T.C.

BAHCESEHIR UNIVERSITY

GRADUATE SCHOOL

COMMUNICATION DESIGN HEAD OF THE DEPARTMENT

INVESTIGATION OF GENRE THEORY AND GAME TAXONOMY THROUGH THE ANALYSIS OF STEAM TAGS

MASTER'S THESIS

İLAYDA NUR GÜÇ

ISTANBUL 2024

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ABSTRACT

INVESTIGATION OF GENRE THEORY AND GAME TAXONOMY THROUGH THE ANALYSIS OF STEAM TAGS

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Master's Program in Game Design

Supervisor: Ertuğrul Süngü

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This thesis compares theoretical frameworks of game genre theory in academic literature and the practical categorization systems employed in the gaming industry, with a focus on Steam's tag-based system. Utilizing a case study approach, this research involves an analysis of Steam's categorization system, supported by content analysis of assigned Steam Tags to selected games. The findings reveal inconsistencies between theoretical genre definitions and their practical implementations on Steam, highlighting both the effectiveness and limitations of the current system. The study emphasizes the need for a more formal and standardized game taxonomy to enhance categorization accuracy and improve user experience. This research contributes to the academic discourse on game taxonomy and offers practical recommendations for refining categorization practices in the gaming industry.

Key Words: Game Taxonomy, Game Genre Theory, Steam Tags

ÖZ

STEAM ETİKETLERİNİN ANALİZİ YOLUYLA TÜR TEORİSİ VE OYUN TAKSONOMİSİNİN İNCELENMESİ

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Akademik literatürdeki oyun türü teorilerinin teorik çerçeveleri ile oyun endüstrisinde uygulanan pratik sınıflandırma sistemlerini karşılaştıran bu tez, odak olarak Steam'in etiket tabanlı sistemini ele almaktadır. Bu araştırma, Steam'in sınıflandırma sisteminin vaka çalışması ve seçilen oyunlara atanan Steam Etiketlerinin içerik analizi ile desteklenmektedir. Bulgular, teorik tür tanımlamaları ile Steam üzerindeki pratik uygulamalar arasında tutarsızlıklar ortaya koymakta ve mevcut sistemin etkinlik ve sınırlamalarını vurgulamaktadır. Çalışma, sınıflandırma doğruluğunu artırmak ve kullanıcı deneyimini geliştirmek için daha formal ve standartlaştırılmış bir oyun taksonomisinin gerekliliğini vurgulamaktadır. Bu araştırma, oyun taksonomisi konusundaki akademik tartışmalara katkıda bulunmakta ve oyun endüstrisindeki sınıflandırma uygulamalarını iyileştirmek için pratik öneriler sunmaktadır.

Anahtar Kelimeler: Oyun Taksonomisi, Oyun Türü Teorisi, Steam Etiketleri

ACKNOWLEDGEMENTS

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LIST OF SYMBOLS/ABBREVIATIONS

2.5D	Two-and-a-half dimensional
2D	Two Dimensional
3D	Three Dimensional
4X	Explore, Expand, Exploit, Exterminate
Co-Op	Co-Operative
FMV	Full-Motion Video
FPS	First-Person Shooter
NSFW	Not Safe For Work
PvE	Player versus Environment
PvP	Player versus Player
RPG	Role-Playing Game
RTS	Real-Time Strategy
VR	Virtual Reality

Chapter I

Introduction

1.1. Statement of the Problem

Classification and categorization help us not only organize information but also identify patterns, relationships, and similarities by grouping related ideas and objects. It enhances retrieval, making it easier to locate similar items. It facilitates communication by providing a common framework for discussing and sharing knowledge. It allows us to make predictions and generalizations based on past experiences and observations. By recognizing similarities between different instances within a category, we can infer properties or behaviors that are likely to apply to new instances within the same category. Just like information and objects, we categorize the artifacts and content we create. The most preferred categorization system for entertainment and creative works is "genre." It's used in literature, cinema, video games, or other forms of art and entertainment. This system serves as a fundamental framework for organizing and distinguishing various forms of creative expression based on shared characteristics and thematic elements. Considering that each medium has its own unique methods and capabilities of implementation, how effective and appropriate is the use of a common categorization system for them is a question.

Earliest examples of the genre theory go back to Aristotle. He explores the nature of poetry and its diverse forms by classifying types of poetry according to their methods of imitation and identifying them through their distinct features. Whereas literary genre theory emphasizes the creation and reception of texts, film genre theory covers the entire spectrum, from production to consumption, including the exhibition process. Genres fulfill multiple roles within the cinema industry, such as influencing production and directing choices, shaping how audiences interpret films, and categorizing individual works. In literary studies and the film industry, genres are based on the content of the work, whereas in the game industry, they relate to challenges and mechanics due to the audience's direct and active involvement, but the absence of clearly defined boundaries and a lack of consensus on definitions has made genre a long-standing subject of debate. The evolution of narrative forms driven by technological advancements, and the shift from traditional formulas to innovative ideas and new formats complicate the establishment of a fixed and consistent

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categorization system. Video games, as a relatively recent medium, have been categorized through mainly the lens of genre, however, the definitions of genre are struggling to keep up with the rapid and profound changes that the medium has experienced in a short time span.

1.2. Purpose of the Study

This study has three primary objectives. First, it aims to critically compare the theoretical frameworks of game genre categorization presented in the academic literature with the practical application of genres and other categorization systems currently employed in the gaming industry. For this comparative analysis, Steam, a leading game distribution platform and gaming service, is selected due to its industry dominance and extensive usage of categorization systems through tags and genres.

The second objective is to assess both the strengths and weaknesses of Steam's categorization system. This involves identifying the positive aspects that contribute to effective game classification and discovery, as well as highlighting the limitations, deficiencies, and inconsistencies within the system. By analyzing these aspects, this study seeks to shed light on the broader challenges faced by current game categorization practices in the industry.

Finally, the third objective is to advocate the necessity of a formalized game taxonomy that is systematically structured and widely accepted by both academy and industry. The study underlines the importance of developing a unified and coherent classification system that bridges the gap between theoretical models and practical implementation, ultimately fostering greater consistency and clarity in how games are categorized and understood across both domains.

1.3. Research Questions

RQ 1. How does the theoretical framework of game genre theory in academic literature compare to the practical categorization systems used in the gaming industry?

RQ 2. What are the strengths and weaknesses of Steam's current tag-based categorization system in facilitating game discovery and classification?

RQ 3. Why is there a need for a standardized and formalized game taxonomy that is universally accepted by both the academic community and the gaming industry?

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1.4. Significance of the Study

The study examines Steam's categorization system, highlighting both its effectiveness and its limitations. By a thorough analysis of the system, the study provides valuable feedback for improving game classification and discovery. These findings are crucial for both scholars and industry professionals seeking to refine the ways games are categorized.

Moreover, the research underlines the importance of developing a unified and formal game taxonomy that is accepted by both academy and the gaming industry. By addressing the inconsistencies and ambiguities in current game categorization practices, the study reveals the importance of collaboration between academy and industry in creating a more standardized, structured, and accessible framework for game taxonomy. Such cooperation would contribute to the refinement of categorization systems, benefiting both academic research and industry practice.

The findings of the study may serve as a guide for improving existing systems on platforms such as Steam, as well as offering insights into how game developers can more effectively utilize tags to reach their target audience. A more efficient tagging and categorization system benefits game developers and publishers by increasing the discoverability of their games, potentially resulting in higher sales and player engagement. Additionally, an enhanced game taxonomy and tagging system would significantly improve the user experience. With more accurate and efficient classification methods, users would spend less time searching for games and more time playing the ones that align with their preferences.

Finally, the study holds the potential to inspire future research on exploring alternative or more advanced categorization systems within the gaming industry.

