TODIGRA

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PREFACE

This Special Issue of ToDiGRA, the second of two, comprises selected work from the Nordic DoGRA 2023 Conference.

Lina Eklund, Björn Sjöblom, Jon Back

1. THE GAME WEAVERS

A FEMINIST APPROACH TO GAME WRITING

LOUISE PERSSON AND REBECCA ROUSE

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ABSTRACT

In this paper faculty members from the Game Writing undergraduate program at the University of Skövde offer a new lens for understanding the act of game writing as weaving, and game story as tapestry. We share recent curricular innovations from our Game Writing program that reflect this perspective, which is inspired by core concepts from feminist narratology. We approach the concept of the weaver through reflection on narratological traditions and practices of collaborative authorship, and invite all game education disciplines to consider the weaving way of thinking, in contrast with design thinking.

KEYWORDS

pedagogy, curricular design, game writing, feminist narratology

INTRODUCTION

Once upon a time, when the Fates steered the lives of men, they wove the first stories for the first civilization. As the years went by, more stories were woven together in a never-ending tapestry of heroic deeds and thrilling conquest. The Hero's Journey from boyhood to manhood echoed in the seams, through the eons, to weave the perfect pattern for stories to emerge...

Storytelling is one of our oldest sources of entertainment. Since ancient times, storytelling has been a way for people to come together, to decompress, and to understand the world. The stories told in ancient societies doubtless had multiple objectives—to entertain, to explain, to teach, to warn—and were surely held to the same standard for audiences of stories today. These stories had to be interesting. But how do you tell an interesting story? Does the story need a certain structure to work?

The Hero's Journey, as described through Joseph Campbell's theory of the monomyth (Campbell, 2008), is a well-known Western structure that puts the individual Hero and his (or sometimes her) singular deeds and challenges at the center. The inciting incident, the conflict, and the resolution are all elements that creators, mythologists, and dramaturgs have been working with for years, and some claim that these elements need to exist for a story to be considered a story. This hero-centric perspective, however, excludes stories told by unconventional Heroes—or those who might not be Heroes at all.

The monomyth is not the only structure known to put conflict and an exceptional individual at the center of storytelling, with one single Hero to wield the fate of the world on his shoulders. Not all stories with the focus on a central Hero are violent or conflict-oriented, but many traditional Western stories across many different media do carry this common structure, especially in the media storytelling industry which has dominated popular culture over the past

forty years (Vogler, 2017). Indeed, many commonly used game writing textbooks emphasize the Hero's Journey as a key storytelling structure that is necessary for success (Sheldon, 2022; Suckling & Walton, 2016; Skolnik, 2014; Despain, 2009). While there is nothing intrinsically wrong with the Hero's Journey as one structural possibility, when this structure alone dominates storytelling, we see that stories of the everyday, the collective, and the more subtle or nuanced sources of wonder are left out. Hero's Journey stories may offer something important to audiences in terms of escapism from the everyday, but they are sometimes so far from ordinary life that they become unreachable and unrelatable, perhaps most notably for people at the margins of society. And the dominance of Hero's Journey stories can mean we miss out on attuning to the extraordinary in the everyday, meaning we may miss much of what is special right in our own lived experience, leaving us disconnected from appreciating the wonder in our own lives.

Feminist narratologist and science fiction novelist Ursula Le Guin points out this lack of more nuanced perspectives in storytelling, thanks to the dominance of the Hero. Imagining the experience of hearing a prehistoric hunter recount the tale of his conquest around the fire, Le Guin references Elizabeth Fisher's feminist evolutionary research (1979), noting that hunting was not the primary mode of prehistoric subsistence, but instead the gathering of edible vegetation by the collective was the main source of food. Le Guin imagines the collective gatherers to listen to the hunter's tale, noting that his story "not only has Action, it has a Hero... Heroes are powerful. Before you know it, the men and women in the wild-oat patch and their kids and the skills of the makers and the thoughts of the thoughtful and the songs of the singers are all part of it, have all been pressed into service in the tale of the Hero. But it isn't their story. It's his" (Le Guin, 2019, 27-28). The Hero's tale is one of conquest, separating narration from life—as the extraordinary, stories have left out parts of human life and experience that carries just as much weight as the heroic deeds. The gatherers, notes Le Guin, had just as many stories to tell as the hunters; the only difference is that their stories were not of the

extraordinary, but of the everyday. They were the stories we most often tell—the stories that we find all around us and which carry their own sense of the extraordinary, when told well.

Building further on Fisher's feminist carrier bag theory of evolution (Fisher 1979, 60), Le Guin pictures the bag in which the story of the Hero is carried, but that the Hero "does not look well in this bag. He needs a stage or a pedestal or a pinnacle" (Le Guin 2019, 35). Instead, Le Guin's feminist carrier bag is far more expansive, and makes room for all our imagination, wishes, experiences, and dreams. When we look at the weave of game storytelling in Western culture, we find the Hero's Journey at the center. The call to adventure, the refusal of it, the crossing of the threshold, the innermost cave, and the return are all familiar steps, ones we have seen time and again in the stories we tell and hear, so much so that this Hero's story feels natural or perhaps even necessary for game storytelling. But we argue here that the Fates weaved a much larger tapestry, and games storytellers seem to have forgotten to take a step back and observe other parts of it.

The tapestry of game storytelling, in the spirit of Le Guin, is capacious like the carrier bag and can hold all manner of interesting story materials. Le Guin describes her own storytelling carrier bag as filled with: "wimps and klutzes, and tiny grains of things smaller than a mustard seed and intricately woven nets which when laboriously unknotted are seen to contain one blue pebble, and imperturbably functioning chronometer telling the time on another world and a mouse's skull; full of beginnings without ends, of initiations, of losses, of transformations and translations, and far more tricks than conflicts, far fewer triumphs than snares and delusions; full of space ships that get stuck, missions that fail, and people who don't understand" (Le Guin 2019, 35-36.)

Right away we see that even in the absence of a Hero, Le Guin's carrier bag has qualities that resonate well with the affordances of games. For example, imagining the diverse array of objects Le Guin describes positioned in a world awaiting the player's discovery, we can imagine an environmental storytelling strategy. Le Guin's associa-

tive storytelling aesthetic in the carrier bag can be imagined as a hypertextual or networked structure, as indeed she even explicitly references "intricately woven nets." And finally, Le Guin's discussion of beginnings without ends can be linked to game structures like game-over and respawn. When game storytelling is seen through the lens of the carrier bag and reconceptualized as un-ending tapestry, the oft-cited conflict between story and mechanics becomes less urgent, since the infinite tapestry invites us into more flexible story forms that may leverage game affordances more readily.

GAME WRITING REIMAGINED

In 2012, the University of Skövde established a new undergraduate program in game writing within a larger Computer Game Development division. Stemming from the already established Game Design program, Game Writing came to fruition because of the increased interest in games with strong narratives (Persson & Rouse 2020). The university realized that the storytelling aspect was different from other game development processes like programming, design, and art, and necessitated its own training and education program.

Because of the Game Writing program's roots in game design, a problem arose in the early creation of the program: game writing became more of an appendix to game design, and not its own discipline, lending the new program a lesser status. Because of this, the already narrow definition of storytelling became even narrower—a game Hero created only in a secondary way by a game writer, after the work of a game designer has led the process. Instead of training game designers and game writers as equal collaborators, designers were positioned as superior. This played out in different ways, for example in group project courses, game writing students often felt marginalized by other disciplines, and in game writing courses themselves student work lacked a depth of engagement with broader narrative forms and techniques beyond those found in popular games, such as the game Hero story.

Eight years later, in 2020, the Game Writing program went

through its first major revision, broadening the definitions of game narrative and storytelling, and changing the way we look upon game writing as an activity—and *game writer* as a role. Some separate the roles of game writer and narrative designer, claiming that the former handles the scripts and the story as a whole, and the latter takes the story to fruition. A game writer ought to focus on the story and worldbuilding, whereas a narrative designer ought to focus on how the story should fit into the gameplay, with a particular focus on mechanics and design. Our program fuses these two roles into a singular role, and perhaps falls somewhere in between, developing the game writer as a uniquely flexible member of the game development team. Our students are able to create storytelling experiences across a wide range of mediums and applications, from computer games to board games, to role playing games, LARP (live-action role playing), and even in more theatrical, interactive installations, and film, or themed environments. Due to this flexible approach, our game writers are not only people who write games; they are more like *game weavers*, like the Fates, and the game itself is the tapestry. Sometimes other industries weave a thread into the game tapestry—for example, when our students work with game techniques for the performing arts or film. We believe this weaving of forms and traditions enriches the game storytelling tapestry, and even culture at large.

Reflecting this perspective, we welcome many relevant interdisciplinary practices into the game writing curriculum, including movable books, film dramaturgy, interactive performance, theater, and moral philosophy. This complexity of disciplinary influences fits well with the complexity of the game object: an entangled combination of mechanics, graphics, sound, music, design, and story that make up the overall experience. A game writer must understand the game experience, which is—as described—more than just the story. There are more threads than that. But the game writer must see not only the story-based threads, they must take a step back to see the weave as a whole. Of course, a game writer cannot be responsible for weaving the tapestry, which is the game itself, but by wielding the

power of story they can pull the threads and arrange them in order to create a meaningful pattern for players to uncover or even co-create.

THE WEAVE OF PLAY

Telling and experiencing stories is often one and the same; is it possible for us to determine where listening ends and the creative act begins, when one considers the creativity of interpretation? Who pulls the first string, and who brings the next? If we regard authorial control as absolute, we can clearly determine that there is a division. But storytelling is rarely absolute. A story is not created in a vacuum; every story is an ever-expanding web—or weave—of intertextuality and inspiration, a concoction of several influential sources, which lends itself as an inspiration in and of itself (Bazerman, 2003). The interpretation of the creation adds new threads to the weave, creating new patterns in fan creations and tributes. Before the role of the author and publication, stories evolved each time they were told; storytelling has always been transformative in its nature and leaves the tapestry open for new weaves on all sides.

The same could be said about developing and playing games. There is, naturally, a clear divide: the producers of the game versus the consumers of the game. It is in this way we often understand the gaming industry, because there is a clear capitalistic model in creating something for a consumer to buy. Designers develop a product that can later be distributed for consumers to purchase—and never shall the two meet.

But the role of a player is not entirely separate from the making of a game, and in this way, the player is also a weaver. Philosophically, a game would remain nothing but an object until someone interacts with it, and through that interaction becomes a player. This concept is known as performativity, as discussed by Judith Butler (1988) and later more specifically with respect to games by Sicart (2009). But a *player* is not only someone who plays the game as intended; the player is also an agent capable of free thinking and moral decision-making, expanding on the designed object to create a unique game

experience. These player-authored expansions are not only confined to the minds of the players, but sometimes result in physical expansions of the game. Modding, for example, in which players creatively modify aspects of the game such as mechanics, objects, and objectives, muddles the distinction between producer and consumer of games.

Indeed, the discussion over what to call a person who works on game storytelling is reflective of these tensions. What is this activity that blends the ludic with other arts, in service of storytelling? Perhaps writing is not the best term, after all the activity may not involve text or inscription in some cases (think, for example, of games that provide an evocative narrative experience without the aid of text, such as *Way to Go* (Morisset, 2015) or *Journey* (Chen, 2012)). In recognition of the separation from literary authoring, other theorists have put forward suggestions for renaming the role of game writer. Janet Murray's concept of *the Bard* (2017) draws on connections to the oral storytelling tradition, while Henry Jenkins' notion of *the Narrative Architect* (2004) focuses more on aspects of design and the spatial in the game writer's activities.

Considered from the player's perspective, this question becomes even more prominent since games often provide non-linear narratives that allow the players to weave their own paths through the game. Combined with the complex character creation options in many modern games, the possibilities for unique experiences are potentially endless. Even in completely linear games, the experiences vary. We might play the game in one sitting, or put it down for months on end; we could play the same game several times, or we could play it only once; we could play it alone, or together with friends in both physical and digital spaces. Every experience offers something new, and the story, although perhaps linear, is never fully the same because *we* are not the same. Through the act of play, the player is also a weaver of the game story.

Language itself creates dichotomies that strengthen the divide: narrators and narratees, producers and consumers, authors and readers. It is a dualism that helps us keep order, to separate what is what.

Such labels are important for us to communicate, but while they do serve valuable practical purposes, they also force undefined and ambiguous activities into predefined boxes. A game developer develops games, while a player plays them, but a game developer can also play games, and a player might as well develop them. Instead of looking at developers and players, producers and consumers, and authors and readers as separate, we could look at all involved as *weavers*, and we can regard game creation as a tapestry. Every experience, every screenshot that becomes a meme, every machinima reel, and every modification can be added to the tapestry to continue the pattern from whichever way the threads are open. It allows us to consider the collaborative nature of game storytelling as integral to the nature of games themselves.

This is, for some, a difficult pill to swallow as it opens up the paradox: if everyone can be a game developer, then no one is. This is where the labels are important to determine who is who and who does what. It is certainly important on a practical level in a capitalistic model where someone is compensated for their work as they produce value. The role of a game *weaver* might not have a given place in the industry, but a game *writer* does. Therefore, the aim with our research here is not to impose a name change to our education program, but to present the weaving way of thinking as a philosophy that can guide curriculum design rather than a mode of professional designation.

A FEMINIST TAPESTRY OF GAME STORYTELLING

The Fates, as mentioned in previous sections, are figures that appear in Greek mythology; they were said to spin the threads of life, intertwining life and destiny for every living person. Likewise, the Norns in the Norse mythology spun the threads of destiny, deciding whether lives were going to be tragic or heroic, as described in works like the Prose Edda from the Middle Ages (Sturluson, 1987).

The idea of a weaver at the center of storytelling is hardly a new one; it is in the application to game storytelling where we offer inno-

vation with the concept. Looking back to the mythological figures of the Fates and the Norns, we find the weaver as a female figure, a seer with the capacity to approach futurity, and shape it, as well as a creator who works in company—the Fates were three, after all.

Situating the work of the game story makers as tied to textile practices also emphasizes connections to the female, as practices of embroidery, quilting, and other more practical sewing practices have all been leveraged by women throughout history to work towards liberation. For example, Rozsika Parker traces the long history of embroidery in relation to women's history, noting the many examples of women's use of embroidery in service of work to change society in subversive ways, such as during the Russian revolution, the suffrage movement in England, and in memorial stitching projects for the Holocaust and the AIDS epidemic (2010). The connections between these historical feminist stitching practices and digital potentials in games have already been posited by several researchers, including Wirman (2008) and Sullivan & Smith (2016), but here we extend this work to explicitly focus on games education. Wirman (2008), inspired by Plant (1995) on weaving as a techno-feminist practice, examines the practice of female players' development of "skins" for *The Sims* videogame. Sullivan and Smith (2016) engage women's practices of sewing within the larger frame of craft, and share lessons learned from their work designing three digital games that draw from quilting in different ways, the first using a quilt as a controller, the second a board game with quilted components, and the third designed to be played on quilting and embroidery machines themselves.

Inspired by this prior research, here we shift to focus on weaving and specifically game writing education. As opposed to the often-solitary act of stitching, be it by machine or hand-worked, the communal nature of weaving nicely mirrors the often-collaborative nature of creating game storytelling, and situates the game story creator as one of a group with power and foresight. The material the weaver activates is the thread, but never just a single thread (as in the hackneyed metaphor of the "red thread" as shorthand for plot).

Instead, the weaver operates with both warp and weft, bringing multiple threads together to form a matrix. The figure of the weaver also holds an interesting place in the history of the computer, with the 19th century jacquard loom as a precursor to the modern computer, with programmable (albeit non-digital) components for creating decorative patterns in cloth (Hammerman & Russell, 2015).

Thus, with the figure of the weaver we highlight a female in a field dominated by men (the recent games field workplace survey indicates that 30% of workers are women (Statista, 2021)); we highlight the collaborative nature of making game stories, as opposed to the idea of lone authorship; we emphasize the complexity of the materials at hand; and we foreground a female thread in computing history, also a history relevant to the games field. In weaving, we also see a "weaving way of thinking," which we suggest as an alternative to the more dominant "design thinking." Design thinking espouses an ethos of solutionism—designers seek or perceive problems, for which they then invent solutions. In practice, this process often operates conversely; with designers inventing problems to solve, with designed solutions manifesting as problems (Parvin and Pollock, 2020). Design thinking is also hierarchical in practice, situating the designer as an all-knowing or unbiased innovator who designs to help the user, who is incapable of fixing their own problems. The weaving way of thinking, in contrast, envisions an ever-expanding field of possibility (the tapestry) and is enacted in the community, with all participants in the weaving process operating from a place of agency.

THE WEAVING WAY OF THINKING IN CURRICULAR DESIGN

We now share examples of how the weaving way of thinking shows up in the design of our Game Writing curriculum. First, some background context: the Game Writing program is a three-year undergraduate degree within the subject area of Media, Aesthetics and Narration, which is classified as a technical subject (as opposed to a design or arts subject) within the Swedish system of higher educa-

tion. In contrast with systems such as those in the US and UK, the three-year undergraduate degree in Computer Game Development is specialized in different disciplines, includes no larger core curriculum from across the university, and few or no electives. For the most part, each student cohort moves through every course in the curriculum together, in the same order, at the same time. The student course load is either 1 or 2, meaning they are either enrolled in a single course at a time, or in two courses simultaneously. The school calendar is on a quarter system, (two fall and two spring), with each division called a "learning period," with a fifth learning period during the summer. Some courses are taken in tandem with students from other disciplines. However, most courses are provided only for the students within their own discipline.

In the most recent version of the Game Writing curriculum, the weaving way of thinking is visible as an overarching strategy to draw fruitful connections with other fields relevant to games, as is often done with film and literature, but here we extend to theater, performance, philosophy and other interactive storytelling forms. Two new courses that nicely exemplify the weaving approach are Interactive Performance and Games, and Moral Philosophy in Game Narratives.

INTERACTIVE PERFORMANCE AND GAMES

Leveraging the flexible, interdisciplinary nature of theater as a laboratory (Rouse, 2023), and the particular strengths of LARP (Knutepunkt, 1997-; Westborg, 2016), this course, Interactive Performance and Games (IPG), invites game writers to work in one large team of 20-25 students to design and produce a LARP for and with the public as a capstone experience for the first year of their education. The course is a one-month full-time intensive experience, and functions as the practical component following a theoretically focused course in dramaturgy.

IPG begins with an introduction to the history of experimental theater and technology, and then shifts into production mode, informed by experiential learning. Following the thread of theater,

but weaving back to games, students experience a series of interactive, immersive, dramatic game structures of varying types (*Calvinball, Barnga,* and *SimCity*), with follow-on lectures and discussions that dissect these experiences and examine how they are designed and play out. *Calvinball* is the quixotically playful game derived from the *Calvin & Hobbes* comic strip, and illustrates the value of maximizing flexibility in play. *Barnga* is a game about a culture clash played with typical 52-card decks in a tournament style and illustrates the role of extreme stricture in rules and resulting player assumptions. *SimCity* is a social simulation LARP with a focus on class inequality, and illustrates the value of immersive physical play and the ability of LARP to tackle serious topics. In addition to these activities, students also read the playscript of a film adaptation they engaged with in the prior dramaturgy course. The selected play differs each year and is offered as a window into the form and structure of writing for live theater, and as a thread of inspiration in terms of topic or theme. In addition, the performance site varies each year, and is introduced to the students from the first week as an additional "actor" for them to consider as they create their work. Following this introductory material (theater as laboratory framing; experiential game learning activities; playscript; performance site), the students are guided through a structured brainstorming process to develop the concept for their original LARP and define and fill roles for their large team collaboration.

Weeks two through four of the course are then dedicated to iterative development of the LARP design and preparation for production. Weaving together game development iterative practices with the theater design and rehearsal process, this phase of the course is a negotiation across disciplinary practices and results in a blend that often lends students an uneasy feeling in the beginning, but, by the end, leads to high levels of ownership over the creative process. This phase is a period of transition in the course, as the students gradually become more self-directed and autonomous, taking over more direction of their work themselves. Initially, students are both excited and unnerved by the openness offered in the course and exposures to

new threads; to different disciplinary practices. We have discussions around this duality, talking through and addressing anxieties the students often face due to the freedom they are given, and how learning happens at an "edge" or precipice between the known and the new.

The main outcomes of the course include team bonding for the cohort, as well as confidence in their abilities to navigate a large, complex and fuzzily-defined task in a large group. These outcomes demonstrate the relevance to potential adaptation for other game education specialisms (i.e., programming, design, art, sound). In addition, the course has a particular relevance for game writers, demonstrating their ability to conceive of, plan, and execute a complete and finished game experience without collaboration outside of the game writing discipline. This is important due to the marginalization game writing students sometimes experience in their interdisciplinary game project courses, in which programming and design students commonly dominate teamwork. Facilitating a large-scale, independent, and comprehensive game creation experience for Game Writing students early in the curriculum helps to counter this power dynamic, and increase students' confidence.

MORAL PHILOSOPHY IN GAME NARRATIVES

Following a course on worldbuilding in the second year of the program, the students take the class, *Moral Philosophy in Game Narratives*. In the former course, the students learn how to build worlds from the ground up, including the social structures, religions, governmental structures, and geographical structure. At the core of most societal and political structures and traditions, we often find morality. The latter course is designed to help the students answer these questions, and continue the proverbial tapestry they have begun weaving

At first glance, perhaps not everyone would consider moral philosophy to have a place in the weave of game storytelling. The wide spectrum of morality is seldom truly handled when it comes to games; when people discuss computer games, morality, and the

morality of computer games, the discussions have long tended to focus on game violence and the impact that violence has on people in the real world (Karlsen, 2015; Sicart, 2009). While those discussions might be important to have, it is equally important to look at the perceived morality in the diegetic world. A game writer must know and understand the moral framework that steers the society in which the story takes place, or what moral compasses help the characters navigate the world, and a *game developer* ought to have a basic understanding of how that morality affects the *player*.

This understanding is the stitching in the weave that brings threads together and helps the player interact with the game world with agency and engagement. Moreover, the students are expected to be able to discuss matters of morality and ethics related to their disciplines, but discussing morality and knowing the philosophy of morality are two different things; the former can easily be crippled by not having the latter. Until the fall semester of 2021, there was a gap in the students' education regarding this understanding. The thread was missing.

Considering the lack of such teachings and the weight of morality in worldbuilding, not to mention the students' interest in computer game ethics, we decided to incorporate it into the Game Writing program. The first part of the course is an introduction to classical moral philosophy, and the second part focuses on moral philosophy in games. The core of the course is conversational seminars where the students create interactive moral problems, and discuss them from different philosophical perspectives. For the latest iteration of the course, we also included feminist philosophical toys as a unique approach to teaching feminist narratology, taking inspiration from Le Guin and the Carrier Bag Theory.

We argue that having a basic understanding of morality and the processes that are in action when a player sits down to experience something immersive is an important tool in a game developer's tool kit. Game stories and game action have a thought-provoking potential, and the medium offers us a unique way of exploring topics and behaviors that we would not be able to explore elsewhere

(Mortensen, 2015). This thread must be handled with care and understanding, as it weaves into the larger tapestry of storytelling and experience.

CONCLUSION

In this paper, we have put forward the concept of the *weaving way of thinking*, especially in relation to the *game writer*, which we have conceptualized as the *weaver*. By discussing how two program courses in the Game Writing program at the University of Skövde channel the weaving way of thinking by incorporating different aspects of storytelling and worldbuilding, we propose to look at game narratives as a tapestry, where the threads are woven together to create patterns we perceive as games.

In the course *Interactive Performance and Games*, we borrow ideas and strategies for storytelling from the world of theater and performance to give the students more threads to work with as they explore the possibilities of game storytelling in a playful way. In the course *Moral Philosophy in Game Narratives*, we let the students discuss and reflect upon the moral plane created for moral agents to explore in games, and guide them in using the thread of morality to add to their tapestry.

The weaving way of thinking also allows us to expand our understanding of storytelling and story structures. There is not just one structure that works—there are as many structures as there are storytellers. The concept of the tapestry includes a perpetual openness where the ends are never fixed or fused, and the metaphor of the fabric that can be refashioned and reused to create something new adheres to the collaborative and transformative nature of storytelling, which is, as we argue in this paper, a very human and thus feminist activity.

Next steps for our curriculum include working to continually deepen the weaving way of thinking throughout all our courses. We also continue to evaluate and iterate our new courses, as well as the overall flow of the curriculum as the students move from one course

to the next, and continue to gather and share our reflections with fellow games educators. We are continuing the weave, thread by thread, inviting all who are curious to join in this collaborative discussion on storytelling.

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2. PUTTING THE CYBERMEDIA MODEL INTO EDUCATIONAL PRACTICE

EXPANDING THE FRAMEWORK

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ABSTRACT

In this paper, we build on an earlier operationalization of Aarseth and Calleja's cybermedia model for an interdisciplinary evaluation of games as potential tools and objects for teaching and learning. Here, we critically develop the model and original template, and expand its four dimensions with two additional layers. We then use the expanded framework on concrete examples to illustrate how the overall suitability of specific game titles can be evaluated before these are applied in educational contexts.

KEYWORDS

cybermedia model, games and education, narrative, mechanics, materiality, players, ideology, critique, political economy, game production, *The Walking Dead*, *Frostpunk, Survive the Century*

INTRODUCTION

This paper presents, and further develops, an interdisciplinary template for the evaluation of videogames as potential tools and objects for teaching, as initially introduced in Pötzsch, Hansen & Hammar (2023a). Operationalizing Espen Aarseth and Gordon Calleja's (2015) game ontological cybermedia model, Pötzsch, Hansen, and Hammar have identified key aspects for critical inquiry along the dimensions of sign system, mechanics, materiality, and player. Based on their framework, we develop the model further and expand the layers of materiality and players before proposing additional dimensions of institutional frames and interferences to account for both logistical and contextual aspects of game-use in schools, and enable attention to possible interrelations across the five components of the model. The findings are systematized and summarized in the form of tables to increase accessibility and thereby facilitate critical and reflected uptake in the educational sector. The developed template is meant as a heuristic guide that teachers can turn to when planning teaching sessions that include videogames. We point to salient aspects in need of critical interrogation that often remain below the radar of subject-focused planning endeavors.

BACKGROUND

Digital games have developed into the dominant medium of contemporary culture in an era that has been termed a "ludic century" (Zimmermann, 2013). Being perceived as more than mere entertainment, games are today widely seen as suitable media to approach serious issues in a critical and reflective manner from varying disciplinary

vantage points (Bogost, 2007; Sicart, 2013; Flanagan & Nissenbaum, 2014; Jørgensen & Karlsen, 2018). This includes the use of games for educational purposes (Apperley, 2010; Linderoth, 2010; Staaby, 2015, McCall, 2016; Burn, 2022; Pötzsch, Hansen & Hammar 2023a, 2023b). In educational discourse, games are often regarded as media objects with inherent didactical affordances, particularly in relation to fostering motivation and engagement (Annetta 2008; Plass et al. 2015). However, the educational value of games is not inherent in the designed artifacts, but emerges in socially, culturally, and institutionally situated processes (Marklund & Alklind-Taylor 2015; Staaby 2021) and specific modes of play (Jensen & Skott 2022).

We identify a series of both textual and contextual factors in need of critical consideration before the use of games in subject-specific educational practices. Drawing on these insights, this paper builds on Aarseth and Calleja's (2015) game ontological framework and Pötzsch, Hansen, and Hammar's (2023a) earlier advances to develop a systematic interdisciplinary framework to evaluate the usability of specific game titles prior to possible application in educational settings.

Scholars rooted in the theoretical tradition of critical literacy and critical media literacy, such as David Buckingham (2003), Alan Luke (2012), Douglas Kellner (1995), and Hilary Janks (2009, 2014), direct attention to teaching about the biases and ideologies inherent in cultural expressions. Their aim is to empower learners to actively resist and subvert these influences. As a result, education about games drawing upon this critical tradition emerges as a vital element in contemporary education, fostering the development of critical, self-reflective, and confident citizens. This article distinguishes three ways of applying games in education: 1) Teaching *with* games, 2) teaching *through* games, and 3) teaching *about* games (Pötzsch, Holt Hansen & Hammar, 2023b). Type 1 – teaching with games – employs educational titles to reach pre-defined learning goals in specific subjects. Type 2 – teaching through games – looks at how off-the-shelf commercial titles can be made use of in classrooms. For the sake of this article, we disregard the distinction between type 1 and 2 and combine them under the heading of teaching with games.

Finally, type 3 – teaching about games – focuses on videogames in general as objects of critical scrutiny rather than treating them as supposedly neutral instruments to improve teaching and learning. We argue that, given their rapidly growing economic, societal, political, as well as cultural salience (Kerr, 2017), this last aspect merits increased attention. We argue that there should be more education *about* games, i.e. they must be seen not only as tools for, but also as objects of education (Zagal and Bruckman, 2008). This aspect of teaching about games from various disciplinary vantage points has, so far, received too little attention in studies about game-use in education.

EXPANDING UPON THE CYBERMEDIA MODEL AS EVALUATION TOOL

Achieving a viable understanding of what games are, how they involve players, and what wider implications they might have, is an inherently interdisciplinary endeavor and an important condition for the development of good practices for educational uses. Earlier research has proposed a series of different game definitions (Huizinga, 1938; Caillois, 1961; Salen & Zimmerman, 2004; Juul, 2005; Sicart, 2013). All of these have been haunted by, in particular, two factors; borderline cases as well as the indeterminate status of games as both objects and processes. In the present contribution, we use the game ontological approach by Aarseth and Calleja (2015) to circumnavigate such problems and prepare the grounds for the introduction of a template for the evaluation of possible game-use in upper-secondary education.[1] The template was originally devised by Pötzsch, Hansen & Hammar (2023a). In this paper, we expand upon the original version by adding new dimensions of critical inquiry that

1. We have developed the template in dialogue with teaching professionals working in upper-secondary education. However, the identified factors will retain relevance also for the planning of videogame use at primary and lower-secondary levels.

have emerged in critical discussions with colleagues and teaching professionals.

To recap that conceptual basis for the template, in Aarseth and Calleja's approach, the phenomenon game is divided into four separate but interrelated dimensions (Figure 1); 1) rules and mechanics, 2) sign system or representational layer containing characters, story, and game world, 3) materiality, i.e. the material components needed to play, as well as 4) players – or human agents – who activate, interpret, and potentially reconfigure the three preceding dimensions. Components 1-3 of the model constitute what Aarseth and Calleja term a static cybermedia object, while the fourth – human agents – adds a processual dimension. When interacting with cybermedia objects, human agents constantly create new configurations of the first three components, and in this way shape emergent cybermedia processes.

The model has been developed further into a meta-model by Aarseth and Grabarczyk (2018). For the sake of this paper, we opt for using the original version primarily due to its accessibility and ease of use. For the purpose of the template, we initially look at the four aspects of Aarseth and Calleja's (2015) original model before we expand it with two additional important areas of inquiry – institutional frames of game-use in education, as well as possible interferences between the five dimensions of the model.

Each of the five components we identify can be studied with the help of methods specific to the subfield in question. This makes the template an inherently interdisciplinary framework capable of highlighting meaningful ways to productively study the complex and contingent phenomena of game and play by combining a variety of different methods and scholarly vantage points predominantly from the Humanities and Social Sciences.

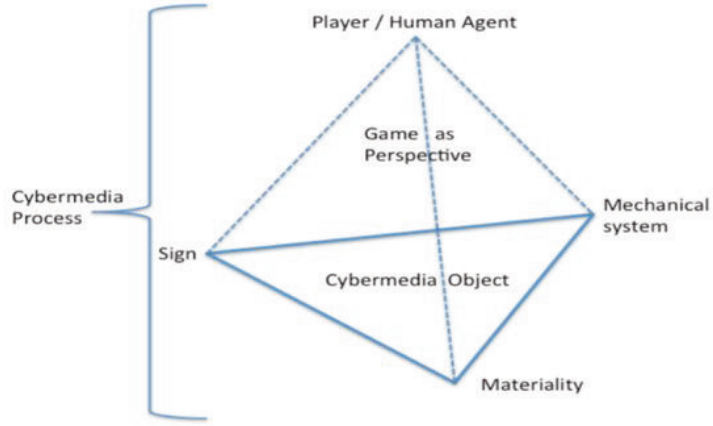

Figure 1: *The cybermedia model's four dimensions in Aarseth and Calleja (2015).*

The cybermedia model makes it possible to avoid the pitfalls of disciplinary containers and prolonged debates about game definitions, and instead enables us to disentangle a complex phenomenon and highlight specific aspects of games that are important for the planning and implementation of concrete educational endeavors. For instance, at the level of sign/narrative, questions of ideological bias, naturalized social roles, or blank spots in the presentation of historical events can be scrutinized, while the level of mechanics enables attention to issues such as opportunities for, and limitation of, player input into the game system, or possibilities for counter-play, or instances of deliberate transgressive play. All these issues are important factors to consider prior to introducing specific titles into the classroom to teach specific subjects, and can be studied from different methodological vantage points that can then be brought into dialogue to enable new insights.

We propose here an expansion of the dimension of player into human agents to also account for the significance of other actors than those directly engaging in play for the planning and implementation of teaching sessions. Beside players of the titles in question, also teachers, school owners, parents, and administrators retain agential capacities vis-a-vis the cybermedia objects under scrutiny. The

component of player/human agents allows for planning of actual game-use in terms of play skills, game literacy, accessibility, possible toxic group dynamics, gamer modes, as well as forms of exclusion and marginalization intentionally or unintentionally afforded by specific titles. All these issues need to be taken into consideration when pondering if and how a certain game title can be made useful for given educational objectives.

When adapting the cybermedia model as a tool for critical analysis of specific titles prior to their use in education, an expansion of the level of materiality that was originally conceived by Aarseth and Calleja (2015) as the machinery required for gameplay (screens, controllers, consoles, etc.) becomes necessary. Our expanded version of materiality now includes such aspects as the political economy of game production and play, labor relations in the industry, environmental sustainability of hardware and required cloud services, as well as questions of resource extraction and planned obsolescence (see also Hammar and Pötzsch, 2022). Such an extension in particular opens interesting venues for teaching about videogames and related industries.

When expanding upon the aspect of materiality, we draw upon insights of, among others, Hall (1977) and Mosco (2009: 223-24) who have directed attention to the significance of media production for recurrent biases in content. Through this move, among others, the following areas in need of sustained critical inquiry emerge: What technical infrastructure needs to be in place in schools to enable game-use in education, and how is this infrastructure funded and maintained? What are the business models behind free-to-play games? Do specific titles operate with clandestine advertising, in-game monetization strategies, or collection and sale of player data? How much energy and resources do these games, the consoles, and connected cloud services require, and how often does the hardware need to be replaced? These and other questions have emerged as key aspects of critical game research and are equally important for discourses about game-use in education (see Nieborg, 2015; Srauy, 2017; Johnson, 2018; Bulut, 2020; de Wildt and Aupers, 2018; Hammar,

2019; Hammar et al., 2023; Taylor, 2023). With this perspective, the cybermedia object emerges as a variable dependent upon additional material factors such as those outlined above. Knowledge about such wider contexts of game production and use constitute an important basis for reflected planning of possible adaptations for educational purposes, and can serve as focal points for sessions dedicated to teaching about games, game culture, or the games industry. So far, the cybermedia model has not sufficiently accounted for such factors at the level of political economy and ecology.

Investigating digital games with the help of a template developed on the basis of a thus expanded cybermedia model can help identify contingencies and possible pitfalls that need to be critically accounted for before using particular game titles for subject-specific purposes in class (see Tables 1 & 2). The model also shows that teaching *about* digital games can be decisive in processes aimed at engaging learners in critical reflections about the games industry, ideological biases in content, potentially toxic use, and the limited role models they offer.

Following Arnseth, Hanghøj, and Silseth (2018), we assume that no game has intrinsic educational qualities. Rather, the context they are used in, as well as the concrete plans and preparations by teachers, determine subject-specific educational values. Therefore, our template operates under the assumption that teachers have concrete plans regarding the overall objectives behind an incorporation of a specific game title into a particular teaching subject. As such, our template serves more as a structured guide to assist educators in discerning potential pitfalls beyond subject-specific considerations when they assess game titles against the criteria outlined in the framework.

To offer an example, it might well be that the content and setting of games such as those belonging to the *Assassin's Creed* series might yield subject-specific benefits in the teaching of history. However, the costs of acquisition of the game, the required technical infrastructure, processing power, as well as the violent content and challenging controls would make it difficult to use, despite some subject-specific

educational potentials. Our template facilitates identification of precisely such factors, including those pertaining to business models, sustainability, and data capture.

	Teaching with	Teaching about
Materiality	• Commercial product: yes / no • Technical requirements: Hardware / software • Costs for schools / parents • Business model: Data collection / monetization / privacy • Lock-in / accustoming to specific corporate products • Educational version: yes / no • Educational resources: yes / no • Degree of ecological & societal sustainability (rate of obsolescence, working conditions in production)	• Economic conditions & implications: ○ Working conditions in games industry ○ Composition of development team (diversity) ○ Business model: Data collection / monetization / privacy ○ Distribution ○ Non-disclosure agreements (NDLs) • Ecological implications / sustainability ○ Energy & resource consumption / CO2 footprint (production & use) ○ E-waste & pace of obsolescence
Sign system / narrative / game world	• Ideological subtexts: subject-focused • Available roles & identities: subject-focused • Blank spots & invisibilities: subject-focused • Genre of game: content-based definitions • Provocative / toxic content: yes / no	• Ideological subtexts: general • Available roles & identities: general • Blank spots & invisibilities: general • Game genres: content-based definitions • Implied player of the game • Provocative or toxic content: yes / no
Mechanical system	• Procedural rhetoric: subject-focused • Goals & affordances: subject-focused / attention management • Levels of difficulty / accessibility • Required playtime • Access to saves / teacher access to all levels? • Genre of game: mechanics-based definitions • Affordances for toxic play?	• Procedural rhetoric: general • Goals & affordances: general / attention management • Game genres: mechanics-based definitions
Human agents	• Game competence & literacy: Teachers & students • Attitudes among school owners, administrators, parents • Player cultures, communities & discourses in class: Toxic & otherwise • Counter- / oppositional / toxic play in class • Accessibility: ○ a/v-triggers ○ language proficiency ○ interface design ○ offensive / provocative content ○ age restrictions ○ senso-motoric & neuro diversities	• Toxic player cultures, communities & discourses • Transmedia embedding • Game literacies • Transgressive / counter-play / toxic play • Modding / cheating • Attitudes towards games and play: moral panics, tech-utopianism, technological determinism, technological solutionism

Table 1: *Key aspects for the planning of teaching with and about games (expands upon Table 1 in Pötzsch, Hansen & Hammar 2023a)*

After the publication of the original version of the evaluation template (Pötzsch, Hansen, and Hammar 2023a), we have developed

the framework further to better account for institutional realities faced by teachers and school leaders when attempting to use games for educational purposes. These aspects were inadequately fathomed by the four existing variables. To resolve this, we introduced an additional fifth dimension of the model that we term *institutional frames*. Here various aspects pertaining to the institutional settings and preconditions in individual schools or classrooms can be problematized and made amendable to intervention (e.g., conditions in classrooms, available expertise, available teaching hours compared to play-time required, subject-suitability, and more). In addition, we reconceptualized the dimension of players as human agents to draw attention to the importance of established practices and attitudes towards games and play among fellow teachers, school leaders, and parents when planning for game-use in teaching.

Besides adding a focus on institutional embeddings, the template needed improvement with regard to how the five identified dimensions interact with one another. A model such as the cybermedia model that subdivides a complex phenomenon into minor components can be at risk of compartmentalizing different aspects, and overlook the various ways these interoperate and work for or against one another in different contexts. To alleviate this problem of multi- versus interdisciplinarity, we here introduce the sixth dimension of *interferences* to highlight how various aspects of the model can interfere with each other (Table 2). Thereby, we expand upon the dimension of representation / simulation conceptualized by Pötzsch, Hansen, and Hammar (2023a) to fathom interactions between the dimensions of sign system (story, characters, game world) and rules / mechanics as they, for instance, become palpable in cases of ludonarrative dissonances (see Grabarczyk and Kampmann Walter, 2022). By these means, we can also expand upon Vangsnes and Økland's (2015) term didactic dissonance, and conceptualize a form of ludodidactic dissonance that, for instance, explains interferences between a devised teaching plan and the game mechanics and/or narrative of a specific title and/or dissonant play practices these might invite.

	Teaching with	Teaching about
Institutional frames	• Classroom settings (lighting, room, display, ...) • Demands posed by school administrative systems and permissions • School regulations • National and local syllabi and other regulatory documents • Available teaching hours • Available expertise • Available funding • Clear teaching plan (pre-teaching, implementation, de-briefing) • Clear didactic objectives	• Institutional obstacles to / facilitators for game-use in education • Games in syllabi • Economic interests behind pushes for tech-use / game-use in schools
Interferences	• Explorable problem spaces / pre-determined storyline: Subject-oriented • Player freedoms / limitations: Subject-oriented • Selective reduction of complexity / blind spots: subject-focused • Ludo-narrative dissonances / consonances: Implications for subject taught • Influence of classroom settings on play practices • Influence of institutional frames on play perception and practices • Ludo-didactic dissonance / consonance • Transmedial aspects of play and player culture	• Explorable problem spaces / pre-determined storyline: General aspects • Player freedoms / limitations: General aspects • Selective reduction of complexity / blind spots: General aspects • Ludo-narrative dissonances / consonances: General aspects • Business models' impact on content, player perceptions, and play practices • Relations between biased content and biases in production teams • Games as transmedial phenomena

Table 2: *Additional dimensions relevant for the planning of game-use in educational settings*

The concept of video game literacies introduced by Bourgonjon (2014) as a special form of media literacy can illustrate a series of additional interferences between human agents and other dimensions of the cybermedia model. For example, Bourgonjon's concept of operational videogame literacy focuses on senso-motoric issues such as the ability to use controllers in an efficient manner. This form of game literacy, as such, concerns interferences between the player, aspects of materiality, and the mechanical system (see also Bogost's (2007: 256) concept of procedural literacy). Cultural videogame literacy, on the other hand, can be regarded as mainly an interference between players and the sign systems or game worlds, but also

extends into transmedial environments of player (sub)cultures. Lastly, critical videogame literacy can be conceived as an interference between players, materiality, and institutional frames, enabling reflective approaches to relations between human users and classroom settings as well as school regulations, and production context and socio-economic as well as ecological implications of game production and use.

Evaluating the applicability of specific titles for the purpose of teaching with and about games is a challenging task that requires serious, reflective, and critical interdisciplinary engagement of all dimensions of the model by teachers, pedagogists, administrators, and school owners. The template presented above can hopefully support such endeavors by highlighting a series of key aspects in need of critical interrogation prior to subject-specific uses of games in educational settings. It is not our intention to make teachers discard specific titles for teaching purposes altogether, but to help educators with critically assessing which games are suitable for precisely what types of teaching prior to use in school, and how potentials can be realized in classroom situations contingent upon a variety of contextual factors.

We will now present two examples of how the template can be used to evaluate specific titles – *The Walking Dead* (Telltale Games, 2012-19) and *Frostpunk* (11bit Studios, 2018). After discussing the potential value of teaching ethics with these titles, we move on to a third example showing that even though a game may be evaluated as not suitable for classroom use, it can still productively be taught about, with a departure point being specifically the weaknesses identified with the help of the template.

APPLYING THE CYBERMEDIA MODEL TEMPLATE

Digital games can be potentially useful educational tools for teaching and learning ethics (Schrier, 2021; Staaby, 2015, 2020), as they can be regarded as designed objects that can afford ethical experiences and challenges to playing subjects (Sicart, 2011, 2013). However, teaching

with games is not a simple matter, and there are not necessarily any clear-cut solutions that will be applicable in all settings. Even though different games can be used to teach the same set of skills (here: ethics and moral reasoning), using different titles for the same teaching objectives will most likely result in widely varying contextual requirements in terms of game literacy among teacher and students, available hardware and software, as well as necessary classroom configurations and resources. In addition, the institutional and individual context of each instance of educational use of these games will lead to different outcomes and results. The template can thus only be employed as a guiding light helping to identify salient areas for planning and implementation, and helping to avoid uses of unsuitable titles. Still, even though the template suggests that a certain title should not be used as a teaching tool, it might still be important to teach about a particular game or game franchise using the elements of the template for planning what to include, and where, in educational endeavors.

We will now demonstrate how our framework can be utilized on two titles that provide different affordances, and have different requirements for successful use. The two games discussed below are *The Walking Dead* (TWD; Telltale Games 2012-19) and *Frostpunk* (FP; 11bit Studios, 2018). Both are set in a post-apocalyptic world and require the player to solve a range of ethical dilemmas, thus making the games suitable for teaching ethical modes of reasoning. However, the games have a range of differences that provide both opportunities and challenges when applied as educational tools. Table 3 offers an overview of the cybermedia template applied to *The Walking Dead* and *Frostpunk*.

	Sign	Mechanics	Materiality	Human agents
The Walking Dead	○ Post-apocalyptic setting caused by zombies ○ Character-focused dramatic narrative ○ Complex moral dilemmas with unclear consequences ○ Contains some normative statements concerning morals and ethics	○ Interactive narrative ○ Dialogue choices ○ Linear gameplay ○ Light puzzle mechanics, environmental navigation, and quick-time events	○ Relatively affordable commercial title (no educational version) ○ Available on several platforms ○ First episode free on iOS/Android ○ Teacher guide available in Norwegian ○ Suited to whole class play, lowering cost and logistical requirements ○ Short playtime (ca. 2 hours per episode)	○ Easy to play (apart from some quick-time events requiring fast reactions) ○ Bleak setting and narrative ○ Violence and jump-scares ○ Crowd play mode allows more players to participate in the same session
Frostpunk	○ Post-apocalyptic setting caused by climate change ○ Focus on a settlement of relatively anonymous survivors ○ Moral dilemmas related to settlement management and resource allocation; some consequences known up-front ○ Contains some normative statements concerning morals and ethics	○ City-building and resource management ○ Little dialogue ○ Complex city-building and resource management mechanics ○ Emergent gameplay ○ Some narrative events	○ Relatively affordable commercial title (no educational version) ○ Teacher guide available for use in Norwegian schools ○ Best suited to play in dyads or small groups, increasing cost and logistical requirements ○ Can be purchased directly from developers (or even received free of charge)	○ Difficult for inexperienced players ○ Bleak setting ○ Best played in small groups ○ Mechanical complexity might cause frustrations ○ Potentially invites 'gamer mode'

Table 3: *An overview of key aspects of The Walking Dead and Frostpunk related to teaching ethics (based on Table 2 in Pötzsch, Hansen & Hammar, 2023a)*

When adding the dimension of institutional frames and interferences to the template, additional salient points of inquiry regarding the suitability of TWD and FP come to the fore (Table 4).

	Institutional frames	Interferences
The Walking Dead	○ Content of syllabi for ethics education ○ Precisely planned session does not require many teaching hours ○ Access to locations with suitable lighting and sound ○ Access to necessary expertise	○ Player controls the story's protagonist ○ Interactive, linear narrative ○ Choices and dilemmas interspersed throughout the story ○ Some variety depending on player choice ○ General ludo-narrative consonance
Frostpunk	○ Content of syllabi for ethics education ○ Requires institutional support and long-term planning ○ Emergent gameplay makes estimating required play-time difficult	○ Player controls the faceless leader of a settlement ○ Several choices and dilemmas afforded to the player from the start ○ Dissonances between affordances for instrumental play (maximizing stats) and for narrative play (invested in characters and dilemmas)

Table 4: *Additional aspects of The Walking Dead and Frostpunk related to teaching ethics*

Both *Frostpunk* and *The Walking Dead* present the player with difficult dilemmas related to surviving in a post-apocalyptic world. The dilemmas of *The Walking Dead* are intimately tied to the game's story, and show great variety in the values at stake, characters involved, and the context in which they take place (some examples are whether to lie, help someone end their own life, who to save in an emergency, whether to steal for survival, etc.). Dilemmas in *Frostpunk,* in contrast, are mostly tied to resource management and survival (like whether to allow child labor, have the adults work longer shifts, how to treat the sick and infirm, and what kinds of meals to serve hungry inhabitants). As a result, with the choices in *Frostpunk* being mostly focused on an abstracted world and anonymous characters as a means to achieve the game's win state, students can fall prey to "gamer mode" (Frank, 2014) where choices are made simply to win the game. Teachers might therefore face a more difficult task when helping students to keep the curriculum in mind while playing *Frostpunk,* compared with *The Walking Dead*.

Other important differences are how players are led to engage in the game, and the way dilemmas are spread across the play experience. While the *The Walking Dead* tells the story through the fate of individual characters, players are invited to engage both emotionally and rationally, while *Frostpunk* offers the more anonymous and less

emotionally engaging setting of a simulation and resource management game. Playing *The Walking Dead* is a mostly linear experience, with dilemmas appearing at set intervals in the story, which facilitates the planning of pedagogic and didactic interventions in class and does not require that the whole game be played to highlight specific ethical conundrums in a teaching session. In contrast, in the simulation game, *Frostpunk,* a set of specific dilemmas is known to the player from the start. This has implications for how classes using this game should be structured. Additionally, *Frostpunk* is a much more mechanically complex experience, which can be challenging for students and teachers alike. While some versions of *The Walking Dead* have a function called "crowd play," where several players can connect to the game session on their phones or laptops and vote directly on in-game dialogue and choices, thus making it suitable for whole-class play, *Frostpunk* is likely best played on single machines in small groups.

At the level of institutional frames, teachers need to consider problematic and/or offensive content in both games, and check potential age ratings. In addition, in both cases hardware needs to be in place and permissions need to be acquired to install and run the titles on school hardware in line with existing rules and regulations. In both cases, the strategic built-up of in-house expertise in schools will improve the applicability of the titles as potential tools for teaching and learning.

Both *Frostpunk* and *The Walking Dead* have educational potential. However, as has been shown here, they vary significantly across the aspects of the cybermedia model, having strengths and weaknesses relative to the six dimensions of the template, which teachers should take into account when planning to use these games in classes.

Having dealt with the various contingencies of teaching ethics with *The Walking Dead* and *Frostpunk*, we will now turn to the issue of teaching about games using the template to identify salient issues for discussion in class. When doing so, we use critical media literacy and show how both content and context of digital games can be made the object of critical inquiry in the contemporary upper-secondary class-

room. We apply our template and evaluate the game *Survive the Century* for teaching, where the game is treated as an object of critique rather than an apparently neutral educational tool.

Scholars such as Hall (1997) or Kellner (1995) have alerted to the inherently political nature of representation that both reflects and reproduces dominant ideologies prevalent at certain times. As Der Derian (2002: 110) notes with reference to the wider implications of narratives of conflict and war, "more than a rational calculation of interests takes us to war. People go to war because of how they see, perceive, picture, imagine and speak of others; that is, how they construct the difference of others as well as the sameness of themselves through representation." Popular cultural representations apparently matter for politics and society, and this insight retains its validity when pondering the use of cultural expressions – including videogames – for educational purposes.

As Adrienne Shaw (2017, p. 595) points out, videogame "designs and environments like media representations do not tell us what to think or do, but they do shape what we think with." As a consequence of this, the ability to teach critically about the products of mass culture and their potential implications becomes an important responsibility of contemporary schools and other educational institutions. The ability to critically reflect, question, and challenge the media images and narratives surrounding us is a key component of so-called 21st century skills (Pötzsch, Hansen & Hammar, 2023b). We now move on to apply the template to assess ways to use the game *Survive the Century* as an object for education. The critique of the game as a potential teaching tool is based on the analysis conducted in Pötzsch, Hansen, and Hammar (2023a: 361-363), but has been actualized and expanded to include the new dimension of institutional frames, as well as new aspects in the dimension of interferences.

Survive the Century (STC) is a browser-based game about climate change developed as a freely accessible educational resource by the National Socio-Environmental Synthesis Center at the University of Maryland. STC has a branching narrative with the development of the story being contingent upon player input that is limited by pre-set

choice alternatives. Due to its accessibility as a browser game, it does not require installation on school hardware or large amounts of energy. As such, the game is easy to apply in classroom settings and can be played both on available individual devices or on a classroom screen. Public funding and a non-profit developer suggest an absence of tacit data mining and corporate lock-in strategies.

In STC, players take the role of an editor-in-chief of "the world's most popular and most trusted news organization" with the "enviable power to set the news agenda and thereby shift the zeitgeist" (STC website), and are presented with a variety of global challenges such as the Covid-19 pandemic or a green shift in the economy. Players make choices on how to react, and the game then reveals the effects of these decisions in short pieces of creative writing. Even though the game requires good English language skills, factors such as the thematic frame, the game's accessibility, and low requirement of player skill make STC appear an almost ideal candidate for classroom sessions aimed at teaching about climate change.

Treating STC as a seemingly neutral tool to teach students about climate change might, however, prove problematic once the dimension of sign / narrative is subjected to closer scrutiny. As Table 5 shows, the game has a series of implicit ideological biases and blank spots that need to be critically addressed during teaching hours. These include assumptions about simple and straight-forward media effects, a prioritization of market-based solutions, and an inherently colonialist outlook on the Global South (for further details, see Pötzsch, Hansen, and Hammar 2023a: 361-363). This does not, however, mean that the game should be discarded with regard to educational endeavors. Rather, we argue for the necessity to teach critically about this game (and others similar to it) and draw the critical attention of learners to how STC issues its implicit messages and conveys ideological positions and content.

	Sign	Mechanics	Materiality	Human agents
Survive the Century	○ Neo-liberal / capitalist bias ○ Colonial gaze on Global South ○ Assumes direct media impact ○ Naïve choice-alternatives ○ Unsophisticated good-bad distinctions ○ Problems can be made an object of inquiry when teaching about the game	○ Limited player freedom ○ Pre-set paradigm of choices narrows available alternatives for action ○ Selective reduction of complexity	○ Free, browser-based game ○ No installation ○ No costs ○ Usable on phones ○ Publicly funded	○ Requires good reading skills (English) ○ Easy to use ○ Requires low level of game literacy ○ Narrow paradigm of possible actions and blunt choice alternatives might have provocative effects

Table 5: *An overview of key aspects of Survive the Century (expands upon Table 2 in Pötzsch, Hansen & Hammar, 2023a)*

In relation to STV, the two additional components – institutional frames and interferences – play out as shown in table 6 below.

	Institutional frames	Interferences
Survive the Century	○ Content requires careful planning to instantiate transition from teaching with to teaching about ○ Can be played in prepared room (lighting) or on individual devices ○ Can be used 'below the radar' of school owners and administrators	○ Simple media effects paradigm might over-empower players and facilitate power fantasies ○ Choice alternatives invite reductive understandings ○ Player exploration limited to a few pre-set alternatives ○ Naïve good-bad distinctions as frames for choice alternatives ○ Connection between situatedness of developer team and neoliberal / colonial biases in content

Table 6: *Additional aspects of Survive the Century*

As digital games have become so widespread among young people, it is necessary for contemporary education to treat games as both tools and objects of teaching and learning. Teaching about digital games is key to the mandate of contemporary schools to prepare learners to the complex media and information environments they will have to fully master as adults. Developing students' ability to critically assess and evaluate both content and contexts of

digital games in a reflected manner is one salient aspect of these educational endeavors.

The template based on the cyber media model shows that even though STC is easily accessible, free of charge, and clearly has educational potential, it should not be used as a seemingly neutral tool for teaching. Rather it would be more valuable to use it as an object of critique to teach students to approach knowledge and representation – including such conveyed by means of games – in a reflected manner, thus enabling them to understand and critique not only STC but also other media products making similar implicit arguments about the world.

CONCLUSION

In this article, we have presented and expanded upon a template for the critical evaluation of potential benefits and pitfalls connected to the use of videogames in educational contexts. Building our argument upon the cybermedia model by Aarseth and Calleja (2015) as well as upon the original version of the template developed by Pötzsch, Hansen, and Hammar (2023a), we have reiterated salient areas of critical inquiry that need to be addressed prior to the use of videogames in teaching sessions. Our main contributions that point beyond the original framework by Pötzsch, Hansen, and Hammar are, firstly, the expansion of the category player into human agents, thereby accounting for the significance of other actors than those directly playing the game (such as teachers, school leaders, owners, and more). Secondly, we introduced the dimension of institutional frames as an additional component of the original template to enable critical attention to important contextual factors predisposing the efficacy and usefulness of specific videogames (classroom settings, available teaching hours, syllabi, school regulations, and more). Thirdly, we reworked the representation /simulation component of the original framework under the new heading of interferences to enable the conceptualization of interactions across all five dimensions of the template. Pötzsch, Hansen, and Hammar only directed

attention to interferences between sign system (story, characters, game world) and game mechanics, and therefore allowed a compartmentalization of the dimensions of materiality and players (human agents). We demonstrated the applicability of the expanded template by means of brief assessments of the applicability of the commercial titles, *The Walking Dead* and *Frostpunk,* for teaching ethics at an upper-secondary level in Norway. With reference to the free browser game *Survive the Century* we demonstrated possible merits of teaching about games in cases where the template suggests that teaching with them might lead to specific unintended challenges.

Our main objective has been to further improve the toolset for teachers to critically assess the applicability of particular game titles prior to implementation in subject-specific teaching sessions. In doing this, we distinguished between teaching with and teaching about games (see Pötzsch, Hansen, and Hammar, 2023b) and argued that even though the template should suggest the non-suitability of a specific title as a tool for teaching, the game in question can still productively be made an object of critical scrutiny in sessions teaching about the game. Future research aimed at further developing the ideas presented here can conduct more systematic empirical research on attitudes and existing skillsets among teachers to assess overall capacities to utilize the template for game evaluation, and establish necessary conditions for its efficient use. To enhance the template discussed here, feedback generated from our main constituency was gathered in an ad-hoc and heuristic fashion, but still yielded important insights that have facilitated an improvement of the overall framework.

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3. EMBRACING GLOBAL AND LOCAL

HOW GAME INDUSTRY EXPATRIATES WORK BETWEEN GLOBAL AND LOCAL GAME DEVELOPMENT PRACTICES

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ABSTRACT

The paper explores cases of immigrant/expatriate game developers ("game expats") in Finland, focusing on the influence of global platforms and local game development practices. Results from qualitatively analyzing longitudinal interview transcripts (n=64) collected from 2020 to 2023 indicate that the migration of game expats is inherently bound to globally shared and fast-changing game development tools and platforms (e.g., shared game engines, publishing channels). Thus, an individual's digital compatibility with global technical practices positively affects the motivation to migrate. Meanwhile, countries and companies each have different

ways of implementing game development practices into work (e.g., different terminology, prioritization). The individuals' ability to adapt to such local interpretations of practices positively affects settlement and motivation to stay. However, despite the pluralistic nature of game development — of both global and local factor's influence — the incidents of cultural encounters and tryouts were often perceived as a risk amongst game developers. This negative perception leads to game expats' assimilation and self-exploitative work attitudes. Therefore, the paper calls for a joint effort of industrial and societal game ecosystem stakeholders to encourage cultural competence and tolerance in the ecosystem to nurture sustainable talent pools and inclusive game work environments.

KEYWORDS

game expats, migration, game work, game production, game development, platforms

INTRODUCTION

The video game industry has become one of the influential cultural industries in the 21st century, and has seen a rise of regional game development hotspots worldwide (Kerr 2017; Lehtonen, Ainamo, and Harviainen 2020; Šisler, Švelch, and Šlerka 2017). Following the industry's global growth, the number of migrant/expatriate workers developing games has also increased. In Finland, nearly one-third of game workers are from abroad (30%, including 15% from non-EU/EEA regions) (Neogames Finland 2023). Similar trends were also reported in the UK (Taylor 2022), Czech Republic (GDACZ 2022), and other parts of the world (Weststar et al. 2021), indicating the significance of work-based migration for the industry. Game development is also a creative team effort influenced by various individual and social factors (Kerr 2011; Kultima 2018; Whitson, Simon, and Parker 2018) and the region's culture of making games (Šisler, Švelch, and Šlerka 2017; Sotamaa 2021).

This research paper explores how migrating from one region to another influences the work of game development practitioners, based on longitudinal interviews collected from 2020 to 2023. In this paper I will use the term *game expatriates* (henceforth, "game expats") (Park 2021, 2023) to describe game developers that migrated primarily due to their game profession (Al Ariss and Özbilgin 2010; Andresen, Ariss, and Walther 2012). Game expats may or may not have concrete long-term settlement plans, due to precarious job contracts and the unpredictability of the game work (Kücklich 2005; Kerr and Kelleher 2015; Creus, Clares-Gavilán, and Sánchez-Navarro 2020; Keogh 2023).

Among the many analytical points to be discovered, in this paper, I report the interplay between the global game development practices enforced by multinational corporations (e.g., game development platforms) (Chia et al. 2020; Jin 2015; Nieborg and Poell 2018) versus the regional game development cluster's local interpretation of practices (e.g., teaming, design values, workspace norms) (Kultima 2018; Šisler, Švelch, and Šlerka 2017; Parker and Jenson 2017), and how it affects the game expats' work adjustment in the context of the *acculturation model* (Berry 2005; Berry et al. 1989; Dyal and Dyal 1981). The acculturation model categorizes individual adaptation strategies after migration based on whether they choose to retain or reject their own original cultural practices, while at the same time deciding to either adopt or reject the host country's cultural practices. By referencing the acculturation model, this paper explores how migration from one country to another – in this case, to Finland – affects the game expat's choice to retain, reject, or adapt their precedent practices from their former location of work, and thus the games that they may subsequently produce, by asking:

> *RQ: How do global and local factors each affect a game developer's settlement intention and work practices after migration?*

To answer this research question, I have conducted semi-structured interviews with two different game expat groups in Finland. The first was a longitudinal participant group consisting of nine

South Koreans, which I interviewed regularly twice per year from 2020 until 2023, resulting in 44 rounds of interviews (n=44). Second, I conducted one-time interviews between 2020 to 2022 from game expats with various national and cultural backgrounds (n=20), to explore migration and work experiences from various viewpoints. In total, 64 interview transcripts were collected and analyzed.

In the following, I first review previous studies on game developers' work conditions and details about migrant's four acculturation strategies. After laying out the details about the participants and this analysis process, this paper will delve into the findings from the data. This will be followed by reflection on the previous studies and the potential implications stemming from the research outcomes. Knowledge built from this research contributes to both practices and research: In practice it will benefit game companies and policymakers for developing inclusive hiring and human resource principles. In the academic landscape I hope to inspire further research on game expats and the regional diversities of making games, which could help us broaden our knowledge of the diversity and inclusion in this highly creative and collaborative work.

CONTEXT

Work conditions and practices of game development

Game development work is often creative, immaterial, multitudinous, and interdisciplinary (Deuze, Martin, and Allen 2007; De Peuter and Dyer-Witheford 2005; Keogh 2023). On one hand, working conditions are similar to those in other cultural industries (e.g., films) in the sense that game workers' professional identity and work satisfaction tends to be inseparable from the unique creative contributions to the products that they work on (Banks 2017; Dubois and Weststar 2022; Wimmer and Sitnikova 2011). On the other hand, the game industry also has a substantial connection with the software industry (McKenzie, Trujillo, and Hoermann 2019), such as as the Agile methodology

and specialized digital skill sets (Lopez and Wright 2002). Game development is also a team-based collaborative process, involving tens of or thousands of individuals (Dyer-Witheford and De Peuter 2009, 2021). Game development also often happens simultaneously in multiple geographical locations, for example, regional subsidiaries and an outsourced supply chain for work (Ozimek 2019; Schwartz 2018) that includes asset creation, source code development, quality assurance, customer service, localization, etc. But studies have also reported the game industry's concerning norms of flexibility and continuous up/re-skilling (Consalvo and Paul 2018; Creus, Clares-Gavilán, and Sánchez-Navarro 2020), normalization of a self-exploitative environment blurred between work and leisure (Cote and Harris 2021a, 2021b; Dyer-Witheford and De Peuter 2006; Edholm et al. 2017), the individualized and competitive nature of the work (O'Donnell 2014; Ruffino 2022), and class stratification within the workers' group (Chia 2022; Ozimek 2021; Park et al. 2022).

The growth of the global game industry in recent years has also been boosted by rapidly advancing digital technologies (e.g., computational power, internet connection), which are now also deeply inherent in platform economy (Srnicek 2016) that institutes how to create, distribute and monetize games (Chia et al. 2020; Nieborg and Poell 2018). A few digital platforms dominate the global game industry, in the form of various conventions of gaming peripheral interfaces and related operating systems (e.g., Android, Windows, PlayStation), engines (e.g., Unity, Unreal), and publishing channels (e.g., Google Play, Valve Steam), etc. More and more game developers – mainstream or indies alike, are now dependent on the same platforms and tools to access broader audiences (Thorhauge 2022; Young 2021). But it is also worth mentioning the grass-root efforts seeking alternative channels and modes for the creation of games (Parker and Jenson 2017; Lai et al. 2021; Švelch 2018). There are also connections between local communities' sharing of knowledge through game-related events (e.g., multi-city game jams) and organizational mediators (Kankainen, Kultima, and Meriläinen 2019; Perks et al. 2019). Cases like these exemplify the pluralistic nature of the game develop-

ment culture that cannot be understood in isolation, but is instead intertwined with both industrial, societal, and cultural contexts (Šisler, Švelch, and Šlerka 2017; Sotamaa and Švelch 2021).

Therefore, there are also efforts to acknowledge the actions of game-making, not merely as an occupational profession, but as a form of expression and self-making (Kultima 2018; Chia 2021). Such a view allows scholars to account for multiple identities of game developers — not just as producers of cultural commodities, but also as game players, fans, and hobbyists. Here, the expertise in making games is seen as not just a matter of getting proficient in a process or performing accurate tasks, but a process of discovering ways of doing things: starting from the acquisition of precedent practices, all the way to building their own methods and tricks – known as *design gambits* (Lawson 2004; Lawson and Dorst 2009; Kultima 2018). Ethnographical studies also reported that game development involves various "soft" human-to-human aspects such as communication style and aesthetical preferences in the day-to-day life of game developers (Whitson 2018; Pelletier 2022).

Migration and acculturation

The UN Migration Agency (IOM) defines a migrant as any person who is moving or has moved across an international border or place of residence, regardless of legal status, voluntary or involuntary intention, the reason behind the relocation, and duration of stay (UN 2023). Among various forms of migration motivation, those individuals who migrated on their own initiative based on occupation (e.g., taking a job in a foreign country) are called "self-initiated expatriates (SIE)" (Andresen, Ariss, and Walther 2012). These individuals migrate to seek new opportunities and an improvement in life (Doherty, Dickmann, and Mills 2011; Froese 2012; Richardson and McKenna 2003), and are thus likely to have higher expectations related to career and life improvement upon migration. They are seen in many specialized industrial sectors such as IT (Picot and Hou 2018; Hyrynsalmi, Rantanen, and Hyrynsalmi 2021), academia (Froese 2012; Richardson and

McKenna 2003), and, of course, the game industry (Park 2021). There are also game developers who actively seek a career abroad because there are no local game companies available in their home country (Park et al. 2022). From there, we can identify migrants' motivation and settlement intentions in three categories: (i) *Push* – the desire and perceived benefits of leaving the current country, (ii) *Pull* – the desire and perceived benefit departuring to the chosen country or to remain in the current country, (iii) *Shock* – unexpected encounters such as cultural differences that cause workers to re-evaluate their desire to expatriate or re-expatriate (Shaffer et al. 2012; Tharenou and Caulfield 2010).

The growing demands for digitized solutions in developed countries in recent years have increased demands for SIE technical workers (e.g., software engineers, data analysts) (Bjerregaard 2014; Koskela 2014; Hyrynsalmi, Rantanen, and Hyrynsalmi 2021), and contested hiring between game companies (Harvey 2019; Wimmer and Sitnikova 2011). For instance, digital talents are acknowledged as valuable human resources by Finnish state initiatives sparked by industry demands (YLE 2019). However, not all game workers are treated equally (Koskela 2014; Myöhänen 2023; Neogames Finland 2020; Game Makers Finland 2021), and Finland's immigration policy do not always benefit game expats who have limited work experience (i.e., juniors), instead, favor those who hold a certified educational degree with higher income (see Appendix 1).

What then happens when individuals, who already have their own culture, attempt to re-establish their employment and livelihood in another country? Scholars have tried to identify the long-term consequences "when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups," a phenomenon called *acculturation* (Berry 1997; Redfield, Linton, and Herskovits 1936; Yijälä and Luoma 2019). There are two layers of acculturation, one on how acculturation make changes to the more dominant social groups in the host country (e.g., inhabitants), and another on how it changes the psychology and behaviors of the indi-

vidual who moved (e.g., migrants) (Graves 1967). This leads to four acculturation strategies, depending on the contact and participation (i.e., to what extent the migrant is involved with dominant groups) and the cultural maintenance (i.e., to what extent the cultural identities of migrants are considered to be important enough to be maintained) (Berry 2005, 1997; Berry et al. 1989) (See Figure 1).

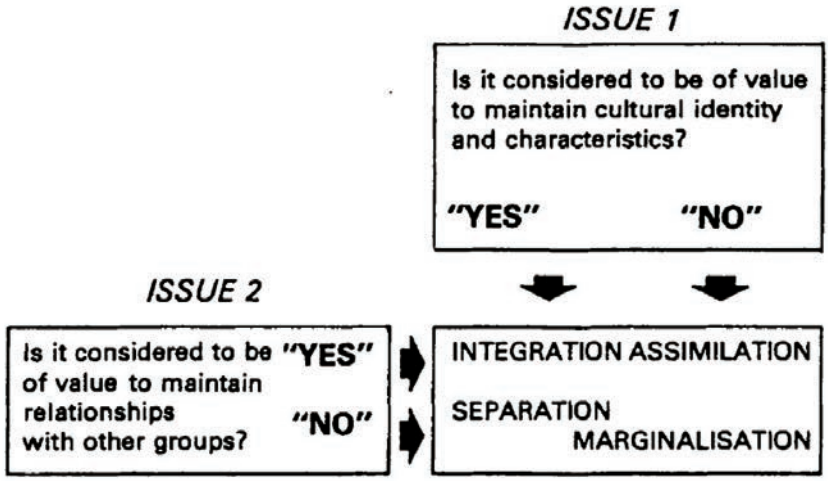

Figure 1: *Four modes of acculturation based on orientation towards issues of cultural maintenance and intergroup contact (retrieved from (Berry et al. 1989, 187))*

These four acculturation strategies are: (a) *Integration*, when some degree of cultural integrity of migrants is maintained while the migrants also perceive it as valuable to maintain relationships with the dominant group. (b) *Assimilation,* when individuals do not maintain their own cultural identity (e.g., due to oppression), while pursuing active interaction to merge with the dominant group. (c) *Segregation*, in contrast to assimilation, is when the individual wishes to maintain their original culture while avoiding interaction with the dominant group, (d) *Marginalization*, refers to the situation where there are limited opportunities to interact with other migrants or dominant groups, and thus neither maintain cultural identity nor engage with another culture — often due to forms of discrimination. As such, *integration* can be successfully achieved when migrants can

choose to pursue it in an environment that is open and inclusive of cultural diversity. Thus, a *mutual accommodation* (Berry 1997; Berry et al. 1989) that enables the migrants' social connectedness in the new environment (Dyal and Dyal 1981; Yijälä and Luoma 2019).

METHOD

Data

I have used a multimodal longitudinal research design based on two sets of interview data collected from 2020 to 2023 (see Appendix 2).

Firstly, the longitudinal interviews of nine South Korean game expats in Finland, held regularly twice each year from 2020 to 2023, for a total of 44 sessions of interviews (n=44), while also observing their activities and social engagements at gatherings of Korean developers in the Helsinki region. My nationality and cultural background — also being a South Korean migrant in Finland — allowed me to engage with the participants, and acknowledge their native language, cultural background, and the exact immigration procedures that they faced. My previous work experience in the Korean game industry also provided knowledge and understanding of the participant's description of their day-to-day work. In the first interview, each longitudinal participant was asked about their migration story, work practices, and short-term and long-term prospects of living in Finland. In follow-up interviews, participants were asked about the changes in their life and work. Visual representations of the initial analytic direction (Sale 2022) in a web-comic form using comic-based research methods (Haughney 2008; Kuttner, Weaver-Hightower, and Sousanis 2020; Weaver-Hightower, Sousanis, and Kuttner 2017), illustrated by myself, were presented to the participants to help them remember their previous interviews. The interview was conducted in Korean following a semi-structured format, with a guideline that also included phenomenological questions that inquired about perceptions of games, gaming experience, and game career prior to migra-

tion. Forty-five hours of interviews were collected over the course of three years, which were transcribed in Korean, but then coded in English during the analysis. Direct quotes were translated into English for this report.

Secondly, I also gathered one-time interviews of game expats (n=20) in Finland from a range of nationalities, which offered a broader sense of game work migration in Finland. These one-time interviews were collected in English. In total, roughly twenty-two hours of interviews were collected and then transcribed into English. A significant portion of these interviews were conducted remotely using Zoom (https://zoom.us/) to comply with the social distancing measures during the global COVID-19 pandemic of 2020-2022. For the report, the original home countries of one-time participants were anonymized to approximate regions (e.g., North America, Asia-Pacific) to ensure the participant's privacy, considering the small size of Finland's game expat community. Meanwhile, all longitudinal participants generously permitted their home country (South Korea) to be revealed in the report. Research consent was collected both through the online pre-survey and verbally at the beginning of the interview. In accordance with the Finnish National Board on Research Integrity (TENK) guidelines at the time of the research, as adopted by Aalto University, the research did not require an ethical review statement from a human sciences ethics committee because all participants were adults, and no sensitive personal data were involved.

With both groups' participants (n=29) combined, there were more who identified as male (n=25, 86.2%), and a significant portion of senior game developers had more than seven years of game work experience (n=22, 75.8%) — including six (20.6%) who had more than 16 years of game work experience at the time of the interview. 75.8% (n=22) of the participants said they had worked in countries other than their country of origin and the current host country, Finland. Out of nine longitudinal participants, seven remained in Finland during the time of the research. One returned to home country during the research period, and, in the last interview session, another

expressed the intention to relocate to another country. Both were then also asked what motivated them to exit Finland.

Analysis

I have used grounded theory starting from the coding process with an inductive and open-ended approach (Saldaña 2003; Salisbury and Cole 2016). Coding was conducted in English using the ATLAS.ti 23 software. I focused on coherent patterns that emerged from the data (Carmin and Balser 2002; Grigoreanu et al. 2009) while referencing previous ethnographic case studies of game developers and their work behaviors (Kultima 2018; O'Donnell 2009; Whitson 2018). Then I conducted an analytical abstraction and produced a set of four analytical directions (Sale 2022), while again trying to interpret the participants' intentions in the quotes and how the identified codes correspond to each other. Those directions were: (a) *Global industry factors;* the condition of local game work in Finland in the context of the global game value chain (Sotamaa and Švelch 2021; Dyer-Witheford and De Peuter 2009), (b) *Local industry factors;* the surrounding local context within the Finnish game development ecosystem (Jørgensen, Sandqvist, and Sotamaa 2017; Kultima and Peltokangas 2019; Lehtonen, Ainamo, and Harviainen 2020; Sotamaa et al. 2011), (c) *Societal factors;* institutional and societal framework (e.g., HR, immigration policies) (Cadin, Guérin, and DeFillippi 2006; Casper and Storz 2017), and (d) *Individual factors;* work values and motivations (Creus, Clares-Gavilán, and Sánchez-Navarro 2020; Deuze, Martin, and Allen 2007; Kultima 2018). Furthermore, transcripts from longitudinal interviews were again reviewed focusing on changes in views over the course of time, as personal narratives provide a broader view on the societal spectrum that affects their lives (Crowley-Henry and Weir 2007). If the participants claimed that they had changed their views or practices since the previous interview, it was then marked as "change." Otherwise, it was marked as neutral or "maintained." In total, 185 codes were identified.

FINDINGS

The findings show that game expats generally perceive game development processes as homogeneous across the world, as their day-to-day work relies heavily on using globally shared tools and platforms. The competency with these tools and their shared technical principles positively affects the migration intentions of game expats in the short-term. But at the same time, game expats frequently witness various new interpretations of work practices upon migration. This includes different ways to combine and interpret tools, styles of communication and decision-making, difference in task prioritization, terminological differences, work attitudes, preferences, and many more. The ability to adapt to these local interpretations affects job status stability and thus long-term settlement of game expats.

Compatibility to globally standardized (digital) technicalities

Global tools and common technical skill set of game expats

The participants' migration process was inherently bound to the job demands of game development. Most participants claimed that they had migrated to Finland, not because they knew about Finland, but because they were offered a job that brought them to Finland. According to the participants, the game job hiring first involves validating the candidates' capability with the desired technical skill sets, such as familiarity with specific gaming platforms (e.g., mobile, console) set by the game company's leadership. Participants claimed that once these gaming platforms and target audiences (e.g., casual, core gamers) are specified, the required technical skills are generally similar across the world, such as fluency with game engines (e.g., Unity, Unreal), graphic software (e.g., Maya, Illustrator), distribution platforms (e.g., Google Play, Valve Steam), and business models (e.g., free-to-play, pay-to-play). Therefore, most participants described their day-to-day work as "similar," "same," or "not changed" after migration. There were also similar technical principles shared among the tools (e.g., computer language, user interface). While there were

some established game studios with their own set of tools customized for the company's internal use, participants claimed that even those tools follow these principles and were thus not difficult for experienced game expats to adapt to. Such globally shared digital technicalities give game expats some sort of assurance that, no matter where they go, there should be something that they can recognize — which contributes positively to expatriation motivation (i.e., encourages to relocation).

Furthermore, game expats are generally expected to perform their work with high productivity upon migration to Finland. Individuals were often given a specific goal and immediately put to work to increase productivity. For example, participant R stated that her new Finnish employer immediately put her to work soon after joining the company without much training or onboarding, leaving R to figure out the company's processes on her own. Despite being somewhat baffled at first, participant R said she eventually concluded it reflected the company's high regard for her extensive experience in working on similar projects, and thus her high digital competences.

> *"I just joined, and I was surprised by how fast they* [the Finnish game company (anonymized)] *were to assign me tasks. It's not challenging for me, but if I had just started working as a game* (developer)*, I would have no idea what to do. Fortunately, I've worked with several tools like this. So, all the technical stuff was quite familiar* (R)*."*

The dominance of mobile games in the Finnish game industry (at least at the time of the research), meant that there were more job opportunities for those fluent with certain types of game engines (e.g., Unity), publishing platforms (e.g., App Store, Google Play), cloud service (e.g., Amazon Web Service), and business models (e.g., free-to-play) in Finland. It was also crucial to be knowledgeable about certain industry-wide terminologies and references (e.g., Match 3 Puzzle, battle passes). Overall, the participants generally associated universally shared mainstream (market-dominant) game

development tools and skill sets with their successful hiring, career enhancement, and immigration status.

Perceiving uncommonness and niche as a risk

Conversely, niche tools or unconventional skill sets were regarded as a risk. Participant E for example, who is specialized in console game development, which is somewhat niche in the Finnish game industry, claimed that he would rather migrate to another country when the current work contract expires, as there are only a few alternative job opportunities for him in Finland. Game artist Kor-C was worried that his current work with company-specific internal tools – which are somewhat niche from a global standpoint – might negatively affect his overall competences with mainstream 3rd party tools and could hurt his game career in the long run. The use of niche tools also had the potential risk of losing access to target audiences, higher production costs, and tougher access to cheaper labor (i.e., outsourcing). As such, manager Kor-E saw niche tools as a risk in the highly competitive mobile games market, as shown in the excerpt below:

> *"I personally think self-development, as in, making games with their internal tool, like their own game engine, is not a good thing in mobile games. (...) For example, if your company is not using Unity* (game engine)*, but something else, then there should be a very good reason for it* (Kor-E, 2021-b)*."*

Technological advancement and market disruption also force game developers to alter their skill sets. Longitudinal data indicate that more and more participants were working (or at least trying to work) on data-driven tasks as the year went by (e.g., monitoring user retention, introduced to new bots, sales data tracking tools), as Finnish game companies were adopting user data-centric live game operations (i.e., Live Ops) into their business. Furthermore, the current mainstream skill set could turn into niche at any time, to quote, "something will certainly change drastically in the game industry (in a few years) (Kor-G, 2021-b)," indicating the volatile

condition of the game industry and its work. All participants with 16+ years of work had at least once converted their primary game development skill sets at some point in their game career to mobile games (e.g., iOS, Android). This is not surprising, as smartphones and mobile game publishing platforms (e.g., App Store, Google Play) did not exist early in their careers (1990s to early 2000s). This unstable condition of the game market negatively affects game expats' intention to settle, and rather retain a nomadic lifestyle attitude (i.e., maintaining intention to expatriate). For instance, upon being asked their long-term settlement intentions ("Will you be in Finland after 3-5 years?"), many participants were still unsure. This was not just about whether they would stay long-term in Finland, but whether they would settle in any country. This also included participants already with permanent residency in Finland, and also longitudinal participants who eventually remained in Finland throughout the three-year interview process.

Adaptability to local interpretations and social norms

Regional game development culture

Participants also spent a significant amount of their time in the interview asserting the significance of non-technical, human-to-human aspects at game work. Many also perceived that learning 'the Finnish ways' of developing games as a key factor for staying longer in the country, as it relates to their job and career stability. Participants with multiple relocation experiences also reflected on their experiences and claimed that what is deemed fit in game development work differs from country to country and from company to company. For instance, Kor-C was surprised by the striking difference in the size and structure of development teams, and differences in how parts of the production were prioritized to ensure the game's success, considering that his former (overseas) and current (Finnish) employers were producing games for similar platforms (e.g., mobile) and target audiences (e.g., free-to-play, casual game). Other participants reported varying scheduling techniques, even with the same

management tools (e.g., Scrum, Kanban), for example, how companies determine their year-to-year production milestones, and how frequent they do stand-ups (i.e., team updates). There were also different preferences in art style, game mechanics and in-game products, roles and responsibilities, and job titles. Kor-D said he never heard of the job title "product owner" before migrating to Finland. Instead, different job titles were used in his previous country of work, such as "game business planner" or "business manager," with a subtle difference in role and responsibility compared to a product owner in Finland. Kor-G also said there are different terminologies between countries or companies, and game expats have to adjust to those differences on their own:

> *"Some would say 'gacha'. Some say 'loot box.' Some say 'random box'. (...) Catching up with those subtle differences in nuance* (between jobs) *does take some time. And you're on your own. Nobody will tell you what is what. So, I'd say I'm still in the learning process at this new job. I'm slowly catching up* (Kor-G, 2021-b)*."*

Encountering such varying cultural interpretations of game development was not always a seamless process, but rather involved a series of negotiations and compromises between the game developers. Participant D was hoping to find ways to streamline his company's communication after witnessing a significant cultural gap between his multicultural colleagues. According to D, his teams – one located in Finland and another abroad, but under the same entity – were surprised after recently becoming aware of their different views regarding work and life – what was deemed as a correct communication method at work while developing games, to what was perceived as motivating factors at work. These subtle differences, stemming from the local culture, were prominent factors in their productivity, even if the teams were operating with the same tools, a single pipeline, similar company principles, and the same office language (English). He added that gathering people from different cultural backgrounds does not automatically lead to innovation. Rather it

requires a delicate process of encounters and resolutions, which takes time, and is, to quote, a "grind(ing)" process:

> *"It's not about language. It is not hard to find people who speak English. The problem is that the culture is different. (...) So it's difficult at the beginning. I think it will take a long time for each other. I would call it the "grind"* (D)*."*

There were also differences among the participants regarding their roles; those working in more technical roles (e.g., programmers) generally had fewer concerns about the cultural differences in game development, compared to game expats working in production (e.g., game designers, product managers) and management roles (e.g., project managers), which were more likely to focus sharp attention on local contexts while interacting with diverse stakeholders. There were also differences between seniors and juniors. Participant A and Kor-C, both senior game artists, said that they frequently talked with other team members, such as game designers, and were involved in managing outsourced artists and freelancers working remotely outside Finland. Therefore, their experiences were similar to those in managerial roles, with a daily routine that involved regularly communicating with different stakeholders. In contrast, junior game artist Q mainly interacted with other game artists while spending most of his time honing his own technical graphics skills (e.g., fluency with graphics software) and had a relatively firm view that the game development process itself is supposed to be identical regardless of its geographical location.

Unexpected encounters and the notion of "cultural fit"

Different cultural interpretations in game work practices were not always obvious at first to many of our game expats, and many reported that it took months, and even years, to adapt to their new environment. For instance, participants generally agreed that while most Finnish game companies used Agile methods – which game expats were generally familiar with – this involved lengthy meetings accompanied by a series of behind-the-wall conversations between

the team members, as the local game studios valued full consensus within the team when making decisions. Many participants speculated that this was perhaps related to Finland's "trust" oriented and "flat" management culture, but they generally agreed that such factors were not always obvious at first. And it was often up to the expats themselves to reach an understanding and to compromise, without much interaction with their native colleagues. For example, participant L said it took him several years to realize the intention behind his Finnish colleagues' work practices. Until then, he found himself constantly struggling to identify and compromise with the new Finnish workplace norms, which frequently clashed with those he had seen in other countries. One of those clashes was indeed about the long meetings, which L first regarded as hesitancy, evasion of responsibility, and a delaying tactic – and thus a potential business risk.

> *"There were clashes in my* [previous country's (anonymized)] *way of doing things, and* [Finnish game studio (anonymized)] *the Finnish way of doing things. I suspect this played a major role in how a lot of things did not go well. (...) I'm perfectly happy ending a meeting by saying: 'Okay, these two people don't like the decision, but the majority have reached a decision. We are ready to move forward.' But that didn't work out here in Finland. Until we're all pretty happy with the decision, the meeting is not over* (L)*."*

Similarly, Kor-I was confused by the new Finnish employer's autonomous leadership style, which was substantially different to companies that she had worked for prior to migration. She also remarked that autonomy was quite normal among Finnish colleagues, and was not mentioned at any stage during the onboarding process. This confusion, along with isolation due to the COVID-19 pandemic, led to Kor-I's negative assessment of her Finnish employer in the early phase of the longitudinal interview, as shown below. She eventually joined another game company that promised a more assertive style of leadership:

> *"I think the leader's job is supposed to be navigating and leading the team. Whereas at* [Finnish game company (anonymized)]*, they just let people on their own. No one is taking actions to set things right.* (Kor-I, 2021-b)"

Participants also frequently talked about the term "cultural fit," which is widely used in the Finnish game development job market, and which vaguely describes the types of idealized or favored work behaviors and social norms shared by the dominant social groups in the game company. They also stated that being able to adapt to these norms (i.e., to become a "fitting" worker) as seamlessly and promptly as possible was regarded as essential for building the feeling of belonging, contract extensions, potential promotions, and compensation (e.g., salary raise). However, when asked to explain the meaning of "fit" in their new workplace in Finland, participants responded with varying answers, often contextualized and contradictory, even between game expats working (or having worked) for the same game company. Some participants claimed fitting work behavior in the Finnish game workspace meant being able to be productive while engaging in an atmosphere where people can express their ideas and passion for games. On the contrary, others said it meant an ability to work independently, showing initiative and being able to execute the given tasks without disturbing other colleagues. Enjoying a similar type of games (e.g., genre), gameplay background (e.g., childhood gaming experiences), hobby and leisure activities, the level of passion towards game development, and being active in the industry or company networking events were also mentioned. However, none of these minor factors revealed consistent patterns; instead, it remained contextual and varied individually.

DISCUSSION

Pluralistic game development practices

The findings suggest a significant influence of global game platforms on local game development, which influences the expatriation intentions of game expats, and the motivation to move abroad and relocate to the new host country (i.e., short-term settlement) (Tharenou and Caulfield 2010). In Finland, game development tools and thus technical proficiency in making mobile games positively influences the decision of game expats to relocate to Finland – and to depart Finland yet again, depending on job conditions. Meanwhile, niche game development tools and skill set outside of this mainstream were regarded as a risk. The fast-changing condition of the game industry, with rapidly enhancing digital technologies (e.g., AI) meant that the job market's desirable skill set might soon change. To accommodate such fluctuating technical demands and to catch up with mainstream skill sets, game expats constantly need to re-/upskill (Bergstrom 2022; Kücklich 2005) and become a stateless nomadic resource (Chia et al. 2020; Nieborg and Poell 2018) ready to move abroad again.

In contrast, local practices played a significant role in the pull to the current host country – decreasing the motivation to leave while increase the motivation to settle (Tharenou and Caulfield 2010). Game expats go through lengthy cultural adjustments upon migration, as countries and companies tend to have different ways of integrating (e.g., which tools to use for particular tasks, and design choices) and interpreting (e.g., terminology, prioritization) the company's game development practices. This may not always be a seamless process, but rather a series of cultural encounters, surprises, and even conflicts. This supports ethnographic case studies on the experience of game developers, which reported various human-to-human interactions (so-called "soft" skills) necessary in the game development process (Kultima 2018; Pelletier 2022; Whitson 2018). While the process may be messy – to quote "grinding" by one of the

participants – it resembles the experience of other migrants in different specialized occupations (Berry 2009; Bjerregaard 2014; Yijälä and Luoma 2019), indicating that this is an essential process for immigrants to adjust to the new environment, and eventually build social connectedness in the new host country (i.e., long-term settlement) (see Figure 2).

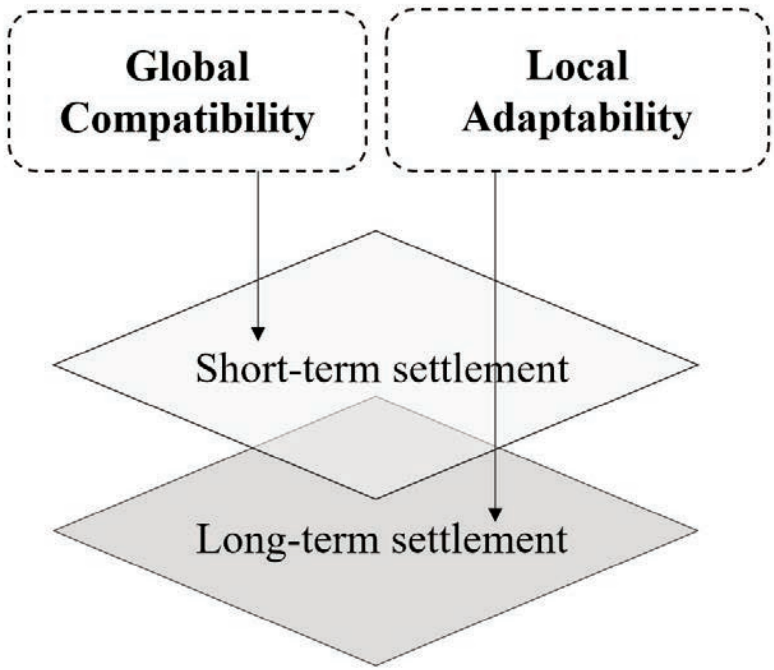

***Figure 1**: Four modes of acculturation based on orientation towards issues of cultural maintenance and intergroup contact (retrieved from (Berry et al. 1989, 187))*

Imagined globality of game development

It is evident that game developer migration and the related adjustments are similar to other specialized migrant workers – the process is not always seamless, but rather lengthy and messy. This indicates that the idealistic myth of streamlined global game development is

far from reality, supporting the previous studies (Keogh 2023; Kultima 2018; O'Donnell 2009; Sotamaa and Švelch 2021). However, the dominance of global platforms and tools used in the day-to-day work of game developers also forms a monocultural worldview of universally compatible game development practices – a perception that idealizes seamless work adjustments to provide immediate productivity after migration.

The findings suggest alarming signals of insufficient onboarding as well as an isolated and individualized work transition process in Finnish game companies. Previous studies have also reported the common hiring tactics of Finnish game studios, favoring workers that are already experienced and compatible (Neogames Finland 2020), which aligns with Finland's recent effort to encourage more "skilled" migrants (Khan, Maury, and Ndomo 2021), but without a structured training process. This also explains the Finnish game industry's other common recruitment tactic of *closed hiring* (i.e., hiring from a closer network or personal referrals), actively trying to recruit those that are already a skilled and cultural fit – hiring those that are already familiar with desired social norms in the workspace (Park 2023; Rivera 2012), to minimize risk, as shown by the excerpt below:

> *"Game companies must act quickly because the market changes so rapidly. It could take at least 3 months to find someone, settle down, get to know, find out each other's work style and culture, etc. That's a risk. But if you hire seniors who you worked with before, you can minimize that time* (Kor-E, 2022-a)*."*

However, hiring an expert does not necessarily guarantee a complete avoidance of shock and surprises (Shaffer et al. 2012; Tharenou and Caulfield 2010) after migration, or a seamless transition without the process of cultural adjustments, encounters and some degree of acculturation stress (Dyal and Dyal 1981). More so, an experienced game developer tends to bring with them their pool of precedents, know-hows, and tricks (Kultima 2018; Lawson 2004; Lawson and Dorst 2009). Based on this, these individuals have firm

views of compelling ways to develop a game. Adjusting from such long-established cultural practices and work principles inevitably involves stress. It also requires time, especially when the social norm in the workspace is insufficiently informative or tolerant of newcomers.

It is important to note that cultural encounters are not necessarily always negative. Rather, they should be regarded as a natural process when two distinctive cultures meet, with the goal of accomplishing mutual changes (Berry 2005; Berry et al. 1989) that could perhaps turn into new interventions and innovative games. But the expectation of immediate productivity, assumed from the common usage of global game development practices (e.g., game engine, platforms) (Chia et al. 2020; Jin 2015; Nieborg and Poell 2018) without considering variables of local interpretations of practices, results in a homogeneous game work role model. Suddenly, what was perhaps the norm in other parts of the world – practices that the migrant has brought with them – are perceived as a risk. Combined with the volatile condition of the game market (Kerr 2017; Whitson 2019), this further penalizes 'other' work practices (e.g., leadership style, communication style) and game design choices (e.g., choice of tools, prioritizations) and further pushes Finnish game companies to fiercely look for the exact same talent; that are already technically compatible and already culturally adaptive.

The idealization of seamless work adjustments increases the acculturation stress (Dyal and Dyal 1981) of game expats, which pushes them towards *assimilation* (Berry 1997) – to choose to reject their previous work practices and know-how to quickly 'fit' in. I phrase this as *imagined globality* of game development; a monocultural worldview of universally compatible game development practices that depicts surprises during expats' work adjustments as risks to the process of making games. This places game developers vulnerable to new cultural encounters within work, adding social pressure to achieve the impossible goal of truly seamless work adjustments after migration – enforced either by their peers or by their own self-impulses. This solidifies the isolation of newcomers and thus

increases the likelihood of their re-expatriation (i.e., the barrier to long-term settlement). From the business standpoint, this hinders the long-term retention of talents and obstacles for fresh ideas and innovations (see Figure 3).

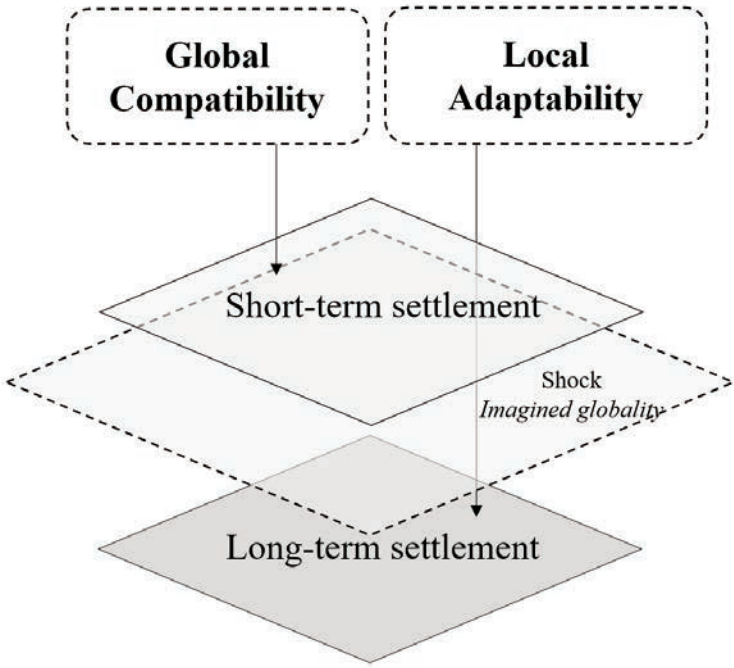

Figure 3: *The affect of imagined globality to long-term settlement of game expats.*

Towards embracing global and local

Dependency on immediately compatible expat workers in this competitive terrain of talent recruitment adds yet another challenge to reach sustainable game work conditions. Game expats, similar to self-initiated expatriates in other sectors (Al Ariss and Özbilgin 2010; Froese 2012), have a keen interest in career and lifestyle improvements upon migration. Thus, a shortage of human resources and a mounting workload can easily escalate into their long work hours and self-exploitation (Cote and Harris 2021b, 2021a; Creus, Clares-

Gavilán, and Sánchez-Navarro 2020; Edholm et al. 2017). Participant Kor-G, for example, was working extended hours on a daily basis throughout the period of longitudinal interviews. Kor-G internalized the issue by blaming himself for not being able to provide immediate productivity (to quote, "not fit(ting) quick enough") and taking too long to adjust to his new employer's "amazing" and "passionate" approach to game development.

While the industry fiercely competes to hire already compatible and adaptable workers to reach immediate productivity, efforts to train new talent — expanding the talent pool — are being overlooked. This supports the previous report on the alarmingly small margin of junior game expats in Finland (Neogames Finland 2020). In this research, there were four participants who initially migrated to Finland for study. Despite their relatively short period of work adjustment — thanks to several years of living in Finland as a student —three out of the four shared a struggling experience of getting their first game job in Finland, except one who started their career in a non-gaming sector, and then moved to the game industry. Those from non-EU/EEA countries further struggled with their immigration status as Finland's permit policy did not favor junior game developers earning a lower income. This caused negative consequences for their mental and physical health. Furthermore, game expats with multiple migration experiences or with long work experience prior to migrating to Finland shared similar sentiments that there seemed to be fewer junior game opportunities in the Finnish game industry (e.g., traineeship programs) compared to other mobile game-centric regional hotspots. One of the longitudinal participants, Kor-D, a senior game developer, for example, worked extensively long hours throughout the year 2022 because the company constantly failed to find suitable senior level candidates, despite being one of the most successful game companies in Finland. Kor-D tried convincing the executives to hire junior or mid-career staff, and then train them to become a fitting team member. However, his attempt to change the company's long-established hiring policy was not successful, which contributed to his long working hours:

> *"There are not enough people. (...) There's always a gray area. Nobody asks me to overwork. The company never pressures me on anything. But in the end, we all end up working overtime. (...) Because they fail to hire in time.* (Kor-D, 2022-a)."

Therefore, the finding suggests collective societal and industrial efforts for the acculturation of a pluralistic society (Berry 1997; Berry et al. 1989) should be further emphasized in the game workspace. Perhaps now is the time for Finnish game studios, especially the established industry leaders, to solidify their new talent-building strategies as a corporate social responsibility and build access to alternative talent pools. Furthermore, local game ecosystem stakeholders — the industry, institutions, organizations, and academia — should collectively work together to alter the negative depiction of cultural encounters in game work. Here, emphasizing "soft skills" in the workspace to help embrace new practices, new talent, as added insights and interventions should be encouraged. This could be implemented in the form of campaigns, education, and subsidies for risk management and *stress-inoculation* (Dyal and Dyal 1981): Building the industry's tolerance of risk, and assisting its workers to cope more effectively with the acculturation stress. Trans-local collaborations that could safely expose potential game expats to various local game development practices prior to migration (e.g., cross-cultural events, game jams) could also be a way to help game developers to be prepared. Here, the message should be catered carefully to offer comfort and assurance regarding cultural encounters, that *it is okay to be surprised*.

LIMITATIONS

The study was conducted primarily relying on self-reported cases in the form of interviews, which only offer a snapshot of the phenomenon of game workers' migration. Perhaps further ethnographical approaches, for instance, observation and diaries, may benefit future studies to acquire a deeper understanding of game

development work cultures. Another limitation worth mentioning is the over-represented gender aspect in the data, with a significantly higher number of male (n=25) than female participants (n=4), even more so than the industry's gender ratio, despite the interviewees being all recruited voluntarily. It could be that the male-dominant atmosphere in the game industry might have discouraged people who identify with other genders from participating in this study, which could be worth further critical inquiry.

CONCLUSION

The findings show that game expats perceive the technical practicalities of developing games as being generally homogeneous across the world due to the common usage of game development tools (e.g., game engines, platforms, software). Therefore, on the one hand, one's *compatibility* to mainstream digital technical practice positively affects game expats' hiring, career, and motivation to expatriate for newer opportunities – whereas, having niche technicalities are regarded as a risk. The game industry's fast-changing trends also increases the motivations of game expats to retain a nomadic lifestyle (i.e., positive to expatriate, and re-expatriate). But on the other hand, game expats frequently witness various non-technical interpretations of practices upon migration. This includes different interpretations of practices previously believed to be uniform, such as communication, leadership style, implementation techniques, and social norms of communication and decision-making that are different from country to country (and company to company). As such, *adaptability* to those local interpretations of practices bring social connectedness with the host country and the motivation to stay (i.e., positive to settlement).

Dealing with both global and local factors, game expats' work adjustment after migration naturally takes time – several months or years. However, the data indicate there are expectations for immediate productivity within the industry that result in expectations of seamless adjustment, and thus, a hegemonic myth of *imagined globality* – expecting a homogeneous way of making games. This situates

cultural encounters and surprises as something that should be avoided – instead of the natural process of tryouts when two distinct cultures meet. This leads game expats towards the pathway of *assimilation,* rejecting their prior practices while internalizing their migration stress to adapt to the new workplace quickly. Furthermore, the industry's competition to recruit an already compatible and adaptable workforce to reduce business risk leads to concerning work conditions (e.g., overwork) and further stratification of its workers (e.g., juniors vs seniors).

This calls for joint actions from stakeholders in the Finnish game ecosystem to de-stigmatize cultural encounters, away from imagined globality and build tolerance – that *it is okay to be surprised*. Traineeship programs, community efforts and events, and onboarding programs with trans-local components (e.g., local-to-local exchanges) to help game developers to build their cultural tolerance could be further emphasized. Such efforts to educate, train, coach, and consult current and future game developers in a multicultural work environment — both natives and non-natives alike, will equip individuals to compromise their differences rather than fear the potential immediate consequences. This in turn will benefit the overall game industry with a diverse and further inclusive game work culture and new and larger talent pools to draw from.

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APPENDIX 1 – Immigration policy in Finland

Below is the immigration status of game expats and the procedures that the employer must comply with to import their talents to Finland, which is important as a basis for understanding the work-based migration in the Finnish game industry. The information is

retrieved from the Finnish Immigration Service (https://migri.fi/, retrieved from June 2023), and further supplemented from the participants' and my personal experience as non-EU/EEA migrants in Finland.

Non-EU/EEA citizens	**Work Permit ("residence permit on the basis of work")** is required to start working in Finland. The permit application requires proof of a work contract that specifies the income per month, that meets the minimum income requirements specified in the collective agreement that applies to the expats' employment relationship. If there is no collective agreement applied or if working part-time, the salary must be at least 1,331 EUR per month as of 2023. The employer must provide a valid reason for hiring a foreigner, to the Finnish Employment and Economic Development Office (TE Office), and the employment conditions must comply with current provisions of the law. This includes labor market testing, which means the employer must demonstrate to the TE Office that there is currently no available labor force within a reasonable time in Finland or within the EU/EEA for the work in question (henceforth, whether the work can be prioritized first to the job seekers that are already in Finland/EU/EEA). Depending on this review process, the permit processing time could take 2-6 months. The longest processing time among the participants in this paper was two years, due to an incorrect decision by the Finnish Immigration Service, which led to a court case.
	Specialist Permit ("residence permit for specialist") can be granted for those expecting a higher income. This requires proof of a full-time work contract with a minimum salary of 3,473 EUR per month and a university degree, or equivalent expertise. If the applicant for a Specialist Permit is already in Finland, they are able to work a maximum of 90 days prior to the permit being granted. This permit does require screening by local authorities, which eases the bureaucratic burden for Finnish companies recruiting their foreign talent. The monthly salary of 3,473 EUR per month is equivalent to that of a mid-level game developer with at least 3-5 years of work experience (Game Makers Finland 2021) . According to the participants in this study, the Specialist Permit processing time is generally about a month — the fastest case only took about a week.
	Permanent Residence Permit can be granted to those who have maintained their Work or Specialist Permit status for at least four years, and who currently still have a valid Work or Specialist Permit that has not yet expired.
EU/EEA citizens	Based on the European Union concept of "free movement of workers," EU, EEA, and Swiss citizens can move freely and seek employment without a Residence Permit or an invitation from an employer. They are not required to provide proof of a full-time work contract before or after relocating to Finland. However, in certain circumstances (e.g., they have a non-EU/EEA family member that needs a residence permit) they may still have to provide their proof of income and tax payment in Finland to verify that they are not placing a burden to the Finnish social security.

Table 1: *Overview of immigration in Finland that affect game expats.*

APPENDIX 2 – Participant list

ID	Role	Current country	Home country	Years in Finland at the beginning of the interview	Years of game work experience at the beginning of the interview	Gender	Worked in game other than home country and Finland
Kor-A	Manager	Finland	South Korea	1-3 years	16+ years	M	Yes
Kor-B	Programmer	Finland	South Korea	1-3 years	16+ years	M	Yes
Kor-C	Artist	Finland	South Korea	1-3 years	7-9 years	M	Yes
Kor-D	Designer	Finland	South Korea	4-6 years	4-6 years	M	No
Kor-E	Manager	Finland	South Korea	7-9 years	16+ years	M	Yes
Kor-F	Communication	Finland	South Korea	1-3 years	1-3 years	F	No
Kor-G	Programmer	Finland	South Korea	4-6 years	16+ years	M	No
Kor-H	Manager	Finland	South Korea	1-3 years	4-6 years	M	No
Kor-I	Marketing	Finland	South Korea	1-3 years	4-6 years	F	No

Table 2: *The list of longitudinal participants.*

ID	2020	2021		2022		2023
Kor-A	Y	Y	Y	Y	Y	Y
Kor-B	Y	Y	Y	Y	Y	Y
Kor-C	Y	Y (Exit)				
Kor-D	Y	Y	Y	Y	Y	Y
Kor-E	Y	Y	Y	Y	Y	Y
Kor-F		Y	Y	Y	Y	Y
Kor-G		Y	Y	Y	Y	Y
Kor-H			Y	Y	Y	Y (Exit)
Kor-I			Y	Y	Y	Y

Table 3: *Timeline of longitudinal participants.*

ID	Role	Current country	Home country	Years in the current country at the beginning of the interview	Years of game work experience at the beginning of the interview	Gender	Worked in game other than home country and Finland
A	Artist	West Europe (exited FI)	West Europe	7-9 years	10-12 years	M	Yes
B	Manager	Finland	North America	7-9 years	13-15 years	M	Yes
C	Sound	Finland	West Europe	1-3 years	13-15 years	M	Yes
D	Manager	Finland	Asia-Pacific	10-12 years	7-9 years	M	No
E	Manager	Finland	East Europe	4-6 years	13-15 years	M	Yes
F	Manager	Finland	Middle-East	Less than 1 year	13-15 years	M	Yes
G	Programmer	Finland	West Europe	7-9 years	7-9 years	M	No
H	Programmer	Finland	Latin America	1-3 years	7-9 years	M	Yes
I	Communication	Finland	Asia-Pacific	1-3 years	13-15 years	M	Yes
J	Designer	Finland	West Europe	4-6 years	16+ years	M	Yes
K	Designer	Finland	Middle-East	7-9 years	10-12 years	M	Yes
L	Designer	Finland	North America	1-3 years	10-12 years	M	Yes
M	Designer	Finland	North America	4-6 years	16+ years	M	Yes
N	Designer	Finland	Asia-Pacific	1-3 years	13-15 years	M	Yes
O	Operation	Finland	North America	1-3 years	4-6 years	M	Yes
P	Programmer	West Europe (exited FI)	West Europe	10-12 years	4-6 years	F	Yes
Q	Artist	Finland	East Europe	1-3 years	Less than 1 year	M	No
R	Artist	Finland	North America	Less than 1 year	14-16 years	F	No
S	Designer	Finland	Latin America	10-12 years	10-12 years	M	No
T	Manager	Finland	Middle-East	1-3 years	7-9 years	M	No

Table 4: *The list of one-time participants.*

4. CREATIVE-RATIONAL TENSIONS IN GAME DEVELOPMENT

A DANISH CASE STUDY ON TEAM COLLABORATION

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ABSTRACT

In this paper, we discuss an ethnographic field study conducted with a single 8-person development team operating within an established indie game company located in Copenhagen, Denmark, to explore how members of a development team – in this case mainly programmers and designers – coordinate their design ideas and development processes. In a view that accepts "the heterogeneity of production logics within the games industry" (Kerr 2017, 76), our study of a single company in Denmark contributes new insights on organized and managed team creativity by adding to this pool of varying forms of development. The paper inquires and

develops a perspective to analyse collaborative game-making within a studio workplace. We explore two formats of game development team meetings, Sprint Reviews and Sprint Retrospectives, to understand the ways in which teams work together to balance 'creative-rational tensions' (Tschang 2007) between given expectations and deadlines as well as personal expressive interests.

KEYWORDS

game development, game design, collaboration, studio studies, game production studies, game design praxeology, case study, ethnography

INTRODUCTION

Game industry and maker practices have historically been neglected as topics of games research (Martin 2018; Kultima 2018; Kerr 2017). In an early study focusing on game development cultures, Tschang (2003, 2) argues that the field of video game development "still lacks an integrated view that more fully describes the creative process of a technological artifact, yet can involve multiple levels of analysis, as well as the role of cognition within that". The statement still holds 20 years later, but it may no longer be fair to assume that one can, or even aim, to arrive at such an integrated view. Instead, advances in the area of Game Production Studies suggest that game production is a diverse set of conventions, practices, interests and environments (cf. Sotamaa and Švelch 2021) that are influenced by local and regional cultures, as well as global development conventions. Hence, "a critical reflection of video game production can uncover the economic, cultural, and political structures that influence the final form of games" (Ibid., 8).

Regardless of "the heterogeneity of production logics within the games industry" (Kerr 2017, 76; cf. Whitson 2018b) and the diverse practices therein, one thing that game development processes share is their multidisciplinarity. Game development companies typically employ programmers, interaction designers, sound engineers, data

analysts, and computer graphic artists, among others. Intricate demands and opportunities for contact and collaboration across disciplines surface during productions, and teams depend on communication for bridging knowledge gaps (Wollstad 2023; Lemarchand 2021; cf. Chandler 2020). If one leaves out single-person teams, virtually all game development is characterized by constant negotiation between different disciplinary potentials and needs that range from technical competences, tools and platforms to artistic preferences, usability concerns, and target audience research (Engström et al. 2018; Kultima 2018; cf. Sotamaa, Tyni, and Myöhänen 2023). These exist as part of a creative[i]and cultural practice typically exposed to business expectations and workplace organization. What often follows are 'creative-rational tensions' where company-level goals and aspirations often clash with creativity on an individual or team level (Tschang 2007). Such tensions have the capacity to occur at multiple levels and across a variety of actors thus forming a notable challenge for the studios (Ibid., 1001). These further become subject to negotiation and, at best, resolution among all the different approaches of team members. As Engström notes, "both the creative nature of the product and the diversity of the team generate challenges. This management problem has not been solved" (2020, 121).

This paper looks at a single game studio in Denmark to inquire and develop a perspective on such shared decision-making. We provide samples of negotiation and discussions that enable 'distributed creativity' (Sawyer and DeZutter 2009), individual creative contributions, and project coordination of a team of game workers. The approach assumes a multidimensional conceptualization of creativity informed by a process and a product, as well as the social and individual aspects that guide them (Askland, Ostwald, and Williams 2010). As such, our study situates among 'studio studies' (e.g. Whitson 2018a; Whitson 2018b; Ash 2015; O'Donnell 2014; Banks 2009) – in-depth ethnographic accounts that emphasize the situated nature of productions, and delimits the studio as an object of analysis in social and cultural thought (Farías and Wilkie 2015). One of the many strengths of workplace ethnography is to provide an under-

standing of how work eventually gets done and how workers themselves see their work instead of relying on public corporate meaning-making (cf. O'Donnell 2014). Flyvbjerg (2006, 223) suggests that context-dependent case-based research is scientifically important "for the development of a nuanced view of reality, including the view that human behaviour cannot be meaningfully understood as simply the rule-governed acts found at the lowest levels of the learning process and in much theory". We look at how development team members – in this case mainly programmers and designers – coordinate design ideas and development processes. Essentially, we are interested in the daily operations of a game development team, as this is what the ethnographic approach provides access to. Our research can thus be considered 'Game Design Praxiology' (Kultima 2018; Lankoski and Holopainen 2018) – studies of the practices and processes of design – as we are concerned with the configuration of strategy and approach among creative contributors.

Looking at a single team and production therein allows us to describe and discuss grounded examples of how creative and management expectations meet as part of game development from the developers' own viewpoint combined with our observations. We define this as a 'case study', an "in-depth study of a single unit (a relatively bounded phenomenon) where the scholar's aim is to elucidate features of a larger class of similar phenomena" (Gerring 2004). Data collection for the research involved observing multiple planned team meetings in which members evaluated design and development. While previous research has accounted for, among others, processes, phases, methods, tools, and practices of design, meetings between team members have not been singled out as core foci of analysis. Earlier research touches upon related concepts such as collaboration, learning, and power relations leading to considerations around 'organizational learning' and 'knowledge-creation', but does not look at them in the specific context of organizational structure and routines such as meetings. Meetings, while set by management, rely on the participation of team members. Meetings serve as regular anchor points for synchronizing work and creating schedules. As such, they

form the backbone of shared decision making, and were considered the most likely moments in game development to bring out creative-rational tensions reflecting a multitude of priorities in a team.

While team meetings are crucial events for shared decision-making, prioritizing meetings as sites for ethnographic observation was also a preferred arrangement for the observed team. While we reflect on activities 'outside' of meetings, we rely on interview data – bound to team members' personal accounts – and design documentation when commenting on such events. The field data was processed through a thematic analysis (Braun and Clarke 2006) to delimit two ways of practicing alignment, each with a particular meeting structure and management rationale during the study: 1) Moderate discussion to ensure alignment in Sprint Reviews and 2) open dialog to enable alignment in Sprint Retrospectives. When looking at our case, we focus our attention on patterns of shared decision-making and negotiation among practitioners that made meetings central to our effort.

Presenting a case study allows us to contextualize findings vis-à-vis the social demands placed on developers, as mentioned before. As such, our case study will account for what is often left out in general and technical game development analysis and textbook literature: "messiness, including social conflict and skill-building, doesn't fit with larger cultural discourses of what game development is supposed to look like, and so it is largely ignored, thus replicating and perpetuating blind spots of our game development literature" (Whitson 2018b). We find that meetings had a central function within this team's processes for facilitating regular conversation and meaningful deliberation as needed for the production. In this case, the team entered a new phase of development lasting 16 weeks, in which team members needed to develop familiarity with novel processes, workflows, and documentation for creating and readying playable prototypes for the game product. Meetings were planned by the project lead member each week to complement this development cycle, and were intended for the team to discuss and refine their practices over the weeks.

While the generalisability of an isolated 'case' is limited, and not necessarily the aim of the method itself (Flyvbjerg 2006; Thomas 2011; Gerring 2004), one individual study can contribute – along with a larger and diverse body of approaches targeting game development – here to ethnographic works like Banks (2013), O'Donnell (2014), Ash (2015), and Whitson (2018a; 2018b) – also creating prospects for theory. Flyvbjerg argues that "one can often generalize on the basis of a single case, and the case study may be central to scientific development via generalization as supplement or alternative to other methods. But formal generalization is overvalued as a source of scientific development, whereas 'the force of example' is underestimated" (2006, 228). We understand the case study method as "a particular way of defining cases, not a way of analysing cases or a way of modelling causal relations" (Gerring 2004, 341). The value of this inquiry comes from its status as exemplary knowledge, "a particular representation given in context and understood in that context. However, it is interpretable only in the context of one's own experience —in the context, in other words, of one's phronesis, rather than one's theory" (Thomas 2011, 11). This makes the method suitable to acts of contextualization to which formal generalization would be ill-fitted.

However, both contextualisation and generalization may benefit the scientific development of game design research given that the discipline is still in its early days, and, thus, lacks systematic production of "exemplars" that is expected from a discipline to begin with (cf. Kuhn 1987). Furthermore, the broader turn towards analysing social, economic, and political realities around local game maker cultures is itself recent within the field of game studies (Keogh 2023; Sotamaa and Švelch 2021; Banks and Cunningham 2019; Kerr 2017; O'Donell 2014; Simon 2013). Fundamentally, then, our context-dependent exemplification of work practices serves an instrumental purpose, along with future bodies of research, for complexifying the discourse and the central concepts among a global research community, and, potentially, enabling a more diverse range of future research directions.

CASE INTRODUCTION

Triband is a Copenhagen-based game studio founded in 2016. The material used in this paper is based on a 10-week field study with one of their development teams that consisted of 8 people in Spring 2022. In the Danish games industry ecosystem, Triband can be considered an established, small-to-middle-sized studio[ii] that develops so called 'indie-games'. Triband operates largely according to global structures of managing creative work, from Agile game development methodologies (cf. Keith 2020) to disciplinary specializations and interdisciplinary team formations. The game products from Triband are aimed at a global audience, and the company recruits internationally. With a recognizable brand and global partnerships with platforms such as Meta and Apple, Triband distinguishes itself from the majority of Danish game studios that are smaller in scale and face different economic realities (Hammer 2023). Triband is nevertheless also founded in the local Danish, Northern European work culture: A flat hierarchy and generous parental benefits are some of the well-known characteristics. While our paper does not distinguish between local or globally-informed tendencies in work life and in creative processes, it should be recognized as a case that represents a space somewhere in between.

Triband developed and published the critically acclaimed computer game WHAT THE GOLF? (hereafter WTG) in 2019. This exhilarating genre-bending golf game gained wide international popularity, with 94% "Very positive" Steam reviews[iii], and, among others, won the Game Developers' Choice Award for the 'Best Mobile Game' in 2020[iv]. As of this writing, Triband still supplies the game with new content on a steady basis as a live service game.

After the success of WTG, Triband organized more game productions to run concurrently within the studio. One team began development on *WHAT THE BAT*? (hereafter WTB), a game for Virtual Reality devices that follows a similar style and brand as WTG, but the player is equipped with bats for arms and must experiment with their surroundings to succeed in the game. This is the project covered in

this study. The game's design document characterizes the game as: "a cozy WarioWare-style series of silly, stupid and surprising situations that will blow your mind and make you laugh". It was released according to its planned release day on November 17th, 2022. Another team also began development on *WHAT THE CAR?* (hereafter WTC), a game that was released on May 4th 2023 for the Apple Arcade mobile platform. The paper cannot account for activities on either WTG and WTC as these were never objects of study, and this also restricts the study from generalizing insights at the studio level.

The first author joined the WTB-team of eight people, consisting of members of various development disciplines: one director, one project lead, one 3D artist, three programmers and two designers. Members had only just returned to the office after working on the game from home during the global COVID pandemic. Nonetheless, the two designers were still working remotely throughout the study, with one of them participating from a different country. All members were invited to all of the meetings outlined in this study, but participation was not always full. The project lead was a moderator in all meetings.

The researcher's participation was mostly remote through the *Google Meet* platform. As such, data was collected by observing daily meetings, video recording weekly meetings on Fridays, and conducting one round of interviews. Furthermore, the author was granted access to the team's design documentation and production plans on *Miro*, a digital whiteboard application, and team communication channels on *Slack*. Thus, the researcher's participation unfolded largely online while most of the team were physically present in the meeting room. This approach provided access to scheduled team meetings, where some members were present in the meeting room, while some participated remotely.

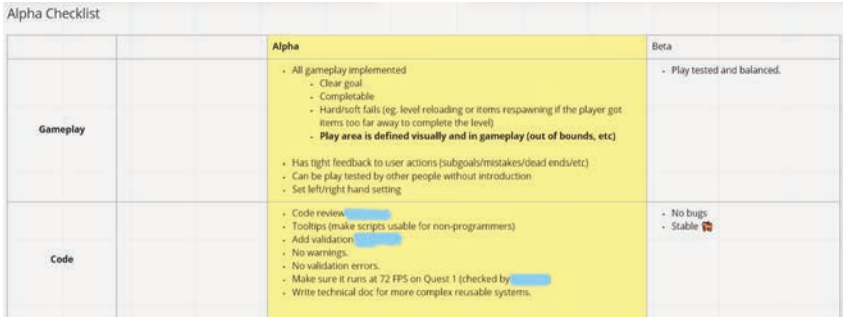
The purpose of observations and interviews was to have a closer look at methods, tools, documentation, scheduled meetings, and conversations that seemingly facilitated alignment across the team when working on the game. The data consisted of daily diary entries over 10 weeks, 10 hours of recorded video during meetings, and four

recorded interviews in week seven, each one hour in length, with the project lead (Marie), the 3D artist (Emma), a designer (Sasha) and a programmer (Casper), respectively.[v]

PRODUCTION PROCESS

On January 31st, the same day that the first author joined, the WTB team transitioned from an 18 month 'pre-production' phase to a 'production' phase. In game development, this typically means that the planning related to design and production is complete, and the management structure is in place (Lemarchand 2021). The production schedule was further divided by the team into an 'alpha' stage followed by a 'beta' stage before final testing prior to full release on November 17th. The first production stage signalled an upcoming alpha project milestone on June 3rd, at which time the game was expected to be 'feature complete' with all the functionality and content in place, but still in a rough form. Incidentally, the production stage lasted longer than the research stay. For the WTB team, the plan for alpha focused on designers and programmers creating new, functional, and playful prototype 'levels' every two weeks for a corresponding 'chapter'.

Figure 1: *The development cycle schedule presented in Week 1.*


Alpha Checklist

		Alpha	Beta

Gameplay		• All gameplay implemented
		  - Clear goal
		  - Completable
		  - Hard/soft fails (eg. level reloading or items respawning if the player got items too far away to complete the level)
		  - **Play area is defined visually and in gameplay (out of bounds, etc)**
		• Has tight feedback to user actions (subgoals/mistakes/dead ends/etc)
		• Can be play tested by other people without introduction
		• Set left/right hand setting
			• Play tested and balanced.

Code		• Code review [redacted] • Tooltips (make scripts usable for non-programmers) • Add validation [redacted] • No warnings. • No validation errors. • Make sure it runs at 72 FPS on Quest 1 (checked by [redacted] • Write technical doc for more complex reusable systems.	• No bugs • Stable

Figure 2: *A snippet of the Alpha Checklist with criteria for review.*

The team followed a two-week Sprint development cycle with daily 'standups', a weekly Sprint Review to evaluate their designs, and a weekly Sprint Retrospective to evaluate their development processes (see Figure 1). Sprint refers to the current iteration of a software product development within the Agile software development framework (Williams 2010). It is a popular planning concept in game development, and consists of a 'timeboxed' iterative development cycle which the game development team uses to create content (Keith 2020). The first week focused on prototyping levels. At the end of the week, the team would select which levels to continue working on, and put the rest on hold. In the second week, they would refine the prototypes from the week before to meet a list of alpha-ready criteria (see Figure 2). Ideally, the overall chapter would then be playable and readied for the alpha milestone.

Put into the perspective of Triband's history, the team was relatively newly formed, and the latest member had joined just some months prior. At the beginning of 2022, the project lead (Marie) was transferred from WTG to WTB in order to manage the team's transition to the production phase. Marie wanted the WTB team to reach a similar kind of hands-on familiarity with content creation that Triband had achieved with the developers of WTG: "We are very used to designing stuff for WTG, we know very much what the game is (...). I feel like that's where I want to go with WTB, that we have those things (...) incorporated into just how we think about making the game". This presented a challenge because some members did

not have this particular experience at the outset of the production phase. For example, Marie remarked during the interview that time management in team discussions was a problem early on: "It was kinda someone mentioned a thing and then the rest of the team went along with it. So that has been very important for me to also set up some times where it is okay to talk about those things and trying to set up separate workshops and meetings and reviews and stuff like that, and say, 'well that thing, we discuss that later'". Planned exercises involving the whole team, such as the Monday brainstorm and Friday review, were therefore provided a time slot during the week to match a development cycle. Overall, the setup for producing WTB became experimental because the team needed to first try it out, form patterns around it, and recursively assess the results from doing so.

The transition from a pre-production to a production phase was also remarked upon by the programmer: "[I]n the early days when it was early pre-production, it was also just a lot of trying out. (...). Now it's a lot more streamlined". Similarly, the designer related this change to an emerging understanding of the game design: "Earlier [in pre-production] when we were prototyping, we were just doing wild stuff, wild ideas, going into whatever thought train that seemed fun, and just seeing. (...). Now it's like 'okay, the final game will have this, this and this'. It's becoming more concrete and we are making more conscious choices like, 'this is what we will work on' or 'this is the quality' or 'this is what it has to do to be playable'".

Altogether, entering production meant that the overall game was now supposed to be produced and completed in a predefined time frame. The schedule placed time constraints on making and evaluating, which, moreover, forced members to pace themselves in their work to keep up as a team. From these extracts, it can seem that the change also came with a team-wide push to converge the underlying 'wild' concept so it became delimited and practical to work on. Meetings were a part of this process, and both their form and underlying rationale enabled us to reflect on which development problems they were meant to solve across the team within the time frame. This will

be covered more in the chosen themes discussed later in sections "Prototypes 'in Review'" and "Processes 'in Retrospective'".

Workflows for programmers and designers

On the first day of production, programmers and designers were introduced to a workflow and pipeline for making prototypes together during alpha. These prototypes, referred to as 'situations' and 'levels', would make up the core of the product's content at this point. The task was framed as a shared responsibility regardless of role distinction, and members would manage themselves and update each other in the digital whiteboard tool *Miro* (see Figure 3, 8).

To exemplify, one programmer talked about being responsible for making prototypes, the same as the designers, but also for working with specialized tech tasks regarding systems architecture and tools programming: "[I]deally, work on [one prototype] a day, not longer, and then following that pick another one. And then wait until some sidetracking tech task comes, and then go back to prototyping". Regarding designers having to work with code, Marie emphasized in an early meeting with the first author that it is good when designers can work a little outside their role by programming or creating 3D graphics. Casper also remarked about the requirement for designers to work with code when prototyping: "You just need a lot of people who can go into *Unity* [a game engine software], code a bit and hack a bit of things together and make it work". The hacked results would need to be reviewed by a designated programmer at some point, but it was not an issue in their customary workflow as such.

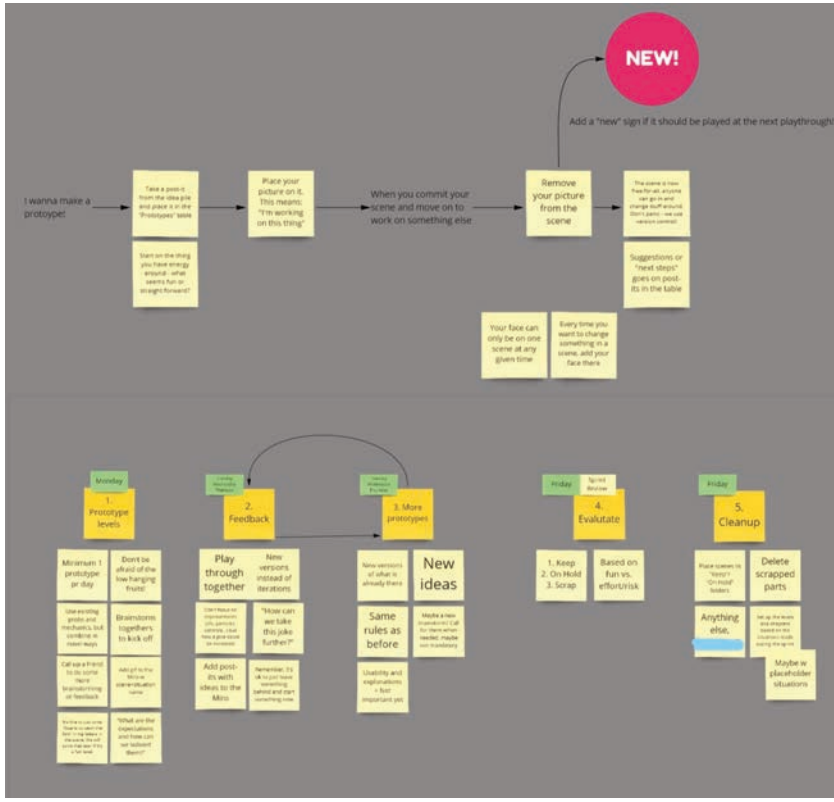


Figure 2: *A snippet of the Alpha Checklist with criteria for review.*

Designer and programmer labels signify an affiliation with one over the other, but the capacity of team members to create their own prototypes by using existing tools, or by "hacking" their own scripts, outlines a team of self-sufficient practitioners for the purpose of making prototypes. As Casper remarked about his experiences working at another company: "[T]here the game designers couldn't or didn't code (...), and also the game programmers didn't do much design, so it was a lot more separate, kind of. (...). Here most people are just this coder/game designer-hybrid, I guess".

Team decisions and discussions about the quality of prototypes were democratic to a large extent and emphasized a need for 'sharing' the work on individual prototypes. As such, specialists in a programming role would often have more to say in adjusting under-

lying technical systems simply by being team members with an informed opinion. However, both programmers and designers would be expected to mutually adjust the prototypes of others without strong oversight by leadership. Hence, crafting a chapter together also meant making changes to another person's creation, and welcoming this to happen for yours as well. The designer remarked that this was a change from pre-production: "A lot of the space stuff [from pre-production] as you see is a result of that process. It's one person doing this one thing and then us giving feedback, and then that person going back and, like, iterating on it". As Sasha reflected on it: "[W]e are trying to get more, I am trying to get more in sync with everybody. In general, Marie has been trying to get people to not own a level, but share responsibility for the levels". As part of using *Miro*, members were expected to meet the shared team goal by adjusting available prototypes where needed, or by providing feedback for others to consider (see Figure 4).

Figure 4: *Members used* Miro *to update an overview of content and to provide feedback. Each column is a level/sequence consisting of multiple situations.*

Marie remarked on implementing this change: "It's just because I've seen it on WTG. People are just good at different things and see different things in the prototypes. So, when you have that shared, that you can share the things, then you are also not so afraid to change stuff. I think it was my biggest hurdle, it seemed like it was very hard in general in the team to cut things and to say no to things." Sharing was not only meant to optimize processes as part of entering the production phase based on time and quality, it was also meant to promote agreeability once members made mistakes by experimenting, and recursively open yourself to making similar mistakes, by framing shared accountability and openness to learn.

To summarize, the team members at Triband were capable of managing their own prototypes and tasks, and they were now practicing a production process for making prototypes together. Members may have been specialized in specific areas, but programmers and designers were both involved in making good prototypes. They would share responsibility for a collective workload of levels to prototype and make alpha-ready. This formation was beneficial because the members were not yet familiar with a production process for creating and evaluating designs, as seen on WTG. Adopting a plan with particular workflows, communication pathways, and a development pipeline became experimental. They needed to assess progress at the end of each week to collaboratively evaluate and refine the process itself. As will be demonstrated later, specifically Sprint Reviews and Sprint Retrospectives became such adopted practices for targeted discussion. Overall, we may characterize their kind of collaboration as 'situated learning' (Lave and Wenger 1991).

Through the categories presented in the following sections, we look at examples of negotiating practice in organized Sprint Review and Sprint Retrospective team exercises. The paper finds that the team – pertaining to the particular production demands as outlined earlier – uncovers and formalizes skills, discourses, and workflows during such meetings for members to put into practice. Each type of meeting is managed according to its own rationale and, therefore, initiates different kinds of discussions as needed for the production.

We argue that such activities are central to describing game making, and demonstrate how members' own identification of practice is embedded within structures of collective evaluation.

Prototypes "in Review"

The structure for producing levels involved not just making the content before the deadline, but also making 'good' content. Following the concept of situated learning, the competence of this team can be seen in their emerging knowledgeability over the weeks, whether tacit or explicit, that is specific to their shared domain of interest, namely making and evaluating comedic prototypes: "What makes a good joke?", or "How does the new prototype relate with the older ones?", but also with regards to production, "how to effectively create prototypes in one week". Moreover, the project lead was also interested in bridging the experiences of making WTG or WTB to broader studio goals for future projects: "[W]e want to make comedy games, we want to be a comedy studio. (...). With WTG we found a lot of things, we are using puns a lot for example, which we aren't using in WTB. So, one thing that was maybe missing a little bit from pre-production was 'okay, so what does WTB have?'". To develop a chapter every two weeks, the team were balancing a simultaneous need to specify the emerging qualities of their comedy prototypes, while also turning these into alpha-ready submissions on time. We see this explicitly in design constraints such as "minimum one prototype a day" or "use existing probs and mechanics, but in novel ways" (see Figure 3, 8). Over the weeks, the team also began to express a desire to 'prove' individual prototypes as early as possible, to move on to pursue new ideas with time left to spare (see Figure 5).

To look into one example of reviewing prototypes and ideas, we will inspect the Sprint Review at the end of the first week of developing the third 'Home' chapter (Week 5). Sprint Reviews were scheduled for one hour on Friday afternoons. The team went through all of the prototypes they had created during the week and discussed their current state of progress. More specifically, upon having played the

prototypes on their own prior to review, the team members followed a scripted format for voting and commenting on both individual situations and overall levels (see Figure 6, 12). This evaluation procedure operationalized the term 'proven' as a criterion for judgment. It also deliberately steered away from giving concrete feedback for improving the designs. Marie introduced the exercise by explaining that instead of delving into details, the team should focus on whether something was viable or not.

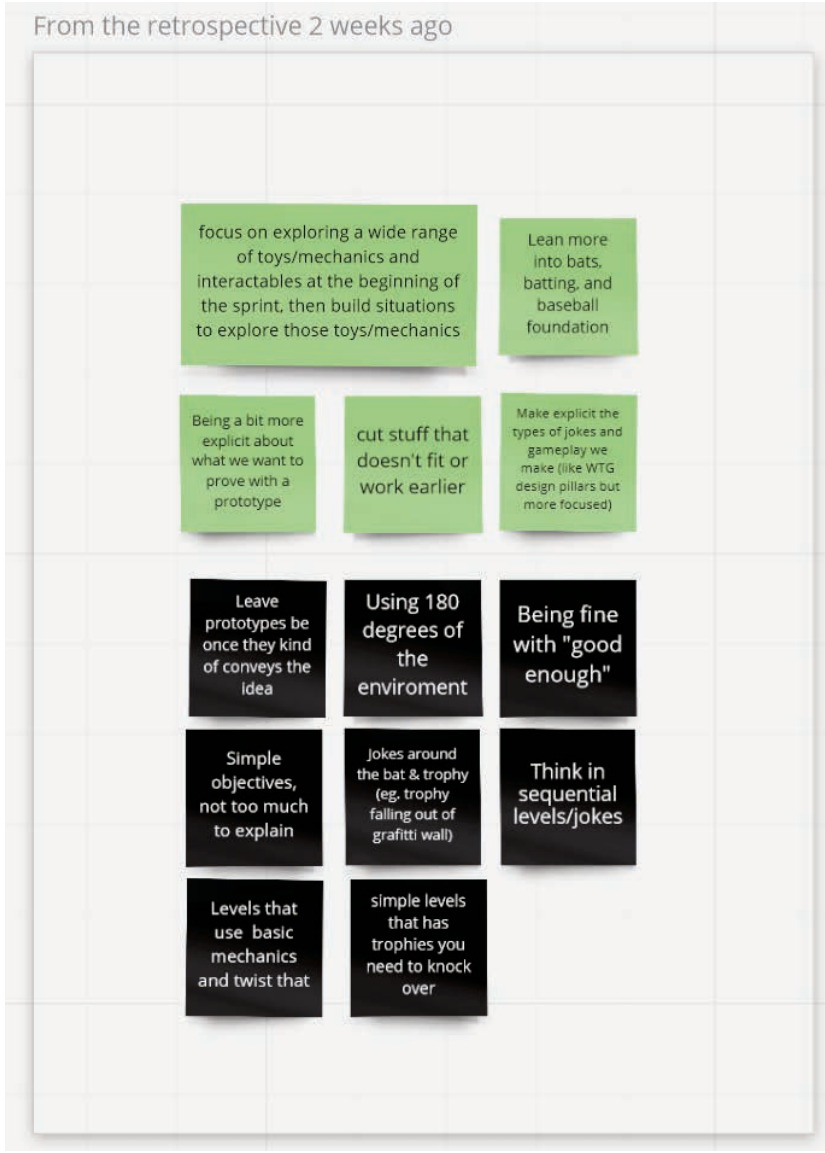


Figure 5: *Notes were written by the team during a Sprint Retrospective and two weeks later arranged by the project lead. Green = start doing. Black = continue doing.*

Figure 6: *The procedure for evaluating prototypes in the Home Sprint Review.*

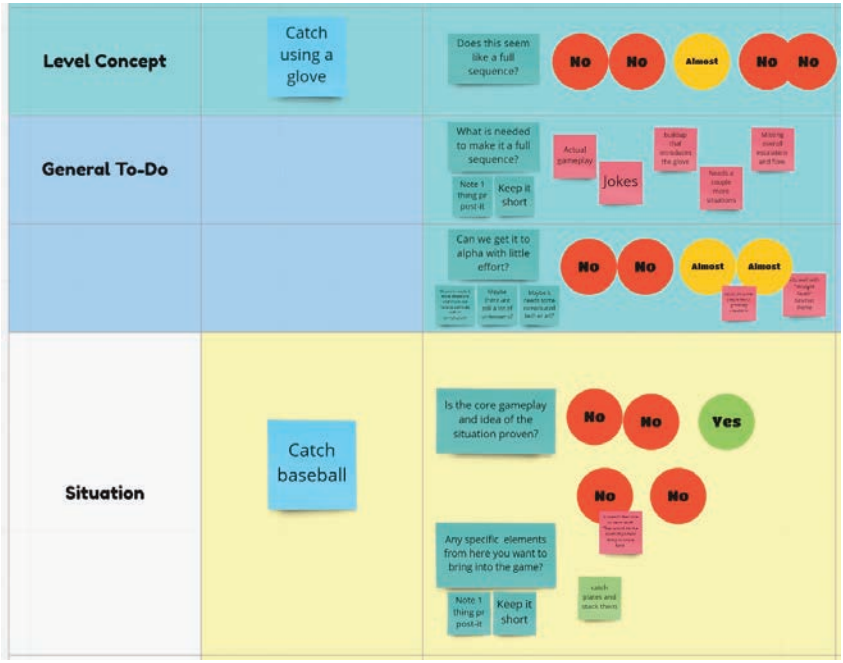


Figure 7: *By emphasizing a distinction between levels/sequences and situations, members were able to express their votes accordingly.*

This format for evaluating designs relates to the overall learning goals when regarding prototypes as either proven or unproven. Marie remarked in the interview: "[I] feel like it was a thing that was happening, that it was like kind of going through and saying: 'We like this. We don't like that' (...). Part of my agenda was to make it more clear why a thing works and why it doesn't work. Because if the reason it doesn't work is something that's like 'well we didn't get to make it yet' then that's good to know that it's not because necessarily the idea is bad". In this way, a required contextualization of the prototype around proven could ideally inform reflection and refine arguments during the Sprint Review for better evaluation; avoid throwing the baby out with the bathwater now that the team must select the prototypes to continue working on and discard the rest. Marie continued to ask for specific feedback that defined which parts of the product members should be attentive towards at this stage.

The overall objective of Sprint Reviews in the first week, exemplified in this particular session, was to balance the team's limited resources and tight schedule by filtering the number of ideas and prototypes while also using the opportunity to practice team evaluation for informed opinion. Conversation would take levels and situations as the starting point for a more directed evaluation process (see Figure 7). However, we observed tension as members' interpretation of adding notes and offering feedback conflicted with the project lead's expressed boundaries for the exercise. In one example, Marie restated the meaning of 'proven' for the rest of the team since some members had written notes on technical implementation for marking a prototype as unproven. Evidently, this went against the goal of finding quality underneath the superficially rough shape. Putting the review into practice fruitfully led to detecting these misunderstandings along the way, such as when Marie at one point remarked: "I can see I should rephrase this. It's good we are trying it on".

Overall, the description of the Sprint Review exemplifies deliberate strategy, and practice, on the part of leadership for framing and specifying the conversation around voiced parameters such as situation/sequence and proven. It was formalized as an exercise and moderated by the project lead to ensure practical team alignment. This is both for evaluating a lot of prototypes in just one hour, but it is also a framework for refining the conversation from answering questions of preference, to answering questions about viability. Production becomes a period of time that makes deadlines an essential factor for framing the problems and the solutions the team is facing: Perhaps the need for deselecting levels in Sprint Reviews, thereby decreasing the workload, is greater than keeping their options open for a little longer, or perhaps the desire to cultivate a shared creative direction through informed discussions encourages ongoing conversation. The Sprint Review mixes these priorities and takes on managerial importance for bringing members' individual reflections from making their own comedy prototypes over the week in dialogue with one another to delimit

sound 'comedic' quality in accordance with the production schedule.

The presented example of organizing collective evaluation through review demonstrates a solution to creative-rational tensions, and structures the participation of members to learn and develop the right competence over the weeks. In reflecting on its benefit, Marie acknowledged that reviews are fruitful learning opportunities for the team members "for tuning your eye for what is it actually I have in front of me". Through moderation, the project lead could direct attention along the way, for example when perceiving that members' discussion was misaligned. Overall, Marie was attentive towards helping team members to develop this ability to ensure they could make and evaluate quality prototypes throughout the development of WTB. As pointed out earlier, this was not only needed for a timely production but was also meant to bring expertise to future comedy projects at Triband.

Processes "in Retrospective"

Team members at Triband were expected to practice collaboration and prototyping, and to feel safe making mistakes and editing shared prototypes. More than that, they were expected to scrutinize such development processes and reflect upon progress with each other along the way. The Sprint Retrospective was a weekly scheduled meeting for the team to do this by having members share, and listen to, personal accounts of pressing issues or success stories from events over the past week. This would ideally open discussion and enable the team and leadership to set priorities, if needed. These sessions came after the Sprint Review on Friday afternoons and lasted up to half an hour. Members would each write personal notes on a digital whiteboard according to three columns (start, stop and continue). The team would do this in silence for 5-7 minutes. Afterwards, the project lead would go through the notes with the team to initiate discussion (see Figure 8, 15).

Marie remarked on the challenges of collecting input from retro-

spectives: "I guess there's no real forum for saying 'Okay, I heard it, but we are not going to do that because of this and this'". Ultimately, the project lead became responsible for learning what to change, and what not to, from such an inquiry. The feedback from members was then valued by the project lead for providing insight on how to improve the workflows. However, we also propose that the benefit of retrospectives is for all members to relate their own experiences to enable practical alignment across a collective (cf. Argyris and Schön 1996). In that sense, members could dialogically detect conflicts and surprises and, from that, prioritize problems and solutions. It hinged on members being present and willing to make personal perspectives and viewpoints accessible for others to reflect upon and engage with.

Figure 8: *Notes from Week 7 reflect a troubled week of development.*

This was demonstrated during the making of the Island chapter (Weeks 8 and 9) in which it was notably difficult for the team to navigate and adjust development. This consisted of two Sprints following the same process as outlined earlier. The major differential factor was the lead members' absence. Namely, John was away for the entire two weeks, while Marie attended intermittently on some days. She was there for the initial brainstorming, and the review and retrospective

of the second week. In between, members were organizing their own content creation, giving feedback on prototypes every day, and finally, exploring the tensions that arose when lead members were not around to provide direction (see Figure 9, 16). Only four members attended the halfway Sprint Review at the end of the first week. At this point, the team had created prototypes but were unsure of where to go from there. They decided to loosely review the levels and write up comments for Marie to see in the next week. As a result, they did not deselect levels as part of the review format and were left with a full scope of prototypes to manage in the coming alpha-ready week (see Figure 10, 16).

During the second week retrospective, the team discussed the situation with Marie, and social conflicts were noted (see Figure 11, 17). This was prompted by Marie: "I feel like there was a bit of uncertainty (...) of like what goes and what doesn't go. Like, kind of what fits and what's okay to do. Is that correct?" Amanda answered: "We spent a lot of time discussing if this is a thing John would cut or if it would be cut by Marie". Casper commented on unclear expectations halfway through the chapter development: "I feel like there was also a bit of unclarity, like, on Friday whether should we, like, select what levels to put on hold and stuff. I think it's perfectly fine that you and John decide that, but, like, I would not be sure if I could make the criteria". For at least some of the members, their decisions, direction and labour had been at risk of being overturned at a later point. The particular change in working conditions for this chapter was noticeable for the first author, and was also remarked upon by members, since this had not been a part of the training, and there were no set expectations and procedures to follow.

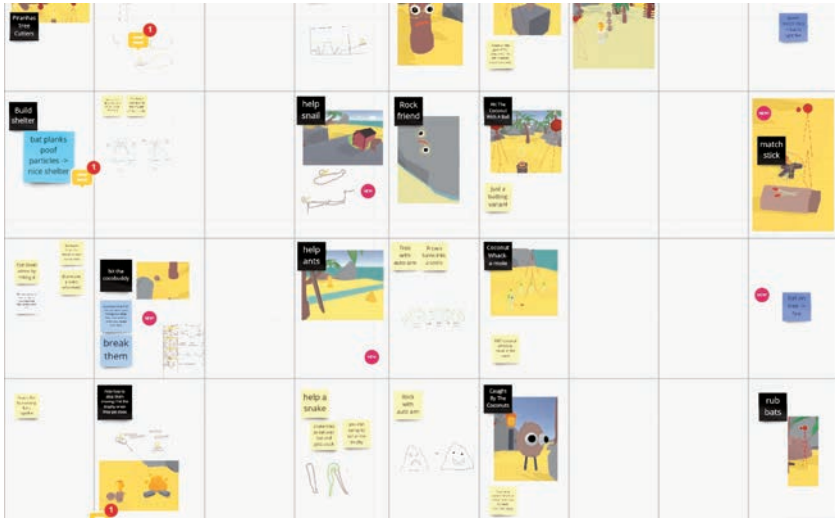


Figure 9: *This live board began with drawings, but was covered with images once digital prototypes had been made.*

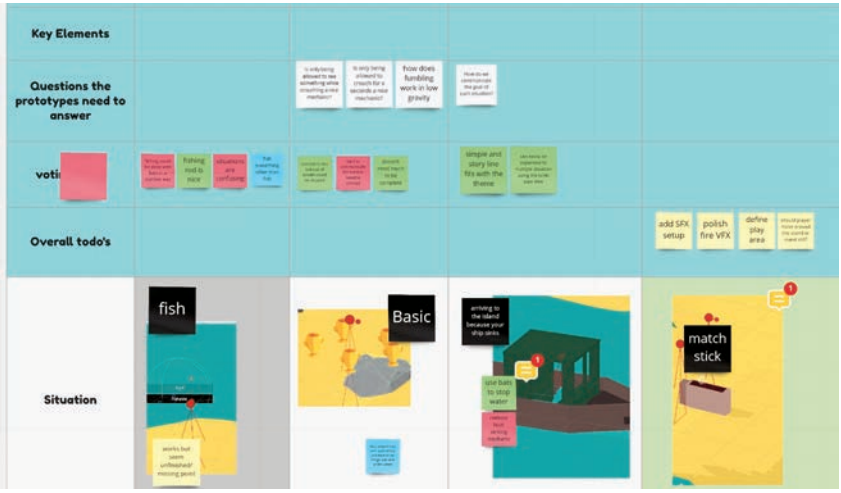


Figure 10: *During the halfway Sprint Review, members loosely evaluated the levels and wrote the coloured post-it notes, but they didn't vote to deselect levels.*

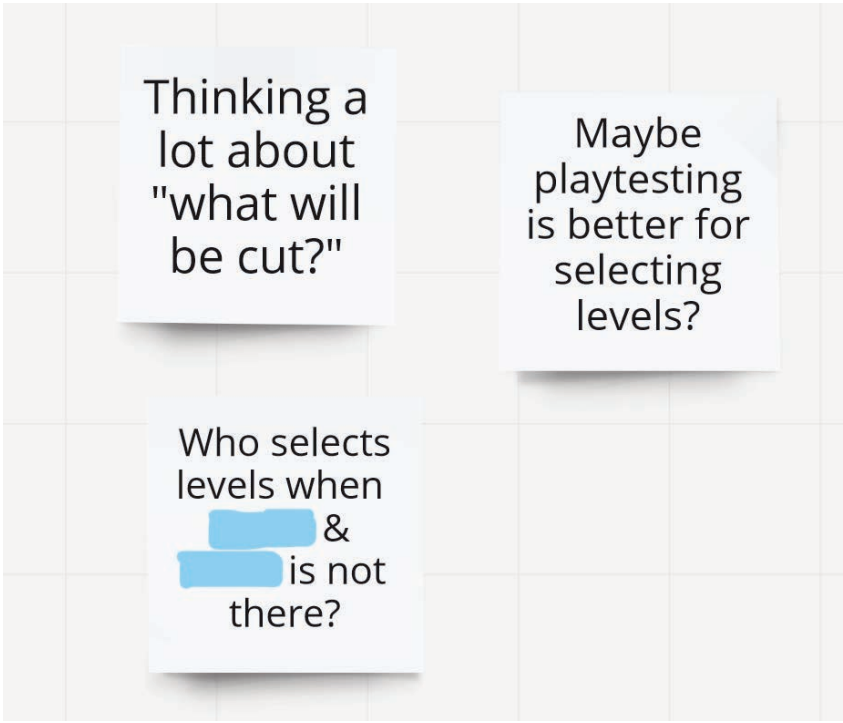


Figure 11: *The project lead noted these topics from the discussion.*

Ultimately, lead members were not supposed to be absent. Scheduling conflicts and sickness had made the circumstances somewhat irregular. Soon after, the field work concluded and it was not possible to assess whether they had made changes from the occurrence. Nevertheless, we conclude that by needing to chart development over the two weeks on their own, identifying these situations of unclear decision-making, and finally, coming together to retrospect, members could evaluate the output of the week in light of these moments of friction that came as a result of different working conditions. When prompted by Marie during the discussion, this allowed them to productively discuss a shared problem of unclear expectations for selecting levels when left to decide on their own. Marie summarized the purpose of the retrospective as "taking the temperature on the team and the ways we work". In this case, the retrospective also reflected on how members could make each other aware of

such issues, and to set priorities during the retrospective. Importantly, viewpoints during these meetings were not beholden to the project lead to state or dismiss, instead underlining how members were expected to identify, and make known, problems from their own experience to evaluate collective development.

CONCLUSIONS

While game development lies somewhere between software development and creative expression, its managing and coordination practices are unique and diverse. Individuals in game development teams operate independently but also meet each other not only to merge individual contributions but also to create and evaluate together. Our paper has explored two formats of game development team meetings: Sprint Reviews and Sprint Retrospectives adopted from the Agile software development framework, to understand the ways in which teams work together to balance 'creative-rational tensions' (Tschang 2007) between given expectations and deadlines, as well as personal expressive interests and expertise.

We have demonstrated that the Sprint Review and Sprint Retrospective are unique ways of managing and organizing creativity, and achieving alignment. They have distinct goals and structures that emphasize different expectations of how members can participate in decision-making, evaluation and planning. The Sprint Review balances the requirement of framing and specifying the conversation to evaluate prototypes while decreasing the workload. It was designed and facilitated by the project lead each week to address current needs. It requires moderation by the project lead to focus members' attention and to conduct an informed discourse. This is characterized by the project lead when the benefit of review is "for tuning your eye for what is it actually I have in front of me".

The Sprint Retrospective, meanwhile, hinges on open dialog to explore multiple perspectives and resolve conflicts. Sprint Retrospectives operate on a meta-level and have a pre-emptive function to safeguard against future problems. This is characterized by the project

lead referring to her use of Sprint Retrospectives as means of "taking the temperature on the team, and the ways we work". Importantly, the two review types also served a specific phase of development. The team needed to develop familiarity with a new process for completing alpha development within the deadline, which was a different set of expectations for more timely content creation than what had been practiced during pre-production, as noted by the members. Meetings became useful for deliberating viewpoints and aligning expectations during weekly prototyping, and ultimately, orchestrating this collectively iterative approach to making games.

Earlier literature has discussed the benefits and disadvantages of the Agile development framework in game development, but "although studios are reportedly using Agile frameworks, the actual extent of application and effectiveness of Agile practices in the VGD [Video Game Development] context is unclear" (McKenzie et al. 2021). Engstöm et al. suggest that "even a method such as Agile, which by many is considered to be a model that accounts for rapid iterative and "loose" development processes, does not meet the requirements and preferences of creative producers on game development projects" (2018, 12). Our study has shed light on the team's version of the Agile methodology as part of the daily practice within a single studio, however, future research would be valuable to address how well and 'authentically' specific aspects of the Agile approach are applied, and how this may have affected coordination of creative-rational tensions. Among others, Ruonala (2017) and McKenzie et al. (2021) have suggested that adopting certain Agile methods can alleviate team communication problems.

Popular industry literature emphasizes the need for game professional students to acquire "soft" communication skills to work in teams, and to adopt software development frameworks to manage game projects (Fullerton 2019; Lemarchand 2021; Chandler 2020; Keith 2020). In this paper, we have demonstrated that actual practices of team alignment are more socially significant than what technical descriptions of frameworks and skills account for. More than that, the case shows situation awareness, and emerging expertise, on the team

for managing their game project and solving 'creative-rational tensions' through meetings. Alignment across various team and organizational structures and sizes remains underexplored in the literature. Therefore, it is not possible to discern how well skills and methods are practiced across studio workplaces, or are adapted differently in interaction with education, industries and other labour markets in Denmark and beyond (cf. Wollstad 2023). In other words, ways of describing communication and project planning, both internally among developers, and externally for outsiders, remain "technical" and detached from the actual experience of working in a local game studio in Copenhagen, Denmark (Whitson 2018b; cf. Schön 1992). It is notable that our case is situated in the Northern European game development context where certain openness and sharing contributed to the researcher's access. This marks a stark contrast to previous research that suggests that the secrecy of the game industry, and concerns about inadvertent leaking of trade secrets, often hinders research efforts (Nieborg 2011).

It has been well demonstrated in previous studio studies and related ethnographic accounts that limited discourse is problematic for framing and identifying problems in game development and teamwork. Descriptions of practice do not then align with the varied experiences of game-making from various points of view and levels of skill within local or regional game development cultures, whether professional or hobbyist (Keogh 2023; Whitson 2018b). Our case accounts for some of the often conflicting economic, political, and social interests – e.g., the creativity-rational tensions across company goals and creativity on teams – within Triband that were linked to organizing and managing creative practices on WTB. The case study shows, then, certain collaborative attitudes and communication approaches that become valued and practiced among a group of game workers for participating in development processes. This is important to account for when devising game education curricula or interdisciplinary professional upskilling to reflect working standards cultivated in industry and elsewhere (Wollstad 2023; cf. Keogh 2023). As shown, their social practice informs discussions on creativity and

project planning alike, and the two meeting forms exemplify distinct kinds of conversations in the team as needed for the production. Ultimately, the study demonstrates the value of analysing surrounding organization and socialization processes in interdisciplinary game development in order to frame local characteristics and particularities of practice, method and processes. As these interact with unique groups of people and game production demands, socialization and negotiation risk becoming obfuscated by a predominantly technical discourse on game design processes (cf. Whiston 2018b).

We have scrutinized, then, how a game development team is able to balance 'creative-rational tensions' (Tschang 2007) across company-level goals, and creativity on an individual and team level through meeting points embedded in their practice. The overall company and organization were mostly inaccessible during field work, which restricts access to the organizational culture (Schein 2017) across Triband and the broader Danish game development culture (cf. Sotamaa 2021). Such research would be valuable for developing a greater understanding of the underlying Danish game industry ecosystem and its impact on everyday game development practices and professional discourse.

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i. Creativity here is seen as a process and not as a characteristic of a person or a singular activity.

ii. The Danish Producers Association mentions in a 2022 report that, overall, the Danish industry ecosystem is characterized by an abundance of small start-up studios, a few large studios, and a shortage of middle-sized companies (Producentforeningen 2022). This results in a restricted labor market and poses a challenge for the local industry to upskill its workforce through varied employment opportunities.

iii. https://store.steampowered.com/app/785790/WHAT_THE_GOLF/

iv. Archive - 20th Annual Game Developers Choice Awards | Game Developers Choice Awards (gamechoiceawards.com)

v. Research participant names are pseudonymized. We received consent in writing from each participant in the study to use the data for this research publication.

5. SEYYED OF CYRUS THE GREAT

IRAN'S CONFUSED NATIONALISM IN GAMES

KAMIAB GHORBANPOUR AND PATRICK PRAX

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ABSTRACT

This paper seeks to analyze Iranian video games with the purpose of asserting that the government has employed two distinct forms of nationalism as a means to validate its authority, and also has used its authority to suppress privately developed games that operate independently from the government's established ecosystem. We've used landmark digital games as case studies, alongside ethnographic approaches by interviewing developers and people who had relevant life experiences, to get a clear picture of cultural narratives and responses that have shaped the state of digital games in Iran. Based on the research we've done, we have made a

case for how the dichotomic nature of games in Iran has helped create a mismatched sense of nationalism, and how the government's role in this mismatch has become more prominent by forcing the independent side to flee the country.

KEYWORDS

Iran, Iranian video games, nationalism, independent games, propaganda games

INTRODUCTION

In July of 2022, Black Cube Games published *The Tale of Bistun* (Black Cube Games 2022), an action-adventure game with a Persian aesthetic. The game was made by Iranian developers, trying to show the culture of their homeland to a brand-new audience whose understanding of Iran might be overshadowed by either Orientalist views on Persian history, or Post 9/11 fears of Middle East (Shahidi 2022). Just a few months before *The Tale of Bistun*'s release date, *Mokhtar: Uprising Season* (Monadian-e-Basirat 2021) was developed by Monadian-e-Basirat, a government-funded organization in charge of "helping to advance the cultural and economic levels of Iranian entertainment," (Monadian-e-Basirat Homepage n.d.) with the goal of upholding certain political, cultural and ethno-religious views that are very much in line with the Islamic Republic's ideology.

This example is one of the last remnants of what would be considered the dichotomy of video games in Iran. This dichotomy has been established since the Islamic Revolution of 1979 and has shaped the history of video game development in the country. The dichotomy dictates that developing video games in Iran has to end up on one of two routes: either "independent games" made by video game enthusiasts whose adoration of the medium made them want to see their own culture represented in it; or "propaganda games" made by organizations with government affiliations and budgets, that use video games as yet another means of progressing their political

agenda and worldview. The propaganda games used to be primarily focused on an Islamic understanding of Iran and the Iranian identity. However, we would argue that different elements forced the government to co-opt Persian nationalism which was almost always only represented in independent games to attract the youth. The dichotomy was well established from the start of video game development in Iran, roughly mid-1990s, and was in full effect until 2011. In 2011, one side of the dichotomy finally overpowered the other, disrupting both the industry and the view on video games in Iran.

The goal of this article is to use the journey that has led to the dichotomy, the effects it had on the industry, and its eventual death, in order to understand how nationalism in Iran mixes both a purely religious and purely ethnic understanding of the country. We will start from the beginning of Iranian video game development, discuss how products were created in the dichotomy and their cultural roots, and how the representation of Iran and Iranians in Western games led to the eventual destruction of it. In order to keep the structure of the article organized, we have chosen a few case studies. Playing those games, as well as researching their immediate effects on the world of video games around them, gives us a good reference point for the dichotomy. It is also important to realize that in a country like Iran, where cultural products are heavily supervised, it's impossible to discern the understanding of cultural history from an understanding of the political history. So, we will give an adequate background of the political scene at play when discussing the stages of Iranian video game history.

The importance of this work lies in its timeliness. People, including those we have interviewed – from developers to players, pass away, taking with them memories that change rapidly. To preserve this oral history that defines the modern video game phenomenon in the region, we have undertaken the task of documenting and publishing it. The archival situation in Iran, as we will explain, along with other reasons, we believe make this work a vital contribution to our shared cultural and digital history as human beings.

PREVIOUS WORKS AND THEORY

Though they are often seen as entertainment products, video games and politics have always been intertwined with the medium's history of being used as propaganda machines by the states or the status quo to push their political agenda, specifically regarding their understanding of the enemy, such as the U.S. Army's series of *America's Army* (United States Army 2002) games (Løvlie 2009). This phenomenon is extensively shown by Regina Seiwald (2021) which examines the deliberate effort that has been made in American and Western military games to spread anti-communist ideologies. So, it is not surprising to see political counter-narratives being produced by those who want to challenge the hegemony such as the Islamic Republic. One of those can be found in "Magic Nodes and Proleptic Warfare in the Multiplayer Component of Battlefield 3" where the author discusses Iran as a dehumanized entity, for the American military-industrial complex to achieve its aims (Höglund 2014).

There is research about Iran's video game industry and its political usage, such as the works of Melinda Cohoon (2021), which has aimed to "produce a nuanced view of international relations and hegemonic goals present within the video game entertainment industry," by mostly examining modern games about/or set in Iran, such as *Battlefield 3* (DICE 2011) and *Prince of Persia* (Ubisoft 2010). But when it comes to discussing the history of Iranian video games, or games created inside of Iran, the research is much less robust. Many of the scholars who discuss games in the Middle East, and not games set in the region, tend to look at the region as a monolithic entity with little regard for obvious cultural differences that shape these games individually.

Due to the journalistic and ideological barriers, the game scene inside of Iran has produced a skewed image in which only certain games are given publicity, either for their political aims or their resemblance to already established games. That also helps with the Orientalist view that Middle East and North Africa, as a region, are a hegemonic entity with similar goals and desires, and similar cultures

and histories. Even works trying to understand the region's relationship within the gaming industry tend to look at the whole region as an Arabic and/or Islamic system. Vit Šisler, with his work on Middle East games, despite it being extremely important, is particularly guilty of this aspect. When discussing the Tebyan development team within Iran and the video games made within the country, he completely disregards the cultural impact, and views Iranian games as "Islamic" products, not "Iranian" products (Šisler 2009). That makes for a misguided view of the cultural identity in Iran, because the ethnic differences make up a huge part of the Iranian identity, alongside its religious one. His arguments also fail to consider the political landscape of Iran outside of its religious identity. In his 2013 work "Video Game Development in the Middle East: Iran, the Arab World, and Beyond" he fails to consider gaming in Iran outside of localized propaganda titles, and consequently misses a huge amount of Persian identity that is present in the games of the era he is talking about. In his 2017s book chapter, Revolution Reloaded (Šisler 2017), he mentions the cultural dichotomy that we will discuss in this paper, however, his focus is less on Iran's video game development and its inner conflicts, and instead, more on the Western influence of games such as *Prince of Persia*.

Part of the reason for this research is to dispel the Orientalist view that the regions in the Middle East are hegemonic or culturally similar. Sadly, that view has been spread to most of the academic and journalistic approaches to games in Iran, and considering that counter-narratives to this view are sparse, the importance of creating a wholistic and in-depth analysis of video games in Iran outside of the few propaganda titles, and the evolution of those said propaganda titles, becomes more apparent. Having said that, it is important to note that because of this lack of resources, not many works in English were found that provide useful information. Due to this lack of resources our primary works are either interviews or Persian language material that have not been previously translated.

METHODOLOGY

Throughout the research, we used a digital ethnographic approach with a heavy focus on "participant observation" by immersing ourselves in the world of Iran's game industry (Atkinson and Hammersley 1998). Interviews have become the backbone of our approach. Our interview subjects consist of game developers working within and outside of Iran, narrative designers of the games chosen as game studies, and a few game streamers and journalists who worked from 2005 to 2011. The method of the interviews was through text, either email or through chat platforms. Due to scheduling constraints and lack of access, no face-to-face interviews were conducted. The interview questions varied from subject to subject based on their affiliations and their history, but they were within the subjects of their experiences working on video games, and their dealings with government entities and regulations; as well as their history within the industry or outside of it.

One of the biggest issues facing the video game industry within Iran and its historiography is the Islamic Republic's poor archival systems and a lack of government offices that deal with archival of publications. Many of the decrees within the government are also subjected to censorship due to their perceived sensitivity, so even community-based archival projects will not have access to them. That is why interviews became our primary source. Lack of access to official databases, and lack of access to certain government entities made sure that our scope would be limited, but we did take precautions to minimize personal bias when compiling the interview data. By cross-referencing the interviews and the few public documents available to us, we have tried to root out personal biases and self-grandiose statements in favor of more factual ones that have been reiterated and reinforced by interviewees other than the sole claimant.

It is also important to note that even though many of the interviewees have left Iran, some of the data regarding the inner workings of government agencies can still be considered as sensitive and would cause problems for people who expose them. Thus, when discussing

them it is prudent to keep that in mind for the sake of their safety. Our approach to this was to avoid pointing out specific instances that would incriminate individuals, and instead rely more on public documents backed by interviews. Although anecdotal evidence is not conclusive when discussing an issue such as the dichotomy of video games in Iran, when faced with the lack of concrete documentation it is our best hope to get a holistic picture of Iranian game development.

To define the dichotomy in which the industry operates, we primarily selected notable Iranian game developers as our interviewees: Amin Shahidi (director and game designer of Tales of Bistun), Amir Tavakoli (former director and game designer of Naser: Son of Man), Puya Dadgar (producer, director and game designer of the Quest of Persia trilogy), Arman Aryan (former writer and designer at Fanafzar and Dead Mage Studio), Alireza Fassihi (director and game designer at Dead Mage Studio), Mostafa Beikmorad (producer at Dead Mage Studio) and Ramin Zafarazizi (developer and game designer of Ali Baba and the Forty Thieves). The interviews were conducted formally online by the methods mentioned above, and we explicitly communicated our intentions, seeking confirmation to use their information in our paper. Consequently, some developers, like Emad Rahmani (former director at Monadian-e Basirat), declined to participate, citing reasons ranging from religious and political concerns to a desire to avoid personal risk.

In conducting our research, we applied inductive thematic analysis to systematically examine qualitative data derived from interviews with key stakeholders in the Iranian gaming industry. Following the principles outlined by Braun and Clarke (2006), we identified recurring patterns and themes within the interview responses, allowing us to uncover nuanced insights into the participants' perspectives of Iranian video games. To fortify the credibility and verifiability of our findings, we strategically integrated relevant references, drawing upon the works of scholars such as Saldaña (2016) in the thematic analysis context. This methodological triangulation, combining thematic analysis with scholarly and popular refer-

ences, served to strengthen the validity of our interpretations and contribute to a more robust understanding of the dynamics shaping Iran's gaming landscape.

Furthermore, we conducted informal interviews with a total of eight Iranian video game journalists and 36 players to enhance the rigor of our assessment of each historical period and situation. Most of these interviews were conducted online, and surveys were administered to gauge players' current attitudes toward Iranian-made games.

We have also played the notable games mentioned in this paper, subjecting them to a comprehensive analysis. Employing a shot-by-shot approach, we scrutinized the audiovisual aspects of the games. For the examination of in-game narratives and additional paratextual materials such as booklets, websites, and manuals, we conducted textual analysis.

DEFINITIONS

It is essential to establish what we mean by Persian or Iranian, since the definitions are somewhat nebulous, especially in the West. Contemporary Iran, slightly similar to its pre-Islamic empires, is a heterogeneous, multiethnic (if not multinational), and multilingual country. This becomes paramount when discussing nationalism in Iran. As a result, many people of Iran with distinct ethnic backgrounds would identify themselves as Turks, Kurds, Arabs, Armenians, etc. (Mojtahed-Zadeh 2007). Even though Persians are only one of many ethnicities in Iran, and Persia (which is modern day province of Fars in contemporary Iran) has been only one of many provinces in greater Iran, Greeks used the terms Persia and Persians to refer to entire Iranian empires and their subjects. Because of that, in modern-day Iran, Persia and Persians are only used in historical, ethnic, and other specific contexts. Most often, Persian-speaking people would translate Western usage of these terms to Iran and Iranians. For example, *Prince of Persia* series is known in Iran as "*Shahzad-ie Irani (The Iranian Prince)*" (Chobin 2021).

However, in English literature, Iran is mostly associated with the political and national nature of the country. When English-speaking people would like to discuss Greater Iran's culture and history, they often use the terms Persia and Persian. Since this paper is written in English, we also use the term Persian interchangeably with Iranian. And by Persian, we are not referring to the ethnic majority of Iran but Iran's varied culture, history, and society as a whole; which includes those of ethnic and religious minorities.

Persian culture, much like the terms we've discussed, is also nebulous due to modern political borders, which inevitably exclude many peoples, nations, and cultures from the discourse. When people discuss Persian culture, they mainly refer to the culture of Iran, which encompasses a phenomenon much more significant than Iran's modern borders. The complicated history of Persian Empires, Persianization, Persianate societies, etc. demonstrates the humongous Persian culture that can be found in Greater Iran, Asia Minor, South Asia, and Western Asia (Mojtahed-Zadeh 2007).

It is also important to understand what we mean when we refer to nationalism. Reactionary thoughts in Iran are categorized by Ali Ansari (2012) into four groups of "dynastic nationalism," "religious nationalism," "secular nationalism," and "the left (jebhe-e moghavemat)." We primarily focus on dynastic nationalism, which is a powerful form of ethno-nationalism that adheres to Iran's glorious past before the Muslim invasion and religious nationalism or Islamism, which aims to uphold the Islamic ideals of Ayatollah Khomeini (Ansari 2012). In the paper, we will refer to dynastic nationalism as Persian nationalism because of its focus on ethnic Persians and the racial tenants of it that are prevalent in the game.

Another matter that will be discussed more thoroughly throughout the article is the dichotomy of the Iranian games, which is very well defined inside the country and among both players and designers. The characteristics of the dichotomy can be summarized this way:

1. The focus of the games, in terms of content and even audience, is often drastically and visibly different. While privately made games such as *Quest of Persia* or *Garshasp* are third-person action-adventure games set in historical Iran, games made by government organizations (e.g., the Basij) such as *Valfajr 8* and *The Enemy's Nightmare* are FPS titles set during the Iran-Iraq war.
2. The aims of the games are often different. Throughout our interviews, we were able to establish that every lead designer, to some extent, wanted their game to succeed financially and internationally in order to promote Persian culture. However, government-made games often have different aims. "We aim to combat the Western and the Zionist propaganda that has become rampant inside the country and to let our children know who the real enemies are," as stated by Jafar Jozani, the producer of *Mokhtar: Uprising Season* and the *Ambassador of Love*, in an interview with Bazinegar.ir (Jozani 2021). It is noteworthy to mention the fact that every privately-made game discussed in this article, as well as many that are not discussed, became available on Steam and other international platforms. However, the government-made games are only available inside the country. The distribution is also different inside the country, as the government-made titles can only be found in stores affiliated with the Basij or the government.
3. Another matter that is very self-evident is the fact that privately-made games tend to avoid direct commentary or reference to contemporary politics. This is in sharp contrast with the government-made games that are defined by Tasnim News Agency as 'Games to combat the Western influence with the right politics' (Tasnim News Agency 2023), in response to an article written by Ghorbanpour in WIRED (Ghorbanpour 2023).

There are other issues that can be discussed about the dichotomy, such as their funding and their economic aspect, however, that may open up issues that are way beyond the scope of this paper, so, in this definition section, we believe these four characteristics suffice to define what we mean by the dichotomy in the article.

HOW IT STARTED

Before starting our journey through video games in Iran, it's of utmost importance to discuss the 1979 revolution and more importantly, the Cultural Revolution and how it shaped the entertainment industries in Iran. The Cultural Revolution was a great political movement for the modern Islamic state. During the cultural revolution, the newly established Islamic Republic sought out to create a cultural identity. This identity was a mixture of Shia Islamist views that were further radicalized by the Iran-Iraq war, a Persian-centric view on language and ethnicity that was a remnant of the deposed monarchy's political agenda (Yarshater 1989), and an enemy rhetoric that painted the West as the enemy of both Shi'ism and Iran's history and culture. These narratives were then pushed through the newly-constructed Ministry of Culture (M.ibrahimn 1979). However, the Cultural Revolution alienated a great many teachers, scientists, economists, technocrats, engineers, etc., and forced them to leave the country because of their more "moderate" views on the issues of relationship with the West, and freedom of expression.

Due to mass immigration combined with scare tactics that silenced the opposition, the Cultural Revolution drastically affected the state of culture and technology. Electronic companies inside Iran closed because of a lack of supply from outside Iran, and relations with the United States and its allies became dire, which resulted in Iranians not being able to legally import American products or have their own official localized versions of them. It also cemented a process for cultural products in Iran. When we are discussing products that are created and published or released in Iran, these prod-

ucts have been cleared by the Ministry of Culture and Islamic Guidance (Fazeli 2006).

That means that there is effectively no official way for works of art to be published unless, in some sense, they follow the state-approved guidelines. In Iran, the state controls the media and cultural products, but products that are clearly propaganda get a budget from the state to expand on the narrative that the state approves. Independent works, even though they are following the guidelines, are not necessarily used to promote those talking points, but they are still hampered by those guidelines. The Ministry of Culture and Islamic Guidance often removes controversial elements from games during the pre-approval process (Fazeli 2006). In this political and cultural climate, the first steps of the Iranian video game industry were taken.

Unfortunately, there are very few sources that describe or document the early history (from the 1970s to the early 1990s) of the video game industry in Iran, especially considering that many attempts to document the details of the industry were lost due to poor archival or being safeguarded from public view by the Islamic Republic. As a result, we mostly rely on Arash Hackimi, Saeed Zafarany and Brandon Sheffield's (2020) work titled "*Iran video games timeline: from 1970 to 2019*". Due to the listed limitations and lack of evidence, the timeline is not extensive nor absolute; and it is hard to double-check or cross-reference the findings of the authors. However, as of writing this article, this is the best source of information on the early history of the video game industry in Iran.

Regardless of the worsening relationship between Iran and the United States, in 1985, the Atari 2600 was smuggled into Iran (Hackimi et al. 2020), which was extremely difficult for the average Iranian to buy due to the rise in US dollar after the Revolution and the Hostage Crisis. The situation changed when the Cultural Revolution and the Iran-Iraq war ended in 1988. During Akbar Hashemi Rafsanjani's presidency and his more moderate policies in favor of development, some trade relationships were established, and personal computers slowly became part of the Iranian household.

This was the first step into video game development in Iran, and it was the first step in cementing a national identity through games.

Ali Baba and the Tank Hunter

In 1995, a 29-year-old independent developer released a video game called *Ali Baba and the Forty Thieves* (Ramin ZafarAzizi 1995) based on a tale from "1001 Nights," commonly known as "Arabian Nights" (Hackimi et al. 2020). *Ali Baba* is a side-scroller platformer reminiscent of *Prince of Persia* (Broderbund 1989). It uses the same mechanics and the same gameplay loop, and shows a clear trend in independent video game development in Iran. Because of the isolationist political views of the Islamic Republic, interactions between Iranians and non-Iranians were slim for most of the population (Sreberny and Torfeh 2013). For game developers in Iran this meant a lack of connections and materials to develop their ideas organically, so many independent game developers started their quest for creating more Persian-centric atmospheric pieces, by using other games as their baseline. In the case of *Ali Baba*, that game was *Prince of Persia*. The game is effectively a re-skin of the 1989 *Prince of Persia*, with an explicitly Persian aesthetic that wasn't as muddled with some Orientalist elements of the original.

Around the same time, the other side of the dichotomy started. *The Tank Hunter* (Honafa 1996), funded by the Ministry of Culture, was produced for DOS (Hackimi et al. 2020). *The Tank Hunter* is a gallery shooter about the Iran-Iraq war in which you control an Iranian soldier in a 2D environment and destroy Iraqi tanks. It was similar in flow and gameplay to Western gallery shooters of the time, such as *Tin Star* (Software Creations 1994), but it was built from the ground up instead of relying solely on those games. This is evident from their new UI and their attempts at mechanics that use gallery shooters as inspiration, despite having no direct comparison with other games of the genre.

Unlike independent developers, institutional game developers had access to tools and services that were closed off to most of the

general public. This, together with assigned budgets, meant they could look at it as their career instead of a hobby. It also meant that their product could have its own look, even if they were still using genre conventions. *The Tank Hunter* also forwarded a narrative that, at the time, needed to paint Iraq as an invading force and tout the bravery of Iranian soldiers. Iraq is a primarily Sunni nation, and that also played a big role in creating an identity where Shi'ism was threatened by these outsiders of the creed (Rezamand 2011).

Despite both games having simple mechanics and graphics, even considering the time, they clearly show the dichotomy at the very start of video game development in Iran. *Ali Baba* was trying to adapt a popular game into Persian aesthetics and present it to a generation that was starting to find their way into video games (Zafarazizi 2023). On the other hand, *The Tank Hunter* had an explicit political agenda to push, and regarded video games as more of a means to that end, rather than a medium worth discussing in and of itself. Both sides realized the importance of video games as a new cultural product, but their goals, as well as their roots, were separate. The dichotomy would evolve with the games representing the different sides.

Quest of Persia and Garshasp

For a better understanding of the dichotomy and the brands of nationalism, it's good to look at a significant game event in Iranian video game history. In 2005, an indie studio in Iran published the first ever Iranian 3D game called *The End of Innocence* (Puya Arts 2005). This is an adventure game about an archeologist and engineer who aim to uncover the mysteries of ancient Persia, with the backdrop of the Iran-Iraq war. The selling point, at the time of release, was that it was a game about Iran, with Persian voice acting, that closely resembled the games that the Iranian public was already familiar with (Quest of Persia F.A.Q. n.d.). The game was made without involvement from the government, either financially or systemically, to the point that, according to Puya Dadgar (2023), the lead developer and designer of the game and its two sequels, were even forced to create

their own engine, because they lacked the funds to license an official one. This can be seen in the game itself as it lacks many of the UI elements that would help it be more mainstream, and would've been easily available through licensed engines. The studio then went on to turn *The End of Innocence* into a trilogy known as "Quest of Persia," which encompasses three anthological games, with the main connection being stories about Iran, and stories about historical events (Quest of Persia F.A.Q. n.d.).

The End of Innocence's use of the Iran-Iraq war raises an important distinction in the dichotomy. The Quest of Persia series is regarded as independent games made to give players the chance to relive historical events (Dadgar 2023). This will become more apparent in the second game in the trilogy, *Lotfali Khan Zand* (Puya Arts 2008), and the third game in the trilogy, *Nader's Blade* (Puya Arts 2009). Both of these games have historical tales as their centerpiece, and use an already established understanding of Iran's history. However, these games, much like *Ali Baba*, are heavily reliant on Western counterparts, and use their gameplay loop as a template for creating their own experiences. They attempt to be a-religious, as none of the main characters in these games are influential religious leaders, and neither do they believe in religious doctrines, at least not explicitly. However, they still push a narrative that places the Iranian national identity at the forefront. In the case of *The End of Innocence*, they even depict Iraqis as enemies. Although it seems like the games are promoting the official government position, they are still not propaganda games. "It was a foundational step to create games about Persian culture in later entries," mentioned Dadgar (2023) himself when questioned on this issue.

Propaganda games in Iran are not alone in promoting a political message. Games of all types, even when made without government interference, do have a political agenda and political thought behind them (Seiwald 2021). When we discuss propaganda games, we're discussing games that are made through government mandates and decrees. "Quest of Persia" promotes a political narrative and a political identity, but it is doing so of its own volition. Although the effects

of the Cultural Revolution of the 1980s made sure that explicit counter-cultural narratives were seriously hampered, this doesn't mean that all games outside of the government system were made with counter-cultural narratives in mind. The main difference between the two sides of the dichotomy is how they view the medium, and how they approach it.

A great example of this is *Garshasp, the Monster Slayer* (Fanafzar 2011). This fantasy action-adventure game was developed under the original name "Saoshyant" by the Iranian company, Fanafzar. It was released in 2011 in cooperation with Dead Mage Studios, which is based in Pasadena, Texas (Lewis 2016). This game deliberately challenges the Anglo-Saxon mythological canon that has dominated the fantasy game genre by translating an ancient Iranian epic poem into the realm of virtual entertainment. A showcase of their ambition was that they engaged Arman Aryan, a notable young adult writer, to write the script for the game (Aryan 2022).

Engaging Aryan to write the story was an obvious attempt to present a nationalistic view of Persia. Aryan's works often mix mythological Persian entities and stories with modern times, and they tout the importance of learning about these entities and stories, over their Islamist equivalent (Aryan 2022). Despite pushing this seemingly counter-cultural narrative, *Garshasp*'s main role in the dichotomy is how it approaches video games as a medium. The game uses hack-and-slash mechanics and builds itself on top of those mechanics and their already popular fanbase. It's a game made from the love of video games (Fassihi 2022), and tries to push for an already familiar aesthetic to go with the medium that has become more prominent in the past few decades. The game's main political identity is one of Persian, without any religious overtones or undertones. By creating a mythical world, the game harkens back to a time before the Arabic Invasion, which is a point of pride for many Iranians (Rafiee Rad 2021).

The Art Book of Garshasp (2011) articulates this phenomenon in a dramatic manner:

> 'The treasure trove of Persian mythology contains within it some of humanity's oldest and most profound myths. They recount a rich and ancient culture, meaningful literature and exciting legends that bring to life the excitement of Iranian civilization in all its glory – an experience often lost in the daily travails of modern life.'

This could be considered a counter-narrative to what the government would push, but at this point in history, the "Iranian" identity was also creeping into propaganda works, though still heavily submerged in religious identity.

Garshasp was praised in Iran, and gained a lot of attention before its release, though if one looks at the reviews of the game, one might assume it was a failure (VanOrd 2011). The hype surrounding the game meant that more people were looking forward to it appearing at the same level as a multi-million-dollar AAA Western game, when in fact it was more akin to Indie games of the genre. Consequently, after the game's release, it was met with harsh criticism over its lack of polish and presentation by the international press. Fassihi (2022), the director of *Garshasp*, told us that, "We weren't really able to represent Persian mythology, culture, and history in the game the way we intended. Too much of our effort went into creating a game that would match the likes of *Prince of Persia* or *God of War*" (Santa Monica Studio 2005). Aryan (2022), who seemed more pessimistic, believed that the developers and the director had butchered his script, which resulted in its global failure and its failure at representation. He believed that the game he intended to make was much better than what we got.

The Other Side Of The Coin

The success and attention given to *Quest of Persia* drew the attention of the government. In 2007, Iran Computer and Video Games Foundation (IRCG) was established by the Ministry of Culture and Islamic Guidance to support video game development in Iran (IRCG About Us 2016). The Establishment of IRCG was an official decree from the

government that video games, much like movies and TV shows, were a proper tool to be utilized by the government to push a very specific narrative. This also meant a subsequent rise in the development of propaganda games, which were intended to grab the attention of the gamers that were intrigued by *Quest of Persia* and *Garshasp* (Tavakoli 2023).

The nationalistic dichotomy of games became obviously apparent during this time, when games such as *Valfajr 8* (Tebyan Cultural Institute 2011) and *Saving Harbor: Defense at the Enemy Line* (Tebyan Cultural Institute 2007) were produced to take political stances against the United States of America and the State of Israel. They took similar approaches to Western propaganda games, such as *America's Army* (Løvlie 2009). *Valfajr 8* is an FPS shooter that, much like *The Tank Hunter* before it, uses the Iran-Iraq war as its backdrop. The game has the effect of dehumanizing the Iraqi soldiers by reducing them down to fodder for the player to shoot at. It is the same tactic that was used for years in American FPS shooters to vilify communism (Seiwald 2021).

In the mentioned games, Islamic nationalism is not only reflected in the thematic elements, but also in the gameplay mechanics. For example, players may be rewarded for acts that align with Islamic values, such as reciting religious prayers or performing virtuous actions. The integration of Islamic symbolism and aesthetics, such as mosques, calligraphy, and religious chants, further accentuate the Islamic nationalist sentiment within the game. By employing Islamic nationalism in video games, the Iranian government aimed to reinforce a collective identity rooted in Islamic values, and promote a sense of pride in Iran's Islamic heritage. For them, Iran is not a Persian country with a religious identity, it is an Islamic country with an ethnic identity. So, Islamic iconography and Islamic identities are seen as paramount for the creation of identity in Iran. However, that narrative began to change when the popularity of ethnic-based media became more apparent. The narrative began to consider Iranian ethnic background as parallel, if not wholly compatible, with religious background.

At this time, the dichotomy is on full display. In contrast to *Quest of Persia*'s attempts at creating an independent sector that can develop games that have Persian aesthetics and tell historical tales to a relatively younger audience (Dadgar 2023), there is a similar effort by the state to court the same audience with the explicit intent of feeding them a political narrative through gameplay. Despite this, the dichotomy did not mean the overpowering of one sector over the other. Propaganda games were being made and pushed by the state, but at the same time independent games were given a voice through game magazines and even television ads. Even though the propaganda games could have benefitted from a steady stream of budgeted funding that wouldn't be reliant on their success in the market, neither side overpowered the other. *Valfajr 8* and *Nader's Blade* had equal opportunities to find their own audiences that were already familiar with the genre or the inspiration games (Beikmorad 2022).

The Vilification and the Backlash

In the 2000s, when the *Prince of Persia* series was huge in Iran, many Iranian intellectuals, think tanks, and consumers of Western pop culture sensed an attack on them and their country in the form of a cultural cold war. Electronic Arts' *Battlefield 3*, and movies like Zack Snyder's *300* and Oliver Stone's *Alexander* are prime examples of what was perceived as being parts of this cultural cold war. The post-9/11 policies of George W. Bush's presidency also did not help this outlook on the West, and with the Islamic Republic already pushing an anti-West narrative, Bush's actions were seen as proof of that narrative and an animosity towards the region (Sreberny and Torfeh 2013). Since the 2000s, extensive research has been done in the West regarding the relations between video games and politics due to the militarization of the content of games after the war on terror.

For a clearer understanding, we have examined Johan Höglund's works. Höglund (2014) writes about how popular military FPS games in the early 2000s constructed the idea of the Middle East as a perpetual theater of war. He claims that this is a result of a general

neo-Orientalism in American popular culture. In particular, he points out the problems that arise when military shooters try to pass themselves off as "authentic" and "realistic". Höglund (2014) also examines *Battlefield 3* within the context of post-war-on-terror narratives and neo-Orientalist attitudes in games. He argues that "*Battlefield 3* obviously, and predictably, charts current American geopolitical anxieties about Iran, Islamic extremism, terrorism, the rise of new Russia, and the spreading of WMDs. The predominance of Iran suggests that this nation is at the center of such conflict."

The dichotomy of games in Iran was only possible because both sides of it were able to get adequate publicity from the traditional media (Dadgar 2023). That began to change after the release of *Battlefield 3*. The game's decision to make Iran one of the main areas of conflict was met with harsh backlash from the Islamic Republic, and to them it cemented the need to place more focus on state-sponsored games. More shooters with the explicit idea of pushing an anti-US agenda began development in the aftermath of *Battlefield 3*, and with the state controlling traditional media, it was seen as a culturally important move for these games to get most of the attention (Beikmorad 2022). This coincided with an economic crash that meant doom for many of the independent game magazines and studios that didn't have government backing to rely on. The independent sector saw its market share shrink in real-time, because of both fewer outlets that would cover their games, and the push from the government to promote more specific propaganda games.

Parvaneh (Bearded Bird 2014), released in 2014, marks the last time a fully independent game in Iran received any publicity from the traditional media (Hackimi et al. 2020); and with its poor return of profits and lackluster reviews, it signaled the end of independent game development in Iran. Despite that, government-sanctioned games like *Epic of Alvatan* (Tebyan Cultural Institute 2012) were still being produced and released with the same quality as games like *Valfajr 8*, but because they were seen as tools to promote the Islamic Republic's political agenda, they weren't hit by the closure of game publications. Because of that, the dichotomy of games inside Iran

ended with government-sanctioned propaganda games remaining as the only vestige for Iranian developers to see any profit or recognition.

Propaganda games are still being produced at the same speed and with similar concepts as their predecessors. In 2020, the Trump administration assassinated Qasem Soleimani, the head of Quds forces in Iran and an important military figure for the Islamic Republic (Gan 2020). After that, a cultural response was published by the name of *Commander of the Resistance: Amreli Battle* (Monadian-e-Basirat 2022), which sought to glorify Soleimani as a noble force against ISIS, while still forwarding the narrative of a "brave Iranian soldier fighting an outsider ideological enemy" that could be traced back to *The Tank Hunter*. *Commander of the Resistance* is again an FPS, but this time uses fully-voiced cutscenes and a narrative that could work in and of itself.

The Persian Muslim

With the release of *Ambassador of Love* (Monadian-e-Basirat 2020) and *Mokhtar: Uprising Season* in 2020 and 2021, an evolution of the mentioned narrative of Iranian and Muslim identities merging began to show itself. Both games were some of the first big-budget government-funded titles that took place in a historical setting before the Islamic Revolution of Iran. By retelling a story about the death of Imam Hussein, a famous heroic tale within the Shi'a orthodoxy, these two games aim to provoke a sense of nationalism that encompasses many different appealing elements that will bridge Iranian Nationalism and Shia Supremacy. Mihran, the protagonist of *Ambassador of Love,* is a fictional Persian character, and most of his comrades in his quest against the Umayyad Caliphate are Persians who converted to Shi'a Islam. There are apparent anti-Arab and anti-Sunni sentiments throughout the games, which can be seen as a form of deconstruction of Persian nationalism in the domain of the Shi'a orthodoxy. As some of the counter-narratives in the face of the Islamic Republic's push for an Islamic identity took an "anti-Arabic" form, this game uses the

already established counter-narrative, but twists it to shape it into an "anti-Sunni" form, and draws a parallel between the Sunni Caliphate of the old and the current Arabic world leaders.

In an early segment of *Ambassador of Love*, the play meets with the protagonist's significant other whose official history (Monadian-e-Basirat 2020) from the game's glossary is detailed as follows:

> 'Parvane is the daughter of Darius. After the conquest of Rey, she was imprisoned by the Sunni Qirza. She was later released and was restricted from any political activity. However, after meeting with Mihran (the protagonist), she saw the light and converted to Shi'a Islam.'

As demonstrated in the text, the game doesn't shy away from bold implications regarding sectarian as well as ethnic conflicts. The characters and storyline are intentionally crafted to portray Arab Sunnis as conquerors who seize control of Persia, imprisoning virtuous Zoroastrians. This portrayal aligns closely with the secular and ethnic nationalist narrative concerning Arabs and Islam (Litvak 2017). Interestingly, the game presents Shi'a Islam as a continuation of the Zoroastrian tradition. Persian characters like Mihran, Parvane, and other followers of the Imams in the game show no hesitation in joining the sect. To convey this revisionist interpretation of history, the game introduces fictional Persian characters and notably omits any villains who are either Persian or Shi'a.

Mahdi Jafari Jozani (2021), the recent mastermind of Iran's government-funded games, who was responsible for both of these as well as the Qasem Soleimani title, is a high-ranking member of the Basij, a paramilitary organization created with the fundamental goal of upholding the Ayatollah's regime. During an interview with Bazinegar, a Middle East games website, in 2021, Jozani expressed that he perceived himself not only as a producer but also as an integral participant in a new discourse on games. Despite the controversies surrounding *Ambassador of Love*, he considered the fact that Iranians were engaging in conversations about an Iranian game as a signifi-

cant accomplishment. While Jozani mentioned that the games have achieved good sales, independent verification of this claim is not available (Ghorbanpour 2023).

Through an online investigation of forums and websites, we found out that this new mismatch of nationalism that combined both elements of Persian ethnocentrism and Islamism at least worked to an extent. Using a survey of 48 Iranian gamers who were engaged with international modern titles, 83% of them said that they had heard of these titles and knew of their significance. Views on them have been, as mentioned by Jozani himself, controversial. Using the same survey, 37% of people who were aware of the titles said that overall, