veteran users, and the overall average success rate.

Table 7: *Success rates of the usability test's tasks.*

							Success rates		
Task #	novice1	novice2	novice3	pro1	pro2	pro3	Novices	Pros	Total
1	1	1	1	1	1	1	100%	100%	100%
2	1	1	1	1	1	1	100%	100%	100%
3	1	0	1	1	1	1	83%	100%	67%
4	0	1	1	1	1	1	83%	100%	67%
5	0	1	1	1	1	1	83%	100%	67%
6	1	0	1	1	0	1	67%	67%	67%
7	0	0	1	1	1	1	67%	100%	33%
8	1	1	0	1	1	1	83%	100%	67%
9	0	1	1	1	1	1	83%	100%	67%
10	1	0	0	0	0	1	33%	33%	33%
11	1	1	0	1	1	1	83%	100%	67%

12	0	0	1	1	1	0	50%	67%	33%
13	1	0	1	1	1	1	83%	100%	67%
14	0	0	1	0	1	1	50%	67%	33%

In Table 8, I have reported completion times for each task recorded for every user. In cases where a task was not successfully completed within the designated time frame, it is marked with an 'x'. The time limit for task completion was set at 3 minutes, a parameter derived from the pilot test results. It is important to note that these unsuccessful tasks have been excluded from the mean calculations. The three columns on the right provide the average completion times for each user group, along with the overall average.

Table 8: *Task completion times.*

	Time to complete the task						*Average times*		
Task #	novice1	novice2	novice3	pro1	pro2	pro3	Novices	Pros	Total
1	0:35	0:50	0:15	0:07	0:14	0:09	0:33	0:10	0:21
2	0:32	0:41	x	0:08	0:15	0:11	0:36	0:11	0:21
3	0:22	x	0:14	0:10	0:16	0:13	0:18	0:13	0:15
4	x	2:05	1:02	0:20	0:32	0:27	1:33	0:26	0:53
5	x	1:01	0:20	0:12	0:11	0:26	0:40	0:16	0:26
6	1:30	x	1:10	0:52	x	1:03	1:20	0:57	1:08
7	0:44	1:05	0:23	0:07	0:16	0:22	0:44	0:15	0:29
8	0:40	1:11	x	0:09	0:17	0:14	0:55	0:13	0:30
9	x	2:09	1:03	0:25	0:31	0:33	1:36	0:29	0:56
10	1:01	1:19	x	x	x	1:03	1:10	0:31	1:07
11	0:29	0:41	x	0:07	0:16	0:12	0:35	0:11	0:21
12	x	x	1:26	0:52	1:10	x	1:26	1:01	1:09
13	0:20	0:22	0:08	0:07	0:16	0:12	0:16	0:11	0:14
14	x	x	1:19	x	1:10	1:03	1:19	1:06	1:10

In Figure 1, I have created a line chart displaying the average completion times for each user group across various tasks.

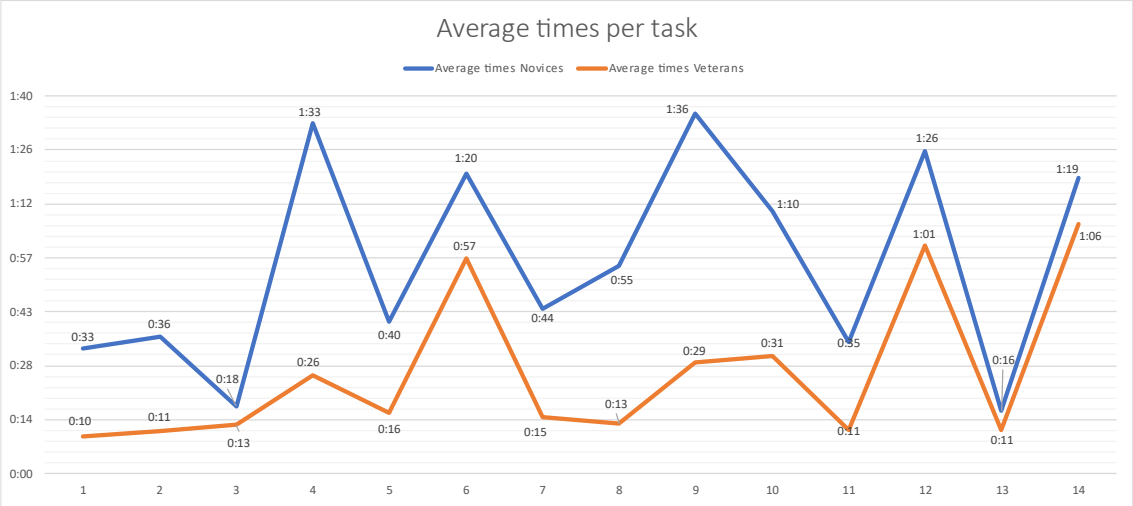

Figure 1: *Line chart for average times for both novice and veteran players.*

Taking a quick look at the figure one, we can confidently say that averages for veteran users were consistently faster in each task. That being said, there is a few tasks, that the difference is not very high, like in task 13 and task 3.

In the upcoming pages, I will individually address all 14 tasks in a more detailed manner. This approach aims to provide a comprehensive understanding of the test results and present the most crucial themes of the data in a clear and accessible format. To enhance clarity and aid effective task comparisons, I have chosen to utilize tabular presentations.

For each task, I will begin with a brief description that offers a general overview of how the task fared, often highlighting distinctions between novice and professional players. Subsequently, you will find a "Notes" section that contains noteworthy observations, generally concise in nature, which aim to shed light on relevant phenomena surrounding the task. This will be followed by a selection of quotes that capture the prevailing user sentiments during the specific tasks, particularly emphasizing the various frustrations experienced by users. These quotes have been chosen to reflect the predominant sentiment observed during the task.

The next part "Found Problems" section will detail specific issues encountered during the usability test. These problems vary in severity, with some directly impacting task completion, while others range from minor to major issues that I personally identified, during the respective tasks.

Lastly, the "Proposed Improvements" section will provide practical recommendations on how to address the problems reported for each specific task. This structured format

is intended to offer a comprehensive and practical viewpoint on the usability of the tasks, while maintaining accessibility and ease of comprehension for readers.

***Task 1**: Go to settings and mute background music.*

This task was fairly straightforward, and all of the users were able to complete it fast. There was significant amount of deviation between veteran and novices in this specific task.

Notes:	○ Some of the novice users had hard time to find the music submenu in the settings menu.
Quotes:	– "Yeah, no problem." (veteran1) – "Where is the audio?" (novice3)
Found problem(s):	1. Submenu icons in the settings menu has shine effect on the sprite, that makes the volume icon a bit difficult to distinguish. 2. There could be more icons used in the settings.
Proposed Improvements	○ Remove the shine effect and use more high-resolution sprites in settings menu. ○ Utilize more sprites in settings to declutter some of the text.

***Task 2:** CrossFire has inventory system called storage, where you can find all the weapons/grenades/characters and other utilities you can use in the game. Player also have ability to switch between different "bags" mid-game. These bags are predetermined loadout sets that can be configured in storage. Go to your **storage** and **equip GRENADE** on your bag 1.*

This was easy task for veteran-users because they do this very regularly. However the novice-users' avg time was significantly higher and one of the users was unable to complete this task.

Notes:	○ Some of the novice users had difficulty to find grenade in storage. ○ Some of the novice users found concept of having multiple bags confusing, and they were not sure if they had completed the task.

Quotes:	– "Is it equipped now?" (novice2) – "I think its in bag 1 now." (novice1) – "I have no idea where the grenades are." (novice3)
Found problem(s):	1. The concept of having multiple bags is not crystal clear for new users. 2. There is some confusion where in the bag you should place the grenade.
Proposed Improvements	o The bag could have placeholder icons to indicate what kind of equipment goes to each slot. o Add consistency to the fonts that are being used in the storage.

Task 3: *Add any* ***AK-47*** *gun to your loadout* ***bag 2****.*

Similar to task 2, veteran-users were able to complete this task in mere seconds. All of the novice-users were also able to complete this task fast.

Notes:	o This task did not have bigger problems, the main thing was how to change the selected bag from 1 to 2.
Quotes:	– "Okay, so I think now this is bag 2." (novice3) – "I think it is on now." (novice1)
Found problem(s):	1. The indication between owned bag, selected bag and unowned bag is a bit confusing.
Proposed Improvements	o Make it more clear between different bags, which ones are locked, which one is currently selected. This can be done by using stronger colors and maybe using some sprite, such as lock in the bags that are unowned and need to be purchased.

Task 4: *CrossFire has in-game shop. Here you can purchase lots of different guns/characters and utilities you can use in-game. There is 3 different currencies in*

*the game: GP, ZP and MP. Navigate to **shop** and **purchase** any new **character** with **GP**.*

This task some of the novice users had big problems due to inability distinguish what currency they should use and actually finding the purchasable characters.

Notes:	○ Having different currencies was confusing to novice-users, especially because it was not clear which one is the premium balance. ○ Veteran-users were quickly navigating using the in-game shop's two filter systems.
Quotes:	− "I think I should be able to buy this but for some reason I cannot." (novice1) − "Where the **** are the characters?" (novice2) − "I am like trying to use the search function but it is scuffed somehow" (novice3). − "Yeah, this should definitely be this hard." (veteran2).
Found problem(s):	1. It was a great challenge to find the characters. 2. The shop is pushing the premium items hard at users, making it hard to find the items that you can buy with the non-premium currency. 3. Some of the purchasing menus have significant UI element placement problems and very low-res sprites.
Proposed Improvements	○ Change the filtering between GP/ZP from dropdown menu to a tick box and make it more prominent part of the shop. ○ Fix the low-res sprites and UI placement in purchasing menu. Fix overflow issues and alignment issues.

***Task 5:** Go back to your **storage** and **switch** your main **character**.*

Novice-users had significant problems with this task, and it took considerable time for them to clear this task and one of the users were not able to complete the task. For Veteran-users this was not a hard task.

Notes:	○ Novice-users had hard time to find the character they had bought from the store in task 4. ○ It proved difficult to lock in the new character even after finding it.
Quotes:	− "Is it on now or now?" (novice2) − "What is this, why does it not go on?" (novice3) − "Yeah, now I need to press the small button 'select char'". (veteran3)
Found problem(s):	1. It is not clear which character is locked in as main character. 2. "Character" tab has also many other items.
Proposed Improvements	○ Ditch the requirement to press "select char" after initially choosing the character, this also gets rid of extra UI element that is a unique button that is not used anywhere else. ○ Make the tab/subtab system clearer and more intuitive by using sprites. Change some of the subtabs to be main tabs.

Task 6: *CrossFire has clans, these are usually small communities who like to play with together. Go to* ***Clan tab*** *and* ***apply*** *for clan* ***'Test'****.*

The actual clan tab was relatively easy to find for all of the users. However, this was the first task that a Veteran-user could not complete. In total 4 out of 6 players were successful.

Notes:	○ Clan tab was easy to find. ○ Navigating in clan tab was not intuitive, and users were not sure how to search for clans. ○ The tab has multiple buttons that opens website browser.
Quotes:	− "Great, now it sends me to chrome." (veteran1) − "Umm… do I need to find the clan from this list?" (novice3) − "Yeah, I have no idea how I can find it" (veteran2)
Found problem(s):	1. Clan tab does not have clear UI hierarchy that correlates its primary and secondary functions.

	2. UI does not communicate or confirm if user wants to open a separate browser window. This can be infuriating to some users.
Proposed Improvements	○ Re-design the clan tab using modern layout. There is plenty of different games with similar window and most of them look very similar. It is also a matter of familiarity of the system. ○ Do not just throw the user to browser, indicate it in the button, or give confirmation window if user wants to be directed to a website.

Task 7: *Crosshair is the aiming marker you can use in game to target your enemies. It is the marker that shows where the bullets travel while shooting. Go to* ***settings*** *and change your* ***crosshair*** *to* ***circular yellow****.*

Some of the Veteran-users were able to clear this task incredibly fast, because it is something they use very often. Also, all the novice-users were able to complete this task.

Notes:	○ Crosshair settings are very outdated. ○ They are in settings>etc, which is an unorthodox path for such or really, any settings. There are not many games with “etcetera”-settings.
Quotes:	− “Yeah, I know this one for sure!” (veteran1) − “Why would they be in here?” (novice1) − “What even is etc?” (novice3)? − “How should I know which one is circular?” (novice2) − “The crosshair settings in this game are so bad, that I just use external program to modify it” (veteran2)
Found problem(s):	1. “Etc” – settings are unfamiliar to some users. 2. It is unclear which setting does what for the crosshair. (The shape is changed by switching between three tick boxes that have been named type-A, B and C. 3. Available crosshair settings are very few and the system is outdated.
Proposed	○ Re-design hierarchy of the settings. Switch from outdated tab design

Improvements	to have a navigation panel on the left. o Invest some resources to bring players a highly customizable cross-hair option.

Task 8: *CrossFire has multiple servers you can join, and each server has channels and rooms. These rooms are live games you can join in to.* ***Navigate*** *to a view, where you can see* ***listing of games (rooms)*** *with other players.*

Novice-users found this task very confusing and hard, and one of them could not clear the task. There was quite a bit of frustration during the task because such an easy sounding task turned out to be surprisingly hard to complete.

Notes:	o This is clearly a big problem. Such a fundamental and simple task should be very easy and frictionless action to do. o It requires unintuitive navigation to reach the room list. It is also located in behind buttons that are contradicting themselves.
Quotes:	– "Yeah, I have no idea why its nowadays here..." (veteran3) – "How does this make any sense that you need to click here?" (novice1) – "Yeah, u would think that the big 'play' button would do the trick" (novice2)
Found problem(s):	1. It is hard to navigate to the correct place. 2. It is not clear which server and channel you should join and why. 3. The main lobby has big "play" button that tries to take player to a ranked match, but this is also something that a new player cannot use because ranked matches require higher rank. 4. Some of the buttons have contradicting naming. There is two buttons "Public match" and "Custom Match" which is very unclear what they mean. On top of that it makes no sense, because every single room in the game can be considered "public" match, expect the very rooms u can access through that button, which are ranked rooms and you u need to que for them.
Proposed	o Re-design the main lobby, so that the primary actions are tied to pri-

Improvements	mary buttons. o Delete the system where each server has channels, this is not necessary for users to navigate between them. Just have each server have all the rooms that are hosted on that specific server and have users to connect through the specific channel that room is located more precisely. It wastes users time specially because each channel are quite small. o Increase the learnability of the system by adding concise and smart naming for UI elements.

Task 9: *There is 10's of different modes you can play in CrossFire. Mutation mode is one of these mods. Any player can create room with different mode.* ***Create*** *new* ***"Mutation Mode" Room****.*

This was a hard task for novice-users and one of them could not clear in in the set time limit. For the Veteran-users however there were no problems.

Notes:	o All of the novice-users at some point clicked to "Public match" button in the top left and were sent back to main lobby, which is a slow process. This created some frustration. o All of the novice-users had difficulties with choosing the specific mode for the new room. o Finding how to create the new room was not a big problem and it was found out fairly quickly by all of the users.
Quotes:	- "O-M-G, now why am I back here now?" (novice3) - "Okay I think the mutation mode is not here?" (novice2) - "Yeah, I have no idea how to change the settings for this." (novice1) - "I think some new users would have pretty hard time with this." (veteran1)
Found problem(s):	1. The naming of two buttons on the top left can be mildly confusing. 2. The menu, where you are customizing the room settings is cluttered and confusing.

	3. The room settings menu does not have prioritize the most important settings first concept. 4. Some of the modes are hard to create because they cannot be found in the typical room creation menu. They can be only changed once the room has been created and a specific map has been chosen, which is almost impossible to know for a new user.
Proposed Improvements	○ Re-design the room creation menu to be less cluttered, more minimalistic and prioritize the most important settings first. ○ Include all the modes in drop down menu that has bolded titles for different categories and dividers between each category. This would make it much easier to find and select a desired mod.

Task 10: *Like mentioned before, there is multiple different modes in CrossFire. And there is short mode explanation created for each of these mods.* ***Find*** *a mode* ***explanation*** *for* ***"Zombie Mode".***

Task 10 turned out to be one of the hardest tasks to accomplish. This was the only task that novice-users actual did better than the Veteran-users. Two of the pro users failed the task whilst only one of the novice-users failed.

Notes:	○ Explanations for modes and around one sentence, and almost no help at all. ○ The mode explanations are hard to find.
Quotes:	− "Shouldn't this be like super easy to find?" (veteran1) − "Yeah, I have no idea where to find this." (veteran2) − "Wow, this is very weird place to put the guides." (veteran3) − "Like, im looking for some kind of help button or something." (novice2)
Found problem(s):	1. It is hard to find mode explanations for modes because they have been placed in the create new room window which makes no sense. 2. The actual mode explanations are very low effort and mainly just one sentence with broken English.
Proposed	○ Design a completely new window that is the go-to place when want-

Improvements	ing to learn something about different concepts of the game such as game mechanics, game modes, guns, maps, and items. o Have primary button to open a window to this designed help window.

Task 11: *CrossFire tracks your activities in game and creates some statistics you can view, including deaths/kills/ headshot kills etc.* ***Look up*** *how many* ***Headshot kills*** *you have.*

This is another one of those tasks that Veteran-players were able to complete in the matter of seconds, but there was some struggling from the side of novice-players and one of them failed to complete the task in the time limit.

Notes:	o The information screen for this is surprisingly hard to find since it is behind two clicks (Player info > stats). o The actual window to read the data is very broken and has some serious design flaws.
Quotes:	– "Umm... I think it should be somewhere over here maybe." (novice1) – "Why does it look so bad? It looks like it is from the 90s or something." (novice3)
Found problem(s):	3. Stats window has big flaws in terms of hierarchy, alignment of the text, font and the graphs are inconsistent and broken.
Proposed Improvements	o Fix the alignment, fonts and other inconsistencies of the stat window UI. o Some of the circular stat graphs are broken and require fixing. o There is some low-res sprites being used in the window that make it look very unpolished.

Task 12: *CrossFire has achievement system that encourages players to pursue different types of gameplays. These achievements are kind of like digital medals.* ***Set*** *the next* ***"Headshot Master" achievement*** *as your* ***goal achievement*** *and see the*

details *how you can achieve it.*

This proved to be one of the hardest tasks and brought great frustration to each user who attempted it. Two of the novice-users and one veteran-user were not able to complete the task.

Notes:	○ Veteran-users knew of the system, but all of them reported of never had using it, because there is no reason to. ○ Novice users and one of the Veteran-user had hard time finding the badge menu. ○ The real problem was navigating in the badge menu. ○ Many users wanted to use a search function.
Quotes:	− "Why there is not a search bar." (novice1) − "Oh my god, there is so many of these." (veteran1) − "Yeah its crazy how many of these there are, am I supposed to read them all?" (veteran2).
Found problem(s):	1. Badge menu can be bit hard to find. 2. Looking for specific badge in the badge menu is very difficult and time consuming because there is so many of them.
Proposed Improvements	○ Add search functionality to the badge menu. ○ There is so many different badges that by organizing them in to different categories it would make the process much smoother and enjoyable. ○ Maybe getting rid of some of the very specific badges would not be a bad idea.

Task 13: *Find out what are the daily and weekly missions.*

This was the second task that was completed by all the of users. Once again Veteran-users completed it fast.

Notes:	○ Two of the novice-users had significant problems finding the correct window. ○ The window itself lacking some polish
Quotes:	− “Umm... this is kind of hidden to be honest.” (veteran1) − “Yeah, its just trial and error at this point.” (novice2) − “The only reason I could find it this fast is because I found it earlier” (novice3)
Found problem(s):	1. Daily/Weekly missions window is hard to find. 2. Navigating there requires clicking of multiple tiny buttons that have low-res sprites. 3. The mission window looks little unpolished with some weirdly aligned buttons, low-res sprites, and highly re-used graphics for individual mission images.
Proposed Improvements	○ Give separate button for the mission window, that give user a one-click-path there. ○ Fix the low-res sprites. ○ In the mission menu, align the buttons correctly, add a “close” or “X” button to close the menu. ○ Add some more unique graphics to use in individual mission images. This is specially distracting because the images take up a considerable space and there is six of them.

Task 14: *CrossFire is tracking multiple different hiscores between players in different categories. Look up who’s the rank 1 player in Event ranking hiscores.*

The final task of the test turned out be the hardest one. Two novice users and one pro user failed the task, and it had highest avg completion time with three fails.

Notes:	○ The pathway to find the hiscores is very unintuitive, since you can find it in the users’ personal stats window.
Quotes:	− “Yeah, it makes no sense why it is here.” (veteran3)

	– "No idea where to look for it to be honest." (veteran2) – "This thing is trying to make me open google." (novice3)
Found problem(s):	1. Its hard to find the hiscores, they have been place unintuitively to user's stat window. 2. System has buttons in the hiscores window that open up a browser without communicating this to user. 3. The hiscore listing has "Up/Down" column that is not working, and is taking up the second column of the list which is occupying important space. 4. There is some serious inconstancy in this menu: it has ten uniquely styled buttons.
Proposed Improvements	o Combine clan tab and hiscore tab to a shared tab that is "Community". o Fix up the hiscore list, by removing the up/down column, or moving it to the right and fixing its functionality. o Add sprites to make hiscore window less cluttered of text. o Add consistency to buttons. Three unique buttons should be enough to communicate primary, secondary and tertiary action to user.

4.2 User experience questionnaire results

In this section, I will present the results obtained from the UX questionnaire. This presentation involves the utilization of two figures and three tables to visualize the results. To facilitate clarity and comprehension, it is essential to note that the specific dimensions of the UX questionnaires were elaborated upon in chapter 3.3 If certain terms appear unclear, reference to this chapter will provide a more detailed explanation and understanding of these dimensions.

The first figure (figure 2) displays the distribution of answers, offering insights into the level of unison among the respondents. Many questions reveal a predominant concentration of responses in the red-orange or 1-2 range, with no instances of dark green distribution or 7's, indicating a lack of highly positive feedback.

Moreover, the presence of a noticeable gray area suggests a fair amount of indecisiveness among respondents, with several answers falling into the 4 range. This implies that some respondents held neutral positions on certain aspects, further highlighting the varying sentiments expressed in the questionnaire results.

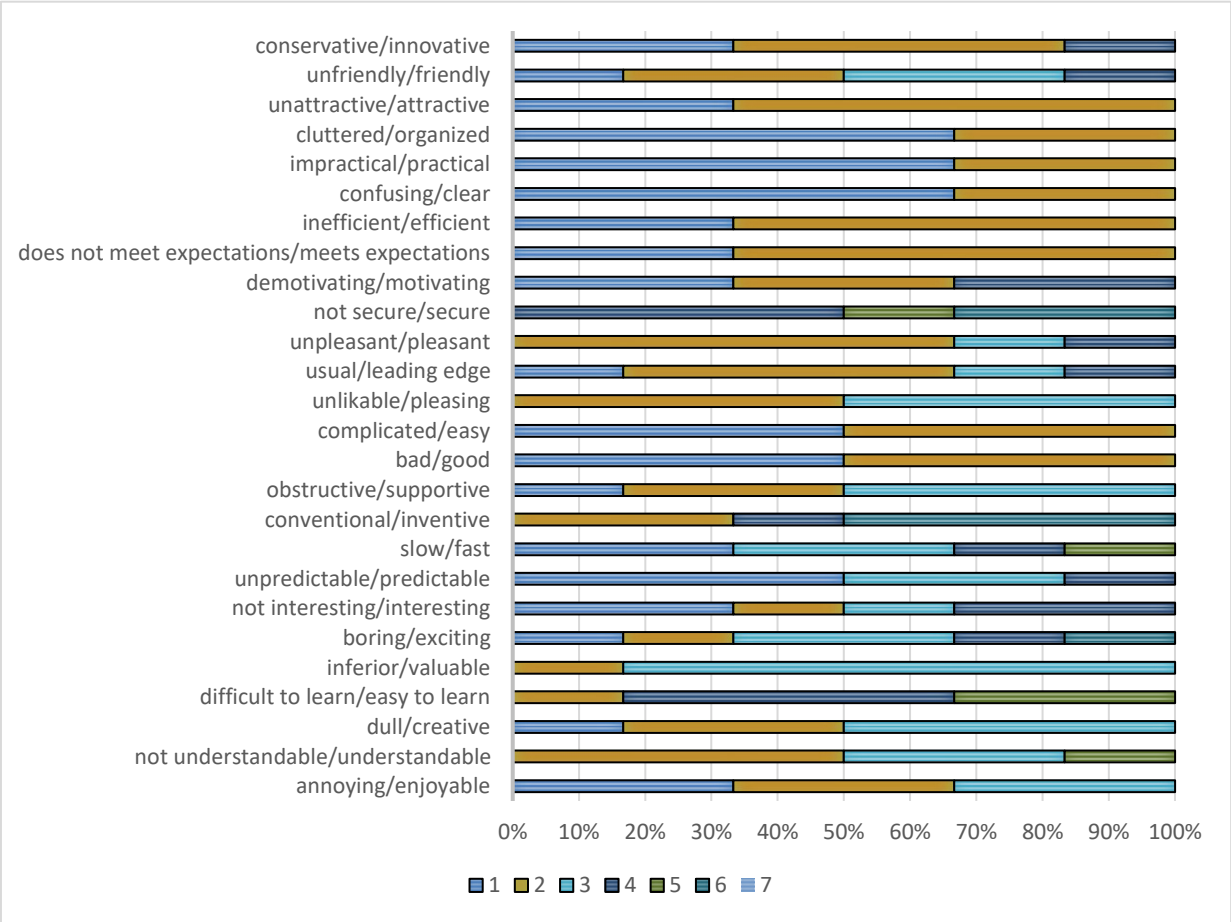

Figure 2: *UEQ Distribution of answers.*

The next figure (figure 3) provides a concise overview of the mean values per item, offering an immediate insight into the perceived ratings. It is important to note that the scale in this figure has been adjusted to a range from -3 to 3, while the actual questionnaire uses a scale from 1 to 7. This normalization centers the mean value at 0 (corresponding to a rating of 4), with 1 representing -3 and 7 equivalent to 3.

From this figure, it becomes evident how each item was generally perceived and rated. Notably, only three items deviated from the negative scale, namely "difficult to learn/easy to learn," "conventional/inventive," and "not secure/secure." The remaining items predominantly weighted to the left, indicating substantial negative feedback for those dimensions.

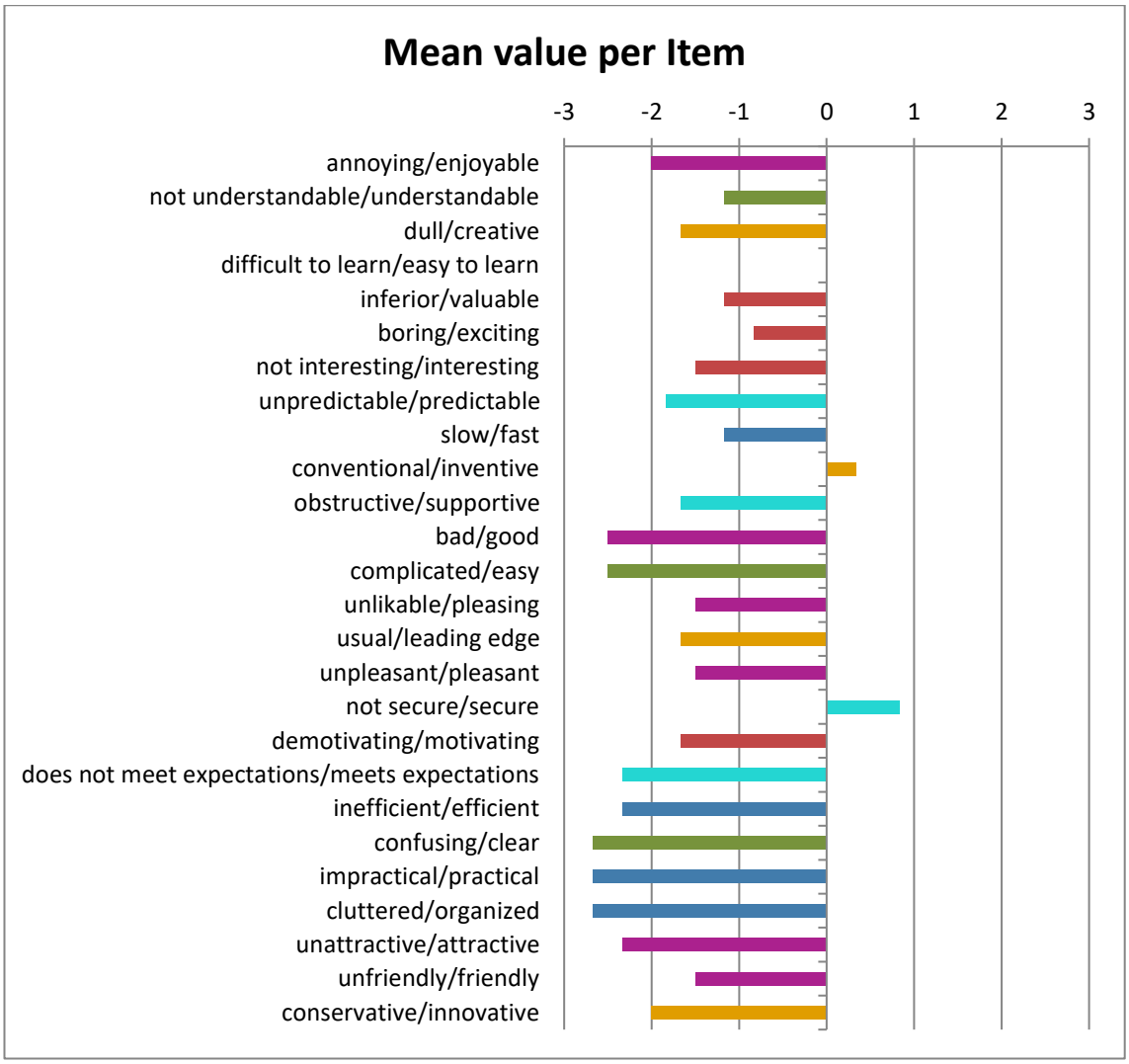

Figure 3: *Means, variances and standard deviations of each item of UEQ*

The first table (Table 10) provides detailed information about each item, including its mean value, variance, standard deviation, and the corresponding dimension (scale) to which it belongs. It is important to note that the order of the questions in the questionnaire aligns with the sequence presented in this table.

One noteworthy observation is the low variance for most items, indicating a high degree of agreement among respondents. However, a few items, specifically "conventional/inventive," "boring/exciting," and "slow/fast," exhibit considerable variance, with

values exceeding 2.5. Additionally, eight more items fall within the range of variance between 1 and 2, while the remaining 14 items have variance values lower than 1. These statistics provide valuable insights into the distribution and agreement of responses across the various dimensions.

Table 9: *Statistical overview of UEQ results.*

Item	*Mean*	*Variance*	*Std. Dev.*	*Scale*
annoying/enjoyable	-2.0	0.8	0.9	Attractiveness
not understandable/understandable	-1.2	1.4	1.2	Perspicuity
dull/creative	-1.7	0.7	0.8	Novelty
difficult to learn/easy to learn	0.0	1.2	1.1	Perspicuity
inferior/valuable	-1.2	0.2	0.4	Stimulation
boring/exciting	-0.8	3.0	1.7	Stimulation
not interesting/interesting	-1.5	1.9	1.4	Stimulation
unpredictable/predictable	-1.8	1.8	1.3	Dependability
slow/fast	-1.2	2.6	1.6	Efficiency
conventional/inventive	0.3	3.9	2.0	Novelty
obstructive/supportive	-1.7	0.7	0.8	Dependability
bad/good	-2.5	0.3	0.5	Attractiveness
complicated/easy	-2.5	0.3	0.5	Perspicuity
unlikable/pleasing	-1.5	0.3	0.5	Attractiveness
usual/leading edge	-1.7	1.1	1.0	Novelty
unpleasant/pleasant	-1.5	0.7	0.8	Attractiveness
not secure/secure	0.8	1.0	1.0	Dependability
demotivating/motivating	-1.7	1.9	1.4	Stimulation
does not meet expectations/meets expectations	-2.3	0.3	0.5	Dependability
inefficient/efficient	-2.3	0.3	0.5	Efficiency
confusing/clear	-2.7	0.3	0.5	Perspicuity
impractical/practical	-2.7	0.3	0.5	Efficiency
cluttered/organized	-2.7	0.3	0.5	Efficiency
unattractive/attractive	-2.3	0.3	0.5	Attractiveness
unfriendly/friendly	-1.5	1.1	1.0	Attractiveness
conservative/innovative	-2.0	1.2	1.1	Novelty

In Table 11, I have included the results for the hedonic, pragmatic, and overall attractiveness dimensions of the UEQ. The scales of the questionnaire can be divided into pragmatic quality consisting of Perspicuity, Efficiency, and Dependability; and hedonic quality consisting of Stimulation and Originality. Pragmatic quality pertains to task-related quality aspects, while hedonic quality relates to non-task related quality aspects. [30]

Additionally, I have calculated the mean of the three pragmatic and hedonic quality aspects. These calculations provide a deeper understanding of the overall user experience quality across these dimensions, helping to gauge the holistic perception of usability and attractiveness in the evaluated system.

Table 10: *Hedonic, pragmatic and attractiveness of UEQ results.*

Pragmatic and Hedonic Quality	
Attractiveness	-1.89
Pragmatic Quality	-1.68
Hedonic Quality	-1.27

Table 12 displays the means and variances of the UEQ results across six different dimensions. All the scales received overwhelmingly low scores. Notably, the dimension "Efficiency of the system" received the lowest score of -2.21, signifying that users perceived an unwarranted amount of effort required to complete their tasks. On the other hand, both "Dependability" and "Novelty" achieved the highest score of -1.25.

The "Novelty" dimension assesses the system's creativity and its ability to capture the users' interest, while "Dependability" reflects the level of control users feel during interaction and the perceived security and predictability of the system. These insights provide valuable context for understanding the strengths and weaknesses of the user experience in different dimensions. [30]

Table 11: *Mean and variance by scale.*

UEQ Scales	***Mean***	***Variance***
Attractiveness	-1.89	0.13
Perspicuity	-1.58	0.12
Efficiency	-2.21	0.31
Dependability	-1.25	0.20
Stimulation	-1.29	0.61
Novelty	-1.25	0.85

4.3 Interview results

In this section, I will discuss the interviews I conducted right after the test users filled in the UX questionnaires. I will go through each of the five questions. For each question, I will provide a table summarizing the responses' themes and then explain what I found

during these interviews. This approach will help me provide a more detailed understanding of the qualitative data I gathered through these interviews.

Question 1: How did you find the overall usability of CrossFire's main menu interface during the test? Were there any specific aspects that stood out as particularly user-friendly or challenging?

Theme	*Frequency*	*Overall sentiment*
Poor usability	4	Strongly negative, calls for redesign
Outdated design	3	Negative, cited as looking old
Basic settings work	2	Slightly positive, needs more options
Neutral opinion	1	Purely neutral, no specific comments

The majority of the responders had negative opinions. They found the design to be outdated and not easy to use. While some thought the basic settings were alright, many found certain features hard to access. Overall, most interviewees considered the usability of the game to be poor. Additionally, a few participants held a neutral view, stating that there was nothing particularly outstanding or problematic about the interface.

Question 2: Can you recall any specific tasks or interactions within the main menu that you found particularly easy or difficult to accomplish? What made them so?

Theme	*Frequency*	*Overall sentiment*
Difficulty in clan joining	3	Negative, frustrating experience
Hard to find characters	2	Negative, complicated search
Easy weapon equipping	1	Positive, no issues mentioned
Settings task okay	1	Neutral, acceptable but not ideal

When it came to equipping weapons and grenades, most participants found it to be a straightforward process. However, challenges arose when they attempted tasks like joining clans or changing main characters. Finding games also proved to be a bit challenging for some users. There were some individuals who thought most of the tasks were very intuitive and fairly easy, when on the other hand there were some individuals especially among novice-users who thought that some of the interactions were well hidden and unclear.

Question 3: Were there any moments during the usability test when you felt confused or frustrated while navigating the main menu? Please describe those instances and any suggestions for improvement.

Theme	***Frequency***	***Overall sentiment***
Difficulty finding achievements	4	Strongly negative, confusing layout
Poor mode explanations	3	Negative, not user-friendly
Server selection issues	2	Negative, misdirects to other servers
Unwanted navigation	1	Negative, leads to start page

Participants faced difficulties when trying to find achievements and mode explanations. The process was generally considered to be challenging. However, the perception of server options was less definitive. Some found it confusing, while others did not specifically raise it as a concern. This indicates a diversity of experiences and opinions among the interviewees. A common complaint among the interviewees was the lack of clarity and the presence of multiple layers of menus required to access these features. Many users also expressed frustration when they accidentally clicked the wrong button, which led them back to the game lobby.

Question 4: In your opinion, did the test tasks accurately reflect the typical actions a player might take within CrossFire's main menu? If not, what important tasks or interactions were missing?

Theme	***Frequency***	***Overall sentiment***
Basic tasks covered	2	Positive, but limited scope
Missing essential features	2	Negative, important tasks omitted
Neutral opinion	1	Neutral, no strong views

The majority of participants believed that the tasks covered the basics effectively. However, some interviewees pointed out that certain crucial aspects, such as bug reporting and other essential tasks, were not addressed. This suggests varying expectations regarding what constitutes "basic" in the context of the game. Notably, it was primarily Veteran-players who desired a broader range of tasks. In contrast, most novice users expressed satisfaction with the existing task scope. Nonetheless, many novice users acknowledged their limited knowledge of the game, making it challenging for them to define what qualifies as a basic task and what does not.

Question 5: Did you encounter any unexpected issues or surprises while using the main menu? How do you think these issues might affect the overall gaming experience?

Theme	*Frequency*	*Overall sentiment*
Outdated UI design	3	Negative, described as uninviting
Required game restart	2	Negative, affects user experience
Achievement name change	2	Negative, causes confusion
Miscellaneous bugs	2	Negative, adds to overall frustration

Participants reported encountering various minor bugs and unexpected occurrences in the game. The most prevalent issue involved achievement names changing upon reaching certain levels, which was a common source of frustration. Another recurring problem was the necessity to restart the game to apply setting changes. While these issues were commonly mentioned, it is worth noting that some individuals found them to be considerably bothersome, while others acknowledged these points but appeared to be less affected by them. This suggests differing levels of tolerance for such usability issues among users.

In addition to these concerns, both veteran and novice users expressed significant worry that the outdated and buggy user interfaces could deter potential newcomers from playing the game. Some veteran users shared stories of friends who had extensive experience with the game and had criticized both the in-game UI and main menu UI in the past, highlighting persisting issues that might deter players.

In summary, the overall consensus from the interviews is that the game's usability falls below expectations. The outdated user interface, intricate settings, and the presence of bugs collectively contribute to a frustrating user experience. Even seemingly minor issues can accumulate, creating a sense that the game is unfinished or still in a testing phase. This unfavorable experience extends to both new and experienced players, potentially discouraging individuals from dedicating their time to the game.

The majority of interviewees encountered suboptimal user experiences, encountering challenges across various aspects of gameplay, from basic tasks to more complex ones. These findings will be explored in greater detail in the following discussion chapter, where we will delve deeper into the analysis and propose potential improvements.

5. DISCUSSION

In this chapter, we are looking into the findings presented in Chapter 4. We will systematically go through the results, discussing the usability evaluation results, UX questionnaire results, and interview findings. Finally, we will propose improvements and address the limitations of this thesis.

5.1 Usability and UX discussion

The average success rate for completing tasks in the main menu was 75%. However, this rate varied between veteran and novice players, with veterans achieving an 88% success rate and novices at 75%. The most challenging task for both groups was Task #10, which involved finding a mode explanation for zombie mode. Only one veteran and one novice player could complete it, resulting in a low average success rate of 33%. Interestingly, there were four tasks— 7, 10, 12, and 14, that only one novice player could complete.

The time taken to complete tasks also showed significant differences between the two groups. On average, it took novice players 13 minutes and 4 seconds to complete all tasks, while veteran players took just 6 minutes and 14 seconds. This means veteran players were over 100% faster. However, for less familiar tasks like Task #10, the time difference between the two groups was not as significant.

The dominant feelings towards the main menu were largely negative, including frustration and confusion, and this was true for both veteran and novice players. Many veteran players acknowledged that their success in the usability tests was likely due to their extensive experience with the game. They also expressed concerns that the interface could be particularly challenging for new players. Interestingly, the state of the user interface in Crossfire is a hot topic within the game's community. Some veteran players noted that while the interface changes fairly frequently, the changes are not always improvements. This adds to the overall sentiment of frustration and confusion.

From the perspective of novice players, the outdated look and feel of the main menu were significant turn-offs. Some even stated that they would not be interested in a game with such an outdated interface, highlighting the importance of first impressions. Based on the UX questionnaire and interviews, confusion was the most commonly ex-

pressed sentiment, followed by frustration. While there were hardly any positive comments, there were some neutral opinions on aspects like system security and whether the interface was conventional or inventive.

While veteran players did not express concerns about their own ability to navigate the main menu, they did show empathy for new players. Multiple veterans pointed out that the difficulty of some basic tasks could discourage new players from continuing with the game. Novice players expressed strong feelings of frustration and confusion, especially during more challenging tasks. This suggests that the difficulty of the interface significantly impacts their overall gaming experience. Some specific issues had a notable impact on user experience. These included confusing naming conventions for buttons and a lack of intuitive navigational and visual hierarchy in the menus. These design flaws contributed to the overall sentiment of frustration and confusion among both user groups.

5.2 Interview discussion

The interviews exposed a spectrum of concerns and negative sentiments regarding the usability of the game's interface. Most prominent feelings being frustration and confusion. A recurring theme centered around the challenges in navigating the interface, particularly with tasks that were expected to be straightforward, such as joining a game or modifying character equipment. These not only led to user frustration but also raised questions about their potential impact on retaining new players. Remarkably, usability issues are a well-known concern within the Crossfire community, with veteran players often comparing the Crossfire UI unfavorably to that of other games. This points to a broader dissatisfaction within the community. Veteran players also expressed the desire for more advanced tasks in the usability test, which they believed would offer deeper insights into the UI's functionality. In contrast, novice players found the tasks enjoyable yet challenging and admitted their limited ability to gauge the tasks' relevance due to their inexperience with the game. This highlights a gap in understanding the UI's complexities from a newcomer's perspective.

The interviews provided a platform for players to express their thoughts and feelings more openly than during the usability tests. This qualitative feedback played a pivotal role in pinpointing new usability issues and offering insights into potential improvements. It was during these interviews that several usability problems, which were not immediately apparent during testing, came to the forefront. The interviews proved to be particularly valuable in uncovering subtle issues that might have otherwise gone unno-

ticed in the initial usability tests. While most problems were recognized during the tests, the interviews were able to point out some issues that could have been overlooked.

5.3 Proposed improvements

In this chapter, I will discuss the proposed improvements for the game's UI and overall UX. These improvements have been identified based on the critical usability issues discovered during the usability evaluation test, as well as frequent suggestions from players and the minor usability concerns reported in Chapter 4's findings.

The most critical usability issues were related to the visual hierarchy of the UI, making navigation unintuitive, especially across different menus. Naming conventions for various functions were often unclear, which led to confusion and a lack of simplicity. The game's numerous systems, despite sharing similar objectives, exhibited significant inconsistencies in mechanics, hampering system learnability. Many menus suffered from cluttered UI elements, causing difficulties in distinguishing primary, secondary, and tertiary functions. Low-resolution sprites and visuals detracted from the overall polish. Ambiguity concerning actions redirecting users to external websites added to user frustration.

Player feedback included recommendations for better naming conventions, expanded customization options, and comprehensive menu polishing. Addressing alignment issues, overflow problems, and system inconsistencies was also suggested.

The usability test revealed several minor usability issues related to specific buttons, fields, and filtering systems. These are detailed in Chapter 4's findings.

Proposed Improvements:

1. **Visual Enhancements:** Upgrade low-resolution sprites and visuals to higher resolution for a more polished look.
2. **Simplify Systems:** Simplify complex systems to enhance user-friendliness and reduce complexity.
3. **Standardize UI Elements:** Standardize fonts, button designs, and other UI elements for consistency and a cleaner look.
4. **Enhanced Use of Colors and Visual Cues:** Utilize colors and visual cues to provide clearer feedback to users, particularly when distinguishing between owned and unowned items. Improve the intuitiveness of the item shop, differentiating between in-game currency (GP) and premium currency (ZP).

5. **Menu Modernization:** Modernize the text layout and data visualization to resolve outdated layouts in various menus. Redesign these windows to adopt a more minimalistic, user-friendly, and intuitive appearance.
6. **Hierarchy and Layout Changes:** Rework the settings section, updating the hierarchy and layout to a more modern format, such as transitioning from the old tab layout to a list format.
7. **Additional Customization Options:** Introduce more customization options to cater to the diverse preferences of players.
8. **Alignment and Overflow Fixes:** Address alignment issues, overflow problems, and broken elements, particularly in the stat window and other menus.
9. **Complexity Reduction:** Simplify complex systems to make them more user-friendly, enhancing their functionality and learnability.

Implementing these improvements aligns with the game's long-term goals. New systems and mechanics are continually introduced, and consistent UI elements and similar mechanic designs would enhance system learnability, intuitiveness, and the overall user experience. These changes would ensure that new systems complement existing ones, preventing detrimental effects on player retention across all skill levels. Improving the UI and UX would contribute to a more welcoming, enjoyable, and engaging player experience, ultimately benefiting the game's reputation and player retention.

5.4 Related work

In this section, I compare two studies that, while differing in focus, share contextual similarities with my research. These studies provide valuable insights into how user's prior involvement with the system influences their experience and subjective opinions.

Study 1: *The Relations between Interface Design of Digital Game-Based Learning Systems and Flow Experience and Cognitive Load of Learners with Different Levels of Prior Knowledge.*

The first study's research involved 200 participants and focused on various digital learning games. A key finding of this study was the impact of prior knowledge on the learners' flow experience and cognitive load during game-based learning. The study revealed significant differences in flow experiences based on the system's visibility.

Moreover, it was found that learners with higher prior knowledge experienced a higher cognitive load.[39]

While the primary focus of this study was on cognitive load and flow experience in a learning context, it aligns with my research in a crucial aspect: the unique experiences of players based on their prior familiarity with the system. This study underscores the idea that different levels of experience can significantly shape how users interact with and perceive digital interfaces. This concept resonates with my findings on the usability for CrossFire's interfaces. [39]

Study 2: *An Improved Usability Measure Based on Novice and Expert Performance*

The second study introduces the NEM (Novice–Expert Ratio Method), a original approach to identifying user interface design issues by examining the difference in task completion times between novices and experts. The study involved 337 participants who performed 10 word-completion tasks on a cellular phone interface. [40]

A key focus of this study was to test the construct validity of NEM's ratio measure against common alternatives. The findings highlighted the limitations of relying solely on completion time data to assess usability. The study emphasized the importance of considering the number of actions taken to complete a task, especially in scenarios involving novice and expert users. The study also explored various validity questions related to usability measurement in novice-expert contexts, through a systematic confirmatory factor analysis, which is outside of this thesis' scope. [40]

This study's exploration of the differences in usability testing between novice and expert users offers valuable insights relevant to my research. It highlights the complexity of measuring usability, particularly in contexts where users' experience levels vary widely. The emphasis on not just completion time but also the number of actions taken provides better understanding of user interaction with interfaces. WWW Reflecting on my research approach, I recognize the potential value of incorporating a 'click for completion' measurement. This metric could have provided additional insights into the user interface's efficiency and intuitiveness. However, the study supports the idea of including both novice and expert users. It highlights the importance of diverse user experiences in identifying unique usability issues. The study states that this approach is particularly beneficial in revealing interface aspects that may pose challenges for novice users, which experienced users might easily navigate. [40]

In conclusion, these two studies highlight how a user's prior experience significantly influences their interaction with and experience of the system. Additionally, they demon-

strate the benefits of incorporating both novice and expert users in usability testing to identify issues effectively.

5.5 Future work and limitations

This chapter explores future work and the limitations of this study, aiming to guide potentially following efforts in improving the game's user interface and overall player experience.

This study's scope was constrained by its small participant pool, comprising only six individuals. This limited sample size means that the study may not comprehensively identify all potential usability issues. A larger and more diverse participant group would provide more reliable data and deeper insights into the challenges faced. Furthermore, the task set did not fully meet the expectations of professional players, lacking more advanced tasks essential to their experience. Future studies should develop a broader task list that delves into various aspects of the game.

To move forward effectively, it is advisable to create a prototype incorporating the proposed improvements. This prototype should be tested with new users to evaluate its usability and user experience. Refinement through iterative testing is crucial to ensure that the proposed changes effectively address the issues identified in this study.

An iterative design and testing process is essential to maximize the game's user experience. Gathering more qualitative feedback from a larger and more diverse user base can show additional usability issues that may have remained undetected in this study. This feedback is invaluable, providing insights that can guide the refinement of the UI/UX.

Despite its limitations, this study has illuminated significant usability and user experience issues within Crossfire, offering comprehensive proposals for improvement. Future research should consider applying a similar approach to other games and genres, especially examining the experiences of users with varying levels of expertise.

Although this study's contributions are constrained by participant numbers and task scope, they have provided a clearer understanding of the UI/UX challenges in Crossfire. This study has laid the foundation for a systematic approach to UI/UX enhancement, potentially benefiting a broader range of games.

6. CONCLUSION

I dug into the impact of Crossfire's main menu interface on its usability and user experience. I gathered both qualitative and quantitative data through usability evaluation tests, user experience questionnaires, and structured interviews. In the following section, I will provide answers to the research questions addressed in this study.

RQ1: *How do usability issues in the main menu interface impact the overall gaming experience?*

Usability problems in the main menu interface can greatly affect a player's gaming experience. If players find it hard to navigate the menu or complete basic tasks, they may feel frustrated. This frustration can make the game seem less enjoyable and may even stop players from playing altogether. For new players, a confusing menu can make the game seem too difficult to learn. For experienced players, it can make the game feel like it is not improving or that the developers do not care about the user experience. So, usability issues can make both new and experienced players less likely to spend their time on the game.

RQ2: *How does the usability of Crossfire's main menu interface differ between novice and veteran players?*

The usability of Crossfire's main menu likely varies between new and experienced players. Novice players may struggle more because they are not familiar with the game's layout and options. They might take longer to complete tasks or find the menu overwhelming. On the other hand, veteran players, while more familiar with the game, might still face challenges if the menu is poorly designed. They might expect a more intuitive interface that lets them do what they want quickly. So, while both groups might face usability issues, the nature and extent of their struggles could be different.

RQ3: *In what ways do the perspectives of novice and expert users differ and what unique insights do they each contribute to usability findings?*

Novice and expert users bring different viewpoints to usability studies. Novices can provide fresh insights into the intuitiveness of the game interface because they are seeing it for the first time. Their feedback can help identify what parts of the menu are confusing or hard to use for new players. Experts, however, can offer deeper insights into the functionality and efficiency of the interface. They know what features are most important for regular play and can suggest improvements that could enhance the gaming experience for long-term players. Both perspectives are valuable for creating a user-friendly interface that meets the needs of all players.

In conclusion, the study reveals that usability issues within Crossfire's main menu interface significantly influence the gaming experience for all players. Novices often encounter barriers to entry due to the complexity and lack of intuitive design, leading to frustration and potential disengagement. Veteran players, while adept at navigating existing systems, still value efficiency and coherence, which are compromised by poor design. The insights from both novice and expert players are crucial; novices highlight initial usability roadblocks, while experts shed light on deeper functional flaws. Addressing these concerns is essential for fostering an inclusive, engaging, and enjoyable experience for players at all levels, ultimately enhancing player retention and satisfaction.

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APPENDIXES

APPENDIX A (interviews)

Q#	Pro1 answers
1	*I knew a lot beforehand, but playing it doing these tasks really showed me how bad some things are. I've got to say, the usability is probably the worst of any game I've ever played. If I hadn't played as much as I have, I'd be totally lost. A few things work alright, like settings, but some basic options are missing. Many simple systems are okay, but some things are really hard. There are some basic interfaces that are super hard to find.*
2	*From a beginner's point of view, going from a public match to pressing for a custom match is next-level difficult. No game should make you go from public to custom just to play public matches. There are many bad things; you can see all of them in the video. For example, the custom/public match buttons are just messed up. It makes no sense to have to find some small button in the top left to start playing. It used to be better, now it is like this.*
3	*Well yeah...i had hard time finding the achieviement thingy but I eventually did. The ZM mode explanation is really hard to find, and it does not really tell you anything in the end. Not much else to say. It would be nice to have a server menu that works like in many other games. For example, if I want to go to an EU server, why are there multiple channels instead of just one? They could also just remove the "public match" button since you really do not need it. And this task does not even show how big the problem with public match is. Like, if I press for an EU server in public match, it throws me onto some Egyptian server. And there are lots of other little bugs too. They should hire someone to fix this game. Plus, it is frustrating that some flash games by Miniclip have more crosshair options.*
4	*Yeah, there was. When you come into the game for the first time, many people want to, for example, set up the sound and choose some loadouts. But there were also some weird things that probably no one has ever used. But yeah, it had everything it should have.*
5	*Well, for instance, the name of the achievement suddenly changed when I reached the maximum level (from 'headshot master' to 'sharpshooter'). I got a bit scared when I had to suddenly look for some mode explanation for the zombie model. I found it by chance. Also, the event point ranking is a pretty random task, and a lot of people probably get to see how bad the usability is when they try to find it. It really gives the player a very negative view. For example, many of my gamer friends have criticized the entire game just because of the UI. Like, when you try to adjust some settings, the game makes you think they work, but they do not work until you restart the game.*

Q#	Pro2 answers
1	*The main menu's usability is not up to the mark, to be honest. I mean, I've got the hang of it because I've been playing for a while, but it is far from user-friendly. The settings tab is decent—basic, but functional. But try finding some of the more nuanced features, and it is like a treasure hunt.*
2	*Equipping weapons and grenades, that's usually straightforward, but that's about it. But try changing your main character or applying for a clan and it is a different story. Those should be simple tasks, but they're made unnecessarily complicated here.*

3	*Yeah, I remember getting frustrated when I tried to set the "Headshot Master" achievement as my goal. Why is not that simpler? And the mode explanations? Those should be one-click away, but here I am, navigating through five menus just to get there.*
4	*The test tasks covered the basic actions, but they skipped some of the real issues. Like, why not include finding out how to report bugs or give feedback within the game? That's pretty essential and not easy to locate here.*
5	*The worst surprise? Achievements changing names after reaching a level. Messed with my head. The whole experience feels like a beta version.*

Q#	*Pro3 answers*
1	*I've played a ton of games, and CrossFire's main menu is probably one of the worst in terms of usability. It is a bit all over the place. Some things work well enough, like basic settings. But even there, some key options are oddly placed or hidden*
2	*Adding a grenade or an AK-47 to the loadout was pretty direct. But navigating to the shop, then purchasing a new character? Way too complicated. Multiple currencies just add another layer of complexity.*
3	*I've got to say, applying for a clan was a hassle. I could not find the 'Test' clan easily, and I know my way around. That's got to change. I cannot imagine how off-putting it must be for newbies.*
4	*I'd say it covered the basics but did not get into the gritty stuff. They included tasks like switching characters, but what about the server mess and the buggy interface?*
5	*Dude, small bugs are everywhere. It is frustrating. You think you've changed a setting, and you have to restart the game to see it actually happen. Each of these issues might seem small on its own, but when you add them all together, it makes for an inconvenient and frustrating user experience.*

Q#	*Novice1 answers*
1	*So, like, the usability is super messed up. The game looks like it was made at the start of the 2000s and then just forgotten. Smells like a cash cow mentality. In my opinion, it should be 100 times easier to find the guides for different modes.*
2	*I think the storage thing seemed pretty good, but it is probably also messed up if you have lots of weapons and stuff. Then, it is kind of confusing to find legit games with real players. It shouldn't ever be that hard. And it is hard because the names are not really clear, and it feels like you have to go through multiple buttons to get there.*
3	*It was super annoying when you're in that room area, and then you accidentally hit custom or public match and it throws you right back to the start without asking anything. In my opinion, they could fix it by just putting better names there or asking the player in some sort of confirmation window whether you want to go or not.*
4	*I do not really know much about this game, but those tasks seemed solid to me. I should probably play a bit more to give a more complete answer, but yeah, I think they were fine.*
5	*So, like, not much else than what I already said, but some tasks were surprisingly hard. Like, you'd think it would be easy to switch a character, but nope. The UI looks so outdated and messed up that I'd probably rage quit really quickly.*

Q#	*Novice2 answers*
1	*I do not really know; it was not that great. There was not anything especially good or bad, in my opinion. Some tasks were kinda hard, like joining the clan and that shopping task where you had to find a new character.*
2	*I would not say anything was particularly easy. The hardest tasks were probably*

	the clan one and when you had to buy the new character. Also, creating a new room looked surprisingly complex.
3	*3. When I had to search for that headshot stuff, it was really frustrating because there were so many different awards. They could maybe add a search feature or just make the list clearer.*
4	*4. I thought they were good. It makes sense that a new player would want to change their gun or create a room or something like that. Did not feel like anything was missing, really.*
5	*5. Nothing groundbreaking happened. But I want to say, the overall style and look were pretty terrible. It seemed like it was made on a low budget and likely has a lot of bugs. I think it could scare some new players away from the game.*

Q#	*Novice3 answers*
1	*To be honest, I was pretty lost. I mean, there was not anything that stood out as good or bad, but a lot of the tasks felt harder than they should be. Like, why is it so hard to join a clan or find a new character in the shop?*
2	*Nothing was a walk in the park for me. I really struggled with joining a clan and buying a new character. And setting up a new room? That felt like a puzzle I could not solve.*
3	*Oh man, trying to find info on headshot achievements was like a maze. There were just so many options and no easy way to find what I was looking for. They should really clean that up or add a search feature or something.*
4	*The tasks seemed okay to me, but then again, I am new. It sounds like the kind of stuff you'd want to do in a game like this—change your gun, make a new room, that kind of thing. So, they seemed alright, just tough for a newbie like me.*
5	*No big surprises, but the game looks... dated. Like, it is not inviting at all. The design feels old, and it seems like it might have a bunch of issues. It is not the kind of game look that makes you want to dive right in, you know?*