Chapter 2

Literature Review

2.1. Classification & Categorization

 In her book Cataloging and Classification: An Introduction, Lois Mai Chan defines classification, the most fundamental activity of the human mind, as "...the process of organizing knowledge into some systematic order." Classifying is a multistage process that involves identifying a property or characteristic, distinguishing whether things possess this property or not, and organizing those with similar properties into a class. Additionally, this process entails forming connections and making distinctions among classes to create broader and finer categories. (Chan & Salaba, 2016)

 In cognitive psychology, categorization is commonly understood as a process of identifying similarities among things, and a category is a cohesive grouping or classification of stimuli or events. A concept is considered to be information that allows categorization. Following the representational approach of cognitive theory, conceptual knowledge is depicted as separate from any particular interactions between behavior and the environment. This assumption is based on the idea that once a set of categories is established, they can be applied to not only previously encountered stimuli but also to new ones. Some believe this recognition of new events is possible due to the comparison to general information represented in memory. Therefore, the objective of many studies in cognitive psychology is to detect the knowledge that is likely applied within pre-established patterns of categorization. (Zentall, Galizio, & Critchfield, 2002)

 It is not a coincidence that the human brain is often depicted as an archive full of cabinets stacked high with folders brimming with data. From ancient times to the present day, the very essence of how humans comprehend and structure reality, whether it's the wonders of nature or the things they create, is classifying and categorizing the world around them. This innate urge shows itself in philosophical and scientific inquiries. In the following subsections, we will provide a brief overview of the works of two philosophers who are recognized for their contributions to the theory of categories, namely Aristotle and Immanuel Kant, in addition to Linnaeus, a biologist who is acclaimed as "the father of modern taxonomy".

2.1.1. The brief history of categorization in philosophy. Classification and categorization were the backbone of Aristotle's philosophy. Whether it is complex notions of abstract thinking, living organisms, or nonliving objects, he inquired about the world through the lenses of a systematic, definitive, distinctive categorization system. He believed that scientific inquiry should leave behind the superficial and progress from a disorganized state of everyday experience to a system of concepts and propositions organized hierarchically. (Lennox, 2021) He stated that each individual entity signifies as either one of the ten highest categories: *Substance, Quantity, Qualification, Relative, Where, When, Being-in-a-position, Having, Doing, Being-affected.* He exemplified *Substance* as man, horse; *Quantity* as four-foot, five-foot; *Qualification* as white, grammatical; *Relative* as double, half, larger; *Where* as in the Lyceum, in the market-place; *When* as yesterday, last-year; *Being-in-a-position* as is-lying, is-sitting; *Having* as has-shoes-on, has-armour-on; *Doing* as cutting, burning; *Being-affected* as being-cut, being-burned. Individually, none of the mentioned entities constitute a statement by itself, thus they are neither true nor false, rather, what generates a statement, which can be either true or false, is their combination with one another. (Aristoteles, 2009) These ten categories remained unchallenged until Kant criticized Aristotle for selecting his categories arbitrarily. Kant sought a systematic deduction and exposition of the primary concepts of understanding based on a unifying principle. He identified the act of unification, or synthesis, as the core activity of the understanding. This synthesis is not limited to one mental activity but extends to all of them, as their enabling condition. In the domain of conceptual thinking, synthesis takes the form of judgment. Behind every connection of concepts, there is an act of judgment. Thereby, all acts of understanding can be relegated to acts of judgment. (Yovel, 2018) The function that unifies various representations in a judgment also unifies various representations in an intuition. In its broadest sense, this unity is what Kant calls the pure concepts of understanding. He also names these concepts as *categories* with Aristotle, since both of them share a primary purpose although he underlines the fact that they are widely diverging in the manner of execution. He designated four respects and three categories under each of them to categorize any judgment. These twelve categories are the pure concepts of understanding and they are the necessary conditions of possible experience. (Kant, 1995) Here, the difference in execution of Aristotle's and Kant's categories lies in the distinction between what there

is in the world, and what there is to *know*. Kant's categories find their source in the principles of the human mind rather than in the examination of the world or language.

The subject of categories has been a continuous matter in the history of philosophy, and recent discussions on the subject question the possibility of establishing a definitive set of ontological categories due to the skepticism rooted in challenges and doubts regarding metaphysics discourse and epistemology of metaphysics, meaning, whether the world has a distinct ontological structure or we, as humans, can discover what that structure is. (Thomasson, 2022)

2.1.2. Eight levels of taxonomy. Taxonomy, as the science of categorizing living organisms, does not aim to describe life to the point but serves as a tool to understand the biological structure. Describing the relationships among living organisms and the classification of biological diversity predates evolutionary theory. Historically, organisms were classified and placed according to the concept of the "Great Chain of Being" or "Ladder of Life". In this perspective, organisms were represented as rungs on a ladder, with rocks and minerals at the bottom, and humans near the top. However, contemporary understanding acknowledges that the organisms did not evolve linearly, but rather share ancestors. Evolution does not follow a particular endpoint, a prescribed route, nor predictable roads. Species are not at their final destinations but rather exist wherever they happened to be when humans began mapping them out. Despite not being able to predict their future, in theory, we can figure out the path that each species took to its present location. Darwin proposed a more appropriate metaphor for these relationships, the great "Tree of Life", symbolizing branching evolution. (Scott & Baum, 2016)

Carl Linnaeus, a botanist born in early 18th-century Sweden, who is considered the "father of the modern taxonomy", did not know about evolution because he was more than a century older than Darwin, but he saw as well that some characteristics are more important than others while building up his taxonomy. In his publication Systema Naturae (The System of Nature), he presented a hierarchical classification of the three kingdoms of nature: stones, plants, and animals. Within each kingdom, categories included classes, orders, genera, species, and varieties. Though there were some additions, Linnaeus' system survived despite modern discoveries. This is mostly because genetic findings typically align with classifications grounded in structure and

form, as established by his system. (Müller-Wille, 2024) The Linnaean system is significant because it introduced binomial nomenclature, allowing scientists to universally identify species and avoid confusion caused by common names.

2.2. Genre as a Category System

Just as humans categorize elements within their natural environment, they have also found it essential to establish classification systems for the objects and artifacts they create. The most preferred categorization system for art and literary works is "genre." This system serves as a fundamental framework for organizing and distinguishing various forms of creative expression based on shared characteristics and thematic elements. The classification denoted as *genre* originates from French and Latin, translating to *kind* or *genus*. *Genus* means "a class", "kind", or "sort", thereby, the genre serves as a concept allowing the convenient division of disparate or often interconnected subjects. While it benefits classification and establishing boundaries, it also unintentionally facilitates crossover. Genres have been recognized as a constant ground of contestation. In recent years, accepting the merging, blending, and overlapping categories, the inquiries about classification shifted from empirical to theoretical, and more flexible categories have been embraced. (Harris, 1995)

2.2.1. Literary genre theory. As one of the earliest examples of the Genre Theory, Aristotle investigates the nature of poetry and its various forms in Poetics, by defining the categories of poetry based on their modes of imitation and distinguishing them by their unique characteristics. However, beneath its seemingly simple assertions, there lies an assumption that poetry exists *in itself* and possesses essential qualities. This assumption influences thinkers after him for centuries, restricting genre theory to textual analysis. Building on Aristotle's framework, Horace solidifies genre distinctions and promotes establishing cohesive literary standards. In contrast to Aristotle's holistic view, he separates creation from criticism. By emphasizing imitation as cultural indoctrination, he forms a model that poets produce their work by imitating norms established by literary authorities. This practice shifts the genre thinking from description to prescription. (Altman, 1999)

Aristotelian notions of genre laid the foundation of the neoclassical critical system. The most significant dispute during this period revolved around the acceptance of the

hybrid genre, *tragicomedy.* Despite neo-Aristotelians' insistence on refusing genres that are not mentioned by Aristotle and Horace's commitment to maintaining genre boundaries, the emergence of tragicomedy demonstrates the potential for generating new genres by blending existing ones. For the first time, genre theory adapts to the evolution of genres, rather than dictating their development. In the latter half of the 18th century, a new genre emerged between *tragedy* and *comedy*, later known as *drama*. This genre eventually evolved into *melodrama* which became the most important genre of cinema. While Aristotle's influence in describing existing practices endures, the example of *melodrama* highlights the critic's potential role in shaping genre as a dynamic aspect of cultural development and self-expression. (Altman, 1999)

In contrast to the neoclassical approach, the nineteenth-century romantic movement established a new canon that adopted a genre-mixing aesthetic to break down all generic differences rather than identifying and separating them. In the late nineteenth century, the developments in scientific models, particularly Linnaeus' taxonomy/naming system and Darwin's evolutionary schemes, influenced genre theory. Ferdinand Brunetière applied the evolutionary model to genres, aiming to prove their existence and systematic nature to the theorists. Though this approach seems persuasive, its confusing structure often obscures the real theoretical problems, preventing theorists from settling on all aspects of their study. Twentieth-century theorists diverge sharply from this scientific approach and attack the very concept of genre. (Altman, 1999)

Modern literary theory and practice have discredited genre criticism by posing three primary questions; whether texts could compose a class, whether the members of a genre could share a common trait, and whether a genre could function as an interpretative guide. In History and Genre*,* Ralph Cohen explains that critics define and use literary genres differently for historical reasons. He claims that genres are open categories that are altered by adding, contradicting, or changing their constituents. These categories are not determinate since the grouping is a process. A process that is established by the need for distinction and interrelation of the person that makes that grouping. He claims that it is self-evident that a literary text can be grouped differently by different critics, since their generic purposes may vary. (Cohen, 1986)

In The Origin of Genres*,* Todorov asks where genres come from and responds by claiming that new genres always emerge from the transformation of precedent ones. This transformation occurs by reconfiguring the older ones, by blending or eliminating

their elements, and through inversion. Thus, by forming a dynamic system of continual change, genres evolve. (Todorov, 1976)

The ongoing debate over the definition and classification of literary works has persisted since classical times and has extended to other forms of fiction, including film and games. These mediums have not only been subject to the same disputes but have further intensified the discussion. Their share of the continual dispute will be investigated in the following sections.

2.2.2. Film genre theory. Altman considers film genre theory as an extension of the literary genre theory. While literary genre theory focuses on textual production and reception, film genre theory encompasses all aspects from production to consumption, including exhibition. Genres in film theory serve the cinema industry with various functions, including driving production, guiding programming decisions, shaping audience interpretation, and defining individual texts. He identifies genres as not an average descriptive term but as blueprints, structures, labels, and contracts. (Altman, 1999)

Sarah Berry claims that genre films are easily identifiable within a culturally familiar framework. Genres assist viewers in selecting films and provide insight into them. However, emphasizing genre as a part of a market is a fairly recent view. Since they considered art not a commercial form but an individual formative vision, early film critics disregarded genres. Film scholars use genres as a tool for interpretation and analysis, on the other hand, producers and audiences use them as a means of description. Genres are a significant part of the creation and consumption of films worldwide. Though many Hollywood genres are internationally known, they always have cultural interpretations. With the globalization of culture industries, the cross-cultural circulation of genres is becoming significant in constructing and interpreting cinematic meaning. (Berry, 2007)

Robert Stam raises several problems concerning genre analysis. The first is *extension;* some genres are too broad while others are too specific. Second; *normativism,* having a predetermined and deduced idea of a genre, rather than using it to enhance creativity and innovation. Thirdly, genres are often considered *monolithic,* suggesting that films can fit only into one genre. Fourth, *biologism,* a kind of essentialism that suggests genres have a life cycle that implies birth and death. He also counts

Hollywoodcentrism, defending that analysts' attention directed solely to Hollywood is highly restrictive. (Stam, 2000)

Leger Grindon explains film genre theory as something shaped by adaptable boundaries and the concepts of family resemblance and prototype which allow for continuity and flexibility in film selection. Distinguishing between mode, genre, cycle, and cluster provides a framework for exploring the relationship between films and their cultural context. Studying the genre's main conflicts and conventions illuminates the connection between film design and audience experience. (Grindon, 2012)

Some theorists defend an ideological aspect of film genres. Daniel Chandler offers a compact review of these aspects in his work An Introduction to Genre Theory*,* by collecting scholars who interpret the evolution of genres as a response to political, social, and economic conditions. He reports that scholars like Andrew Tudor emphasize that genres define moral and social constructs. Similarly, Susan Hayward suggests that genre conventions shift under the ideological climate of the time. Leo Baudry considers film genres a reflective tool for audiences' social and cultural concerns, while Robert Lichter illustrates the television genres as a mirror to the values of their creators. On the other hand, Steve Neale defends that genres can shape social and cultural values as well. The relationship between genre and society is considered mutual by Thwaites, stating that genres are shaped according to society and the change in the genre can influence the society in return. (Chandler, 1997)

2.2.3. Game genre theory. While genres refer to the content of the work in the literary studies and film industries, they refer to the challenges and mechanics in the game industry. In the Fundamentals of Game Design, Ernest Adams defines genres as "...categories of games characterized by particular kinds of challenge, regardless of setting or game-world content." They are used by developers, sellers, and players to effortlessly describe and communicate what kind of gameplay a game offers. (Adams, 2014)

In 1984, Chris Crawford proposed one of the very first taxonomies of games by dividing computer games into two main categories: *skill-and-action games*, emphasizing perceptual and motor skills, and *strategy games*, emphasizing cognitive effort. While skill-and-action games were subdivided into *combat, maze, sports, paddle, race,* and *miscellaneous games,* strategy games were subdivided into *adventures, D&D games, wargames, games of chance, educational and children's*

games, and *interpersonal games.* However, he warns the reader that this taxonomy is not definitive and has many flaws, primarily because it is based on historical circumstances rather than any grand principle. He suggests that the market will lead to a more organized and consistent taxonomy over time. (Crawford, 1984)

For Mark J. P. Wolf, what makes the video game genre different from literary and film genres is the direct and active participation of the audience. While in films, genre elements show themselves in the area of iconography, structure, and theme, for the video game genres the essential element is interactivity. The form of interactivity present in the game, combined with the game's objective, can serve as a foundation to construct video game genres. (Wolf, 2002)

Adams briefly introduces the classic game genres while explaining those challenges. He starts with *Shooter games*, in which the player uses a ranged weapon to shoot the targets at a distance. The significant skill is aiming and focusing on the area and the target. He then subdivides shooters according to their viewpoint into *2D shooters* and *3D shooters.* In the former, the key factor is shooting as fast and as many enemies as possible, while the latter offers a close representation of the real world. *Action games* have physical challenges while they may often involve economic challenges like collecting objects. *Arcade games* are a form of action games that are usually designed to be unwinnable so that the player continues to spend more coins on them. *Platform games*, the subgenre of action games, often have exaggerated and unrealistic physics where the player moves by jumping on platforms while avoiding obstacles and battling enemies. Another subgenre of action games, *Fighting games,* requires physical skills like reaction time and timing. *Strategy games* include tactical, logistical, economic, and exploration challenges. *Role-playing games* have quests that require combat and character growth besides tactical, economic, and exploration challenges. *Sports games simulate* matches while integrating management functions like team or athlete career management, some known as *manager games* exclusively focus on managing aspects. *Construction and simulation games* involve building things while operating within economic constraints. *Adventure games* provide exploration and puzzle-solving, besides further conceptual challenges. *Puzzle games* involve recognizing patterns, making logical deductions, or understanding a process. (Adams, 2014)

In Genre Trouble, Espen Aarseth claims that simulation is not a game genre, all computer games contain simulation. What we classify as a simulation is actually a strategy. (Aarseth, 2004)

Apperley suggests the fundamental problem with video game genres is that they are loose aesthetic clusters based on previous media forms, rather than being a general description of the style of ergodic interaction that it has. Besides, he claims that the players may not find the endless repetition of generic conventions satisfying. Instead, what they expect is genre stability tempered by innovation, not by style but rather technique. He supports this idea by the collapse of the gaming industry from 1983 to 1984. The audience considered game genres unstable, though they were expecting them to adapt and take advantage of the advancing capacities of the hardware that games were played on. (Apperley, 2006)

By focusing on the classification theory, Clarke et al. explore the video game genre from a library and information science perspective to assess the current strengths and weaknesses of video game genre classification. They suggest genres fail practically because they do not sufficiently identify, collocate, and support the retrieval of games. They defend that genre classification must follow the methods for scientific classification, such as mutual exclusivity and joint exhaustivity. Besides taxonomic characteristics, being defined by social conventions makes genres especially difficult to use by users who are not familiar with the domain or the culture. (Clarke, Lee, & Clark, 2017)

Chapter 3

Methodology

3.1. Research Design

3.1.1. Case study. A case study is a method that involves an in-depth examination of a phenomenon within its natural setting. Evidence gathered from one or more case sites, is systematically analyzed and synthesized in this inductive technique. This process allows concepts and patterns to emerge, contributing to the formation of new theories or the expansion of existing ones. Due to its capacity to capture a wide range of contextual data, case research can provide a deeper, more contextualized, and more authentic understanding of the phenomenon of interest than most other research methods. (Bhattacherjee, 2012)

As with any scientific research, case studies must commence with the formulation of research questions that hold both theoretical and practical significance. This study begins with the primary research question: "How does the theoretical framework of game genre theory in academic literature compare to the practical categorization systems used in the gaming industry?" This question aims to bridge the gap between established academic concepts and their real-world application within the industry. Upon reviewing the relevant literature and conducting the research, additional questions were formulated to further explore the subject. These include: "What are the strengths and weaknesses of Steam's current tag-based categorization system in facilitating game discovery and classification?" and "Why is there a need for a standardized and formalized game taxonomy that is universally accepted by both the academic community and the gaming industry?" These supplementary questions aim to assess the effectiveness of existing systems and to highlight the necessity for a cohesive taxonomy that can enhance both academic analysis and industry practices.

In this method, settings are selected based on theoretical considerations for instance replicating previous cases, extending initial theories, or filling theoretical categories. It's important to choose sites that align with the research question. In this study, Steam is selected as the setting due to its status as a leading digital distribution service in the

industry, characterized by an extensive library and a substantial user base spanning over two decades.

Once the setting has been selected, the appropriate instruments and protocols for data collection must be determined. In this case, a two-phase data collection approach is employed. Initially, we examine the Steamworks Documentation as a reference to analyze the categorization system provided by Steam, given that the users are anticipated to assign Steam Tags based on this guide. Afterward, 10 games were randomly sampled from the first 100 titles of Steam Store's top seller list, to conduct further analysis on the Tags assigned to them. The list of selected games, along with additional information, is provided in section 3.3.

3.1.2. Content analysis. Content analysis is a systematic method for analyzing text in either a quantitative or qualitative manner. The process begins with sampling texts relevant to the research, not randomly but selectively, followed by dividing each text into segments that serve as units of analysis. Researchers then apply a process called coding, by assigning one or more concepts to these unitized text segments. The coded data is subsequently analyzed, often both quantitatively and qualitatively, to identify recurring themes, their contexts, and their interrelationships. (Bhattacherjee, 2012) In this study, the data collected through the case study methodology will be analyzed using content analysis techniques. We will conduct a conceptual examination of the tag table outlined in the Steamworks Documentation, which serves as the guiding framework for assigning tags. Additionally, the tags assigned to the selected games will be conceptually analyzed, their implications will be discussed, and a comparison will be drawn between these tags and established theories of game genres.

3.2. Setting

This subsection provides the technical details on the medium utilized in this case study, specifically the Steam platform.

3.2.1. What is Steam? Steam is a pioneering distribution service for purchasing and playing digital video games, launched in 2003 by Valve Corporation. The service offers a vast array of games from AAA to indie titles. Besides being a marketplace and a storage platform where users access the games they have purchased, Steam offers community building and social networking for both developers and

players. With a library of nearly 30,000 games, a peak of 33 million concurrent players, and an array of content extending beyond games to include software applications, virtual reality experiences, and other digital media, Steam stands as a dominant platform in the entertainment industry.

3.2.2. What are Steam Tags? Steam Tags are a definition and categorization system that is used for games published on the platform. Assigned by both developers and players, these tags provide quick information for users and significantly influence a game's visibility on the Store page, determining its placement and relevance for recommendations. Beyond games, tags can also be applied to non-game content such as applications, tools, videos, music, and soundtracks, enhancing the discoverability of a wide array of digital media.

3.2.3. How are they assigned? Each game on Steam is initially tagged by its developers using the Steamworks Tag Wizard before launch. While the minimum requirement is 5 tags, it is recommended to use 20 to maximize efficiency. Although there is no upper limit for the number of tags that can be applied, only 20 are visible to users. The preferred order of the tags can also be set through the Tag Wizard. These tags are not randomly assigned; they are selected from a pre-approved list provided by Steam. In Figure 1 below is a list of the basic concepts and topics that Steam offers.

- **Genres**, with particular attention to the most specific Genre or Sub-Genre
    - Example: *Super Meat Boy* can most specifically be described as a Precision Platformer
    - **Super-Genre**: Action
    - **Genre**: Platformer
    - **Sub-Genre**: Precision Platformer
- **Visual properties**, such as
    - **Dimensions**: 2D, 2.5D, 3D
    - **Camera Perspective**: Third-Person, First-Person, Top-Down, Isometric, Side-Scroller, etc.
    - **Visual Style**: Pixel Graphics, Realistic, Abstract, Anime, Cute, Stylized, Minimalist, etc.
- **Themes & Moods**, such as
    - **Theme**: Sci-Fi, Fantasy, Space, Zombies, Vampires, etc.
    - **Mood**: Relaxing, Funny, Atmospheric, etc.
- **Features**, such as
    - **Gameplay mechanics** like Choices Matter, Resource Management, Trading, etc.
    - **Design ingredients** like Physics, Procedural Generation, etc.
    - **Player activities** such as Sailing, Mining, Hacking, etc.

Figure 1. Basic Concepts and Topics of Steam Tags

Hundreds of different options are offered to specify the information given for each game. A full list is provided in the appendices. As tags are assigned, the Tag Wizard learns about the game and highlights possible relevant games, based on similar games previously tagged on Steam. After the game is published, players with non-limited accounts can apply additional tags. While this may change the visible tags and their order over time, developers can reorganize them at any time through the Tag Wizard.

3.2.4. How are they used? Besides describing a game, tags serve as the sole categorization system employed by Steam. According to the Steamworks Documentation, the functions of the Steam Tags are as follows.

- Browse genres & categories: Tags provide categorization and grouping on the catalog of the Steam Store page. By applying tags, games are organized into collections, allowing users to browse through different genres and other characteristics.

- Search with tags: Users can use tags as search filters to find specific types of games. Tag-based searches allow users to pinpoint games that meet specific criteria, making the search process more efficient and precise.

- Explore tag-driven recommendations: Steam utilizes tags to generate personalized game recommendations. By the tags associated with a user's previously played or purchased games, Steam recommends new titles that share similar tags, providing a more personalized discovery experience.

- Utilize tag-driven dynamic Collections in the Library: Tags help users organize their personal game library by creating dynamic collections. This feature allows players to easily and quickly locate games within their library.

3.3. Procedures

3.3.1. First Phase of Data Collection. In this study, we will conduct a conceptual analysis of the tag table provided in the Steamworks Documentation, which functions as the primary framework for the assignment of Steam Tags. This table comprises 423 tags that are grouped under 13 categories. Notably, only three of these categories directly related to game genres, while most of the remaining categories consist of functional and convenient clusters for retrieving and cataloging games.

Additionally, certain categories and tags are designed to apply to non-game content, broadening their utility within the digital ecosystem.

The analysis will involve a detailed examination of the 13 categories and 423 tags, considering both the individual characteristics of each tag and the relationships between them. This approach allows for an understanding not only of the independent significance of each tag but also of how the categorization system operates as an integrated whole. By analyzing the interconnectedness of the tags and categories, we aim to uncover insights into the structural logic underlying Steam's tagging system and its broader implications for content classification.

3.3.2. Second Phase of Data Collection. After analyzing the categorization system provided by Steam, we selected a random sample of ten games from the top 100 titles on the Steam Store's bestseller list to conduct a more in-depth analysis of the tags assigned to them. The rationale for choosing games from the top seller list is based on the assumption that these titles, having reached a larger audience, are more likely to have accumulated a significant number of votes for their associated tags. The tags assigned to these selected games were then subjected to a conceptual analysis, with respect to their underlying meanings, implications, and relevance to the games being explored. This analysis aimed to identify any alignment or deviation between the tagging system and established theoretical frameworks within game genre theory. A detailed list of the selected games, along with additional information taken directly from their Steam page, is provided below.

1. Cult of the Lamb:
    a. Released Date: 11 Aug, 2022
    b. Developer/Publisher: Massive Monster, Devolver Digital
    c. Genre: Action, Adventure, Indie, Strategy ("Cult of the Lamb," 2022)

2. Chained Together:
    a. Released Date: 19 Jun, 2024
    b. Developer/Publisher: Anegar Games, Anegar Games
    c. Genre: Adventure, Casual, Indie, Simulation ("Chained Together," 2024)

3. The Sims 4
    a. Released Date: 2 Sep, 2014
    b. Developer/Publisher: Maxis, Electronic Arts
    c. Genre: Adventure, Casual, Simulation, Free to Play ("The Sims 4," 2014)

4. Escape the Backrooms
    a. Released Date: 11 Aug, 2022
    b. Developer/Publisher: Fancy Games, Fancy Games
    c. Genre: Indie, Early Access ("Escape the Backrooms," 2022)

5. Project Zomboid
    a. Released Date: 8 Nov, 2013
    b. Developer/Publisher: The Indie Stone, The Indie Stone
    c. Genre: Indie, RPG, Simulation, Early Access ("Project Zomboid," 2013)

6. Sea of Thieves: 2024 Edition
    a. Released Date: 3 Jun, 2020
    b. Developer/Publisher: Rare Ltd, Xbox Game Studios
    c. Genre: Action, Adventure ("Sea of Thieves: 2024 Edition," 2020)

7. Battlefield V
    a. Released Date: 9 Nov, 2018
    b. Developer/Publisher: DICE, Electronic Arts
    c. Genre: Action   ("Battlefield   V,"   2018)

8. Need for Speed Heat
    a. Released Date: 8 Nov, 2019
    b. Developer/Publisher: Ghost Games, Electronic Arts
    c. Genre: Action, Adventure, Racing, Sports ("Need for Speed Heat," 2019)

9. Ranch Simulator: Build, Hunt, Farm

    a. Released Date: 3 Nov, 2023

    b. Developer/Publisher: Excalibur Games, Excalibur Games

    c. Genre: Simulation ("Ranch Simulator: Build, Hunt, Farm," 2021)

10. Baldur's Gate 3

    a. Released Date: 3 Aug, 2023

    b. Developer/Publisher: Larian Studios, Larian Studios

    c. Genre: Adventure, RPG, Strategy ("Baldur's Gate 3," 2020)

3.4. Limitations

The findings of the study presented here should be interpreted with consideration of certain limitations. First, the case study is limited to a single platform, albeit being the most preferred one among developers and players, depriving the study of comparison. Additionally, the lack of quantitative data on Steam Tags complicates a comprehensive interpretation. Since it is unclear whether a tag was assigned by its developer or players, and no data is available on the number of votes each tag received, the term "Popular User-defined Tags" remains vague. Furthermore, the study lacks access to official historical data on the evolution of Steam Tags, including their initial use and any subsequent modifications. Lastly, the lack of consensus on the conceptual definitions and general framework in the existing literature on game genre theory further complicates the analysis of Steam Tags. The diversity of interpretations and the absence of a standardized approach to genre classification make it difficult to align the tags with any singular theoretical model. This, in turn, likely contributes to the challenges faced in establishing Steam Tags as a reliable and systematic method of categorization, as the inherent ambiguities in genre theory are reflected in the tagging system itself.

Chapter 4

Findings

This chapter presents a comprehensive analysis of the Steam Tags, a categorization and retrieval system implemented by Steam, the leading game distribution and gaming service in the industry. The information utilized in this analysis was sourced directly from the Steam Tags section of the official Steamworks Documentation. A complete table of the tags is provided in the Appendices.

Our investigation identified a total of 423 tags, which are organized into 13 distinct categories. To avoid ambiguity throughout this study, these 13 categories will be referred to as "parent categories". The distribution of tags to each parent category is varied. Initially, we will present the parent categories and their associated tags. Following this, a detailed analysis of the tags applied to 10 selected games will be conducted.

4.1. Parent Categories

The first parent category is "Top-Level Genres". The tags under this parent category are mostly aligned with the classic genres that Ernest Adams provides in his book, *Fundamentals of Game Design*. While Steam classifies its top-level genres as *Action, Adventure, Casual, Experimental, Puzzle, Racing, RPG (Role-playing game), Simulation, Sports, Strategy,* and *Tabletop,* Adams' list of classic game genres includes *Shooter, Action, Arcade, Platform, Fighting, Strategy, Role-playing, Sports, Construction and Simulation, Adventure,* and *Puzzle*. Despite slight differences, there is considerable overlap between Steam's categorization and the classic genres proposed by Adams.

The second parent category is "Genres". The first detail we notice is that the genres that are considered classic genres by Adams but not included in the top-level genres by Steam, namely *Shooter, Arcade, Platformer,* and *Fighting,* are included in this grouping. However, the collection of terms under this category is not homogenous and does not align with any established theoretical frameworks in genre studies. For instance, while some tags clearly refer to game mechanics, such as *Point-and-Click* and *Stealth*, others are individual games themselves, such as *Chess* or *Golf*. Additionally, highly specific tags like *Skateboarding*, *Skating*, *Skiing*, and

Snowboarding are grouped under the category of Genres, despite their narrow focus, while the group of Sub-genres has even broader terms. This contrasts with the grouping of broader terms under the Sub-genres category, further complicating the classification system and highlighting the inconsistency in genre definitions on Steam.

The third parent category is "Sub-genres", which generally provides more specific and narrowly defined classifications. However, within this category, we observe instances where certain tags are a combination of two tags belonging to distinct parent categories, such as *2D Platformer* and *Top-down Shooter*. In these cases, *2D* falls under the "Visuals & Viewpoint" parent category, while *Platformer* is classified under "Genres"; similarly, *Top-down* is categorized under "Visuals & Viewpoint", whereas *Shooter* is considered a "Genre". This overlap creates redundancies in the tagging system, particularly when multiple tags can be assigned to a single game and when market searches can include numerous tags simultaneously. The presence of these combined tags does not significantly enhance the precision of classification but instead introduces unnecessary repetition, complicating the categorization process.

The fourth parent category is "Visuals & Viewpoint". While the viewpoint aspect offers one of the clearest and least controversial categorizations, as it is directly dependent on the camera perspective used in the game, the same cannot be said for the visuals component. Visual-related tags, which are based on technique or art style, tend to lack the same level of clarity. For example, the inclusion of both *Cartoon* and *Cartoony* as separate tags introduces unnecessary confusion. This inconsistency suggests that the tags related to visuals were likely determined without adhering to a systematic or theoretical framework, resulting in a less coherent categorization. The lack of explicit distinctions between visual styles highlights a broader issue in how visual tags are assigned, further complicating their use in classification.

The fifth parent category is "Themes & Moods", which is the most extensive grouping, containing 105 tags. This category predominantly features narrative-related tags but also includes a diverse range of elements such as historical periods, settings, special topics, styles, and even specific animals. Notably, it also includes tags traditionally considered genres in literary and film genre theory, such as *Thriller*, and *Fantasy*, further broadening its scope. An additional point of confusion arises from the inclusion of certain tags that reference game mechanics, such as *Stealth* and *Survival*, which are also categorized under "Genres". Although Steam's system appears to differentiate between these tags when used as genres versus themes or moods, no clear

rationale or explanation is provided to clarify this distinction. This lack of transparency adds to the ambiguity of the categorization, complicating efforts to understand the precise role and significance of these tags within the overall system.

The sixth parent category is "Features", which refers to the typical qualities and specific characteristics that a game possesses. Features serve as key indicators of a game's core components, enhancing its discoverability based on the specific gameplay characteristics or technical aspects that appeal to players. However, this grouping raises significant concerns due to the repetition of certain tags across multiple parent categories, leading to confusion. For example, the tag *FMV* (Full Motion Video) is included in both the "Features" and "Visuals & Viewpoint" parent categories, and *Hack and Slash* is classified under both "Features" and "Sub-genres". These repetitions could be justified if they indicated a clear hierarchy or relationship between categories, but Steam's tagging system does not provide such context. Tags are presented independently, without reference to their parent category, making it unclear which group they belong to or what specific function they serve within the system. A particularly confusing example is the inclusion of Turn-based Tactics in both Features and Sub-genres, whereas Turn-based Combat appears solely under Features. This inconsistency raises the question of why Turn-based Tactics qualifies as a sub-genre, while Turn-based Combat does not, further complicating the understanding of Steam's categorization logic.

The seventh parent category is "Players", which specifies the number of players who can participate in the game simultaneously. This category is relatively straightforward, as it reflects a clear and tangible aspect of a game's design. However, despite its apparent simplicity, issues arise in practice concerning the distinction between local and online multiplayer modes. While the number of players can be easily determined, users' lack of care in differentiating between these multiplayer options introduces complications. This issue will be revisited in greater detail in the Discussion section of the study.

The eighth parent category is "Other Tags", which stands as the most ambiguous category in the system, as its name does not suggest any specific thematic or structural element. The tags grouped under this category are highly heterogeneous, lacking a clear unifying principle. Some tags represent well-known titles from other media franchises, such as *Batman* and *Star Wars*, while others refer to game mechanics, such as *Real-time* and *Turn-based*. Additionally, certain tags, like *Drama*, could logically

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be placed under the "Themes & Moods" parent category, while others, such as *Time Attack*, would more appropriately belong under "Features". This lack of clear categorization highlights inconsistencies within Steam's tagging system.

The ninth parent category is "Software". This category, also including tags mostly used for non-game applications, is a collection of various software-related tools and platforms, possibly geared toward creative production besides game development. While the grouping appears to be accurate in its scope, it is notably limited, as it fails to represent a broader range of software commonly utilized within the industry. This lack of comprehensive coverage may hinder users' ability to find relevant tools and applications that are frequently sought after in game development and other creative fields.

The tenth parent category is "Assessments", representing subjective evaluations or qualitative descriptions of games, capturing how a game makes players feel, its emotional or experiential impact, and its core attributes. These assessments aim to provide potential players with insight into what they can expect from the gameplay experience. Often derived from user opinion, these tags are based heavily on personal experience and emotion, making them highly subjective and variable between users. Given their subjective nature, the inclusion of such tags within a systematic categorization raises questions about their appropriateness and reliability in defining games across a broader framework.

The eleventh parent category is "Ratings", which, despite its critical importance, is often treated with insufficient detail. This category includes only extreme content ratings, such as *Blood, Gore, Mature, NSFW, Nudity, Sexual Content,* and *Violent*. The primary function of these tags appears to be to serve as disclaimers that mitigate the platform's liability rather than to provide meaningful guidance about the game's target audience. This approach to ratings is both inadequate and ineffective, as it fails to comprehensively address the range of content that might be relevant to players. The issue of how ratings are implemented and their impact on content disclosure will be explored further in the Discussion section, particularly in relation to the categorization of *Romance* and *Dating Sim*.

The twelfth parent category is "Hardware/Input", highlighting the range of input devices and hardware setups that can be used to play the game. These tags help users understand whether the game supports specific controllers, specialized equipment, or alternative input methods. This categorization is particularly valuable for players who

seek games that are compatible with their preferred hardware configurations, enhancing accessibility and ensuring a smoother gameplay experience tailored to their individual setups.

The final parent category is "Funding", consisting of only four tags: *Crowdfunded*, *Early Access, Free to Play,* and *Kickstarter*. This category presents ambiguity, as it does not clarify whether the funding pertains to the game's development or distribution. For example, *Crowdfunded* and *Kickstarter* suggest involvement in the development phase, whereas *Early Access* and *Free to Play* are more aligned with distribution models. A further point of confusion arises from the exclusion of the tag *Indie* from this category, despite its frequent association with independently funded or developed games. Instead, *Indie* is categorized under "Other Tags", yet in some cases, it is also treated as a genre, as illustrated in Figure 2. This dual classification highlights further inconsistency in the tagging system, as *Indie* is recognized both as a method of development and, at times, as a distinct genre. This issue will be revisited in the Discussion section.
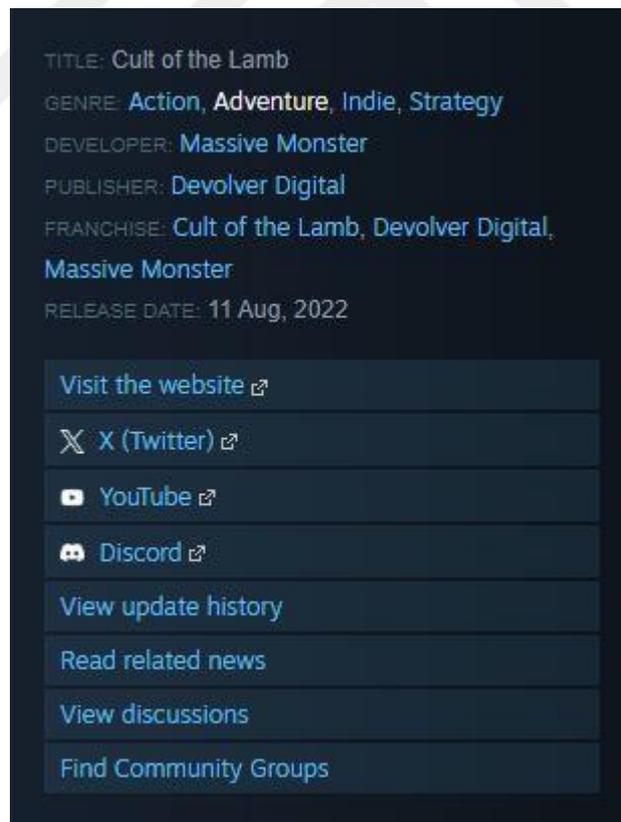

Figure 2. Steam Page of Cult of the Lamb.

4.2. Tag Analysis of 10 Selected Games

 After reviewing the categorization system utilized by Steam, we randomly selected a sample of ten games from the top 100 titles on Steam's bestseller list to perform a more detailed analysis of the tags assigned to these games. We designated the tags displayed on the Store Page as "Visible tags". The tags we designated as "Visible tags" were highlighted in a red box in Figure 3 to illustrate their placement on the store page. The complete list of tags was recorded without altering their order of appearance on the page. Figure 4 provides an example of the complete tag list as it is presented on the Store Page. The parent category to which each tag belongs was indicated in parentheses next to them. Tags not present in the document were marked as N.A. (Not available).

1. Cult of the Lamb:
   Visible tags: Base Building, Cute, Action Roguelike, Roguelite
   Tags: Base Building (Genre), Cute (Visuals & Viewpoint), Action Roguelike (Sub-Genre), Singleplayer (Players), Character Customization (Features), Dungeon Crawler (Sub-Genre), Roguelite (Sub-Genre), Dark Humor (N.A.), Colony Sim (Sub-Genre), Building (Genre, Features), 2D (Visuals & Viewpoint), Adventure (Top-Level Genre), Action (Top-Level Genre), Funny (Assessment), Faith (Themes & Moods), Fantasy (Themes & Moods), Controller (Hardware/Input), Strategy (Top-Level Genre), Colorful (Visuals & Viewpoint), Third Person (Visuals & Viewpoint)

2. Chained Together:
   Visible tags: Adventure, Co-op, Casual, Platformer, Funny
   Tags: Adventure (Top-Level Genre), Co-op (Players), Casual (Top-Level Genre), Platformer (Genre), Simulation (Top-Level Genre), Puzzle Platformer (N.A.), Action-Adventure (Genre), 3D Platformer (Sub-Genre), Third Person (Visuals & Viewpoint), Exploration (Genre), Funny (Assessment), Mystery (Themes & Moods), Online Co-Op (Players), Post-apocalyptic (Themes & Moods), Emotional (Assessment), Surreal (Themes & Moods), Physics (Features), Multiplayer (Players), Choices Matter (Features), Controller (Hardware/Input)

3. The Sims 4:

Visible tags: Life Sim, Character Customization, Building, Cute

Tags: Life Sim (Sub-Genre), Character Customization (Features), Building (Genre, Features), Multiplayer (Players), Free to Play (Funding), Romance (Themes & Moods), Sandbox (Genre), Simulation (Top-Level Genre), Singleplayer (Players), Relaxing (Assessment), Dating Sim (Sub-Genre), Casual (Top-Level Genre), Realistic (Visuals & Viewpoint), Cute (Visuals & Viewpoint), Funny (Assessment), Family Friendly (Themes & Moods), Immersive Sim (Sub-Genre), Fantasy (Themes & Moods), Adventure (Top-Level Genre), Cartoony (Visuals & Viewpoint)

4. Escape the Backrooms:

Visible tags: Horror, Multiplayer, Online Co-Op, Co-op, VR

Tags: Horror (Sub-Genre), Multiplayer (Players), Online Co-Op (Players), Psychological Horror (N.A.), Co-op (Players), Survival Horror (Sub-Genre), First-Person (Visuals & Viewpoint), Exploration (Genre), Escape Room (N.A.), Adventure (Top-Level Genre), Action (Top-Level Genre), VR (Visuals & Viewpoint), 3D (Visuals & Viewpoint), Singleplayer (Players), Early Access (Funding), Action-Adventure (Genre), Indie (Other Tags), Casual (Top-Level Genre), Stealth (Genre, Themes & Moods, Features), Dungeon Crawler (Sub-Genre)

5. Project Zomboid:

Visible tags: Survival, Zombies, Open World, Multiplayer, 2D

Tags: Survival (Genre, Themes & Moods) Zombies (N.A.), Open World (Genre, Features), Open World Survival Craft (Sub-Genre), Multiplayer (Players), Sandbox (Genre), Post-apocalyptic (Themes & Moods), Co-op (Players), Crafting (Features), Indie (Other Tags), Building (Genre, Features), Simulation (Top-Level Genre), RPG (Top-Level Genre), Survival Horror (Sub-Genre), Realistic (Visuals & Viewpoint), Isometric (Visuals & Viewpoint), Singleplayer (Players), 2D (Visuals & Viewpoint), Adventure (Top-Level Genre), Early Access (Funding)

6. Sea of Thieves: 2024 Edition:

Visible tags: Multiplayer, Open World, Adventure, Pirates

Tags: Multiplayer (Players), Open World (Genre, Features), Adventure (Top-Level Genre), Pirates (Themes & Moods), Co-op (Players), Online Co-Op (Players), Action (Top-Level Genre), PvP (Features), Sailing (Features), First-Person (Visuals & Viewpoint), Exploration (Genre), Naval (Themes & Moods), PvE (Features), Funny (Assessment), Massively Multiplayer (Players), FPS (Sub-Genre), Atmospheric (Themes & Moods), Swordplay (Themes & Moods), Great Soundtrack (Assessment), Singleplayer (Players)

7. Battlefield V:

Visible tags: FPS, Multiplayer, World War II, Singleplayer

Tags: FPS (Sub-Genre), Multiplayer (Players), World War II (Themes & Moods), Singleplayer (Players), Shooter (Genre), War (Themes & Moods), Military (Themes & Moods), First-Person (Visuals & Viewpoint), Massively Multiplayer (Players), PvP (Features), Combat (Features), Open World (Genre, Features), Action (Top-Level Genre), Historical (Themes & Moods), Destruction (Themes & Moods), Battle Royale (Genre), Atmospheric (Themes & Moods), Violent (Ratings), Sexual Content (Ratings), Female Protagonist (Features)

8. Need for Speed Heat:

Visible tags: Racing, Open World, Multiplayer, Driving, PvP

Tags: Racing (Top-Level Genre), Open World (Genre, Features), Multiplayer (Players), Driving (Features), Action (Top-Level Genre), Singleplayer (Players), Adventure (Top-Level Genre), Co-op (Players), Combat Racing (Sub-Genre), Atmospheric (Themes & Moods), Third Person (Visuals & Viewpoint), Online Co-Op (Players), Arcade (Genre), Sports (Top-Level Genre), PvP (Features), First-Person (Visuals & Viewpoint), Controller (Hardware/Input), Character Customization (Features), Split Screen (Visuals & Viewpoint), Destruction (Themes & Moods)

9. Ranch Simulator: Build, Hunt, Farm:

Visible tags: Simulation, Multiplayer, Online Co-Op, Farming

Tags: Simulation (Top-Level Genre), Multiplayer (Players), Online Co-Op (Players), Open World (Genre, Features), Farming Sim (Genre), Farming (N.A.), Job Simulator (N.A.), Co-op (Players), Realistic (Visuals & Viewpoint), Hunting (Features), Sandbox (Genre), Singleplayer (Players), Management (Genre, Themes & Moods), Economy (Themes & Moods), Destruction (Themes & Moods), Trading (Sub-Genre, Features), Relaxing (Assessment), Immersive Sim (Sub-Genre), Indie (Other Tags), First-Person (Visuals & Viewpoint)

10. Baldur's Gate 3:

   Visible tags: RPG, Character Customization, Choices Matter

   Tags: RPG (Top-Level Genre), Character Customization (Features), Choices Matter (Features), Story Rich (Features), Turn-Based Combat (Features), Dungeons & Dragons (Other Tags), CRPG (Sub-Genre), Adventure (Top-Level Genre), Fantasy (Themes & Moods), Online Co-Op (Players), Romance (Themes & Moods), Multiplayer (Players), Strategy (Top-Level Genre), Sexual Content (Ratings), Singleplayer (Players), Co-op Campaign (Players), Class-Based (Features), Dark Fantasy (Themes & Moods), Combat (Features), Nudity (Ratings)

Out of the 200 tags analyzed, only 69 are directly associated with game genres, with each game having an average of 7 tags. Notably, 8 out of 10 games include the "Adventure" tag, despite differing in genre and mechanics. Additionally, 7 tags are missing from the Steamworks Documentation, with no indication of their parent categories. Furthermore, only 2 games feature tags related to Ratings.

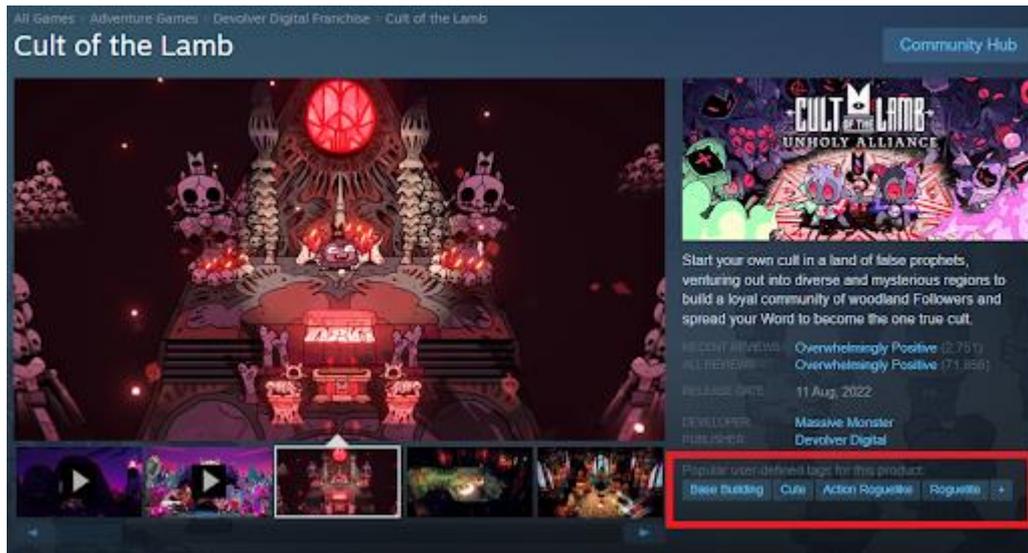The findings of the research will be further discussed in the following chapter.

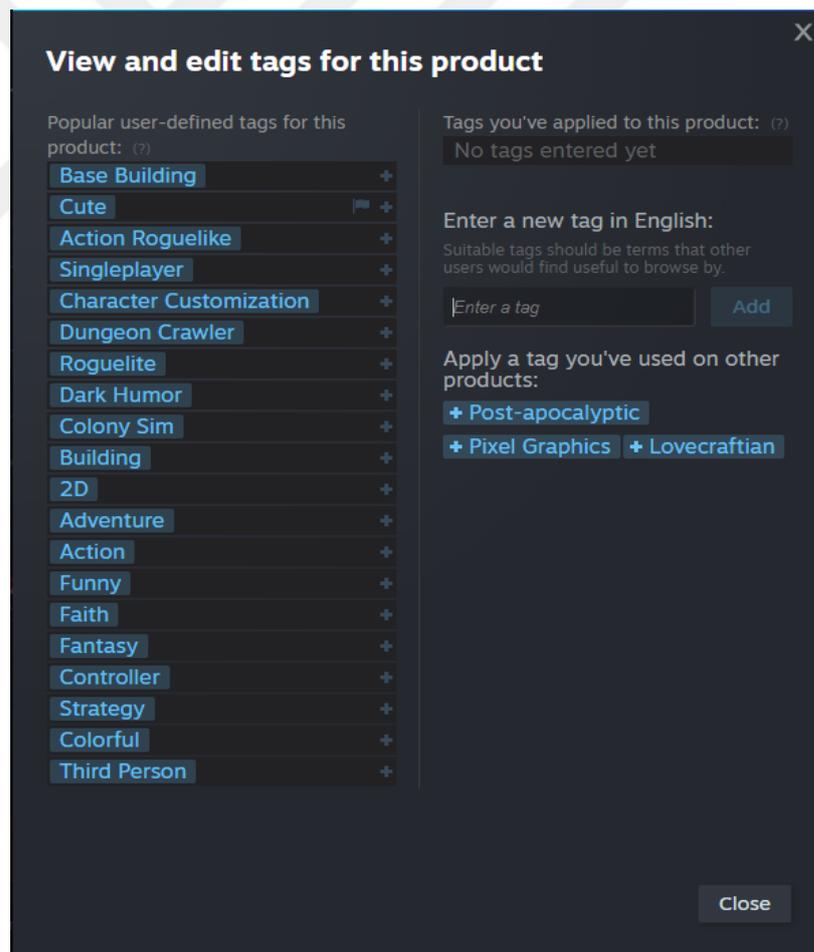*Figure 3.* Visible Tags on the Steam Store Page.

Figure 4. Complete List of Assigned Steam Tags.

Chapter 5

Discussion and Conclusion

5.1. Discussion

Based on the findings of the conducted study, several issues with Steam's categorization system have been identified. A primary concern is the prevalent use of genre as a marketing tool rather than as a means of systematically categorizing games. This approach often prioritizes promotional strategies over the accurate representation and classification of games. As a result, the essence of the games is frequently overshadowed by marketing considerations. The emphasis on genre for promotional purposes leads to a categorization system that lacks systematic rigor, potentially resulting in a misalignment between the actual content and its classification. This discrepancy undermines the effectiveness of the categorization system in facilitating meaningful game discovery and can lead to confusion among users.

Despite its seemingly straightforward nature, complications arise in practice regarding the tags that specify the number of players who can participate in a game simultaneously. A notable issue is the frequent neglect of distinguishing between local and online multiplayer modes. Although the number of players can be clearly quantified, the failure to differentiate between these multiplayer options by users introduces significant ambiguity. Furthermore, the inclusion of features in tags that are only available through additional content or expansions can lead to misconceptions that these features are part of the base game. This misrepresentation can result in users assuming that the feature is inherently available in the base game, which may not be the case. Such inaccuracies in tagging can mislead potential players about the actual capabilities of the game, thereby affecting their expectations and overall experience. For instance, The Sims 4, Escape the Backrooms, and Chained Together all carry the "Multiplayer" tag, yet the nature of multiplayer varies significantly across these games. In The Sims 4, multiplayer is only accessible via a modification or extended package, and is not included in the base game. In Escape the Backrooms, the game can be played both in singleplayer and multiplayer options, with the gameplay experience shifting depending on the player count. Singleplayer mode may feel scarier, while multiplayer can introduce humor, especially when friends make mistakes that lead to comedic deaths. Conversely, in Chained Together, multiplayer is a core feature, and many

puzzles require collaboration, making it essential for solving them. Grouping these games under the same multiplayer tag can create confusion regarding the actual gameplay experience, underscoring the need for more accurate and detailed tagging practices.

Another issue identified with the tags for The Sims 4 is the inclusion of "Romance" and "Dating Sim" tags. These elements are not central to the game's primary objectives but rather represent optional player choices. The use of these tags can be problematic, as some players may avoid games labeled with such tags due to their association with other titles that feature explicit content or excessive sexual themes. Despite the fact that romance and dating are not prominent aspects of The Sims 4 and players can engage in numerous other activities within the game without utilizing these features, the presence of these tags may deter some players from engaging with the game. Additionally, the simultaneous presence of both "Dating Sim" and "Family Friendly" tags adds further confusion regarding the game's rating, as these tags cater to conflicting audiences. This contradiction complicates the process of understanding the game's content, particularly in terms of suitability for different age groups or preferences. This misrepresentation can influence player perceptions and potentially discourage interest in the game.

Another notable inconsistency revealed within the tagging system is the classification of "Indie" under the "Other Tags" category, while also occasionally being treated as a genre. In the gaming industry, "Indie" games are often categorized in two distinct ways. When referring to a game developed by a single developer or a small team without substantial funding, "Indie" is considered a concept related to development funding. Conversely, when "Indie" is used as a genre, it implies that the game employs experimental elements and deviates from traditional mechanics or visual styles. This dual classification underscores a lack of a clear separation system that differentiates between experimental and traditional approaches within the genre framework. The absence of such a system results in the ambiguous use of "Indie," as these games often diverge from established industry norms due to the creative freedom afforded to independent developers. Consequently, the classification of "Indie" both as a development concept and a genre complicates the categorization process and further contributes to the inconsistency observed in the tagging system.

5.2. Suggestions

In light of the research, several recommendations can be made to improve Steam's tagging system for better categorization and enhanced user experience. While the Steamworks Documentation provides a reasonably clear outline of the various parent categories and tags, this resource is primarily accessible to developers, who are encouraged to follow its guidelines when assigning tags. However, regular users, who also have the ability to assign tags, are generally neither familiar with nor interested in adhering to this documentation. This lack of understanding and structure in user-assigned tagging can negatively impact the classification of games and, consequently, the market. To address this issue, a few potential solutions can be proposed. First, users could be informed about the Tag section in the Steamworks Documentation, and permission to assign tags could be granted only after they have reviewed the guide. This would ensure more informed tagging practices. Second, user-assigned tags could be submitted for review by the game's developer, with tags only applied after receiving developer approval to prevent mistagging. A more flexible approach could involve encouraging developers to periodically review user-assigned tags, allowing for ongoing refinement. This would help maintain accurate categorization and highlight the game's most prominent features, facilitating better communication between developers, users, and the market. Additionally, in the games we analyzed, we identified several tags that were not listed in the tag table provided by the documentation. Regular updates to the documentation would enhance its reliability and offer more effective guidance. Furthermore, displaying numerical data on the tag page is important for both influencing users' decision-making processes and increasing the reliability of the information. It is recommended to include details such as whether a tag was assigned by the developer or by users, as well as when a user-assigned tag was added and how many votes it received. Finally, adding a tag exclusion feature to the market search would significantly enhance the efficiency of search results. While users may not always have a clear idea of what they want, they often have specific preferences regarding what they do not wish to encounter. By allowing users to exclude certain tags from their search criteria, the system can better tailor the search results to their preferences, thereby improving the overall user experience and satisfaction. This feature would enable more precise filtering and help users avoid content that does not align with their interests.

5.3. Conclusion

Classification and categorization are crucial in organizing information, identifying patterns, and enhancing retrieval by grouping related items. They facilitate communication by providing a common framework, enabling predictions and generalizations based on observed similarities. In creative and entertainment works, the concept of "genre" serves as a primary categorization system, applied across literature, cinema, video games, and other art forms. This system helps organize and distinguish creative expressions based on shared characteristics and thematic elements. The application of genre theory has evolved across different media. While literary and film genre theories focus on the content and production processes, video game genre theory has been shaped by interactive mechanics and player involvement. However, the rapid evolution of narrative forms and technological advancements in video games complicate establishing a fixed categorization system. The debate over genre definitions continues, highlighting the challenges of keeping pace with the dynamic nature of the medium.

This study aims to critically assess and compare the theoretical frameworks of game genre categorization presented in academic literature with the practical application of genres and other categorization systems utilized in the gaming industry. Steam, a prominent game distribution platform, and gaming service, was chosen for this comparative analysis due to its leading role in the industry and its extensive use of categorization systems through tags and genres. The Steamworks Documentation was examined as a primary source to better understand Steam's categorization system. Subsequently, a selection of games was analyzed to evaluate the Tags assigned to them. The study's findings highlight several problems with Steam's categorization system, particularly the use of genre as a marketing tool rather than a systematic method for classifying games. This practice often prioritizes promotion over accurately representing a game's essence, leading to a categorization system that lacks precision and consistency. As a result, there is often a disconnection between a game's actual content and how it is classified, reducing the system's effectiveness in aiding game discovery and causing confusion among users.

The findings of this study can provide valuable guidance for improving categorization systems on platforms like Steam, while also offering insights for game developers on better utilizing tags to reach their target audience. A more refined tagging system

would enhance game discoverability, benefiting developers and publishers by potentially increasing sales and player engagement. Moreover, an improved game taxonomy would significantly enhance the user experience, allowing players to find games that match their preferences more quickly, ultimately leading to increased satisfaction and time spent playing. The research highlights the necessity of developing a unified and formal game taxonomy that is accepted by both the academy and the gaming industry. By addressing the inconsistencies and ambiguities present in current categorization practices, the study emphasizes the value of collaboration between scholars and industry professionals to create a more standardized, structured, and accessible framework for game taxonomy. Such cooperation would enhance the precision of categorization systems, benefiting both academic research and industry application, ultimately improving the organization, classification, and discovery of games.

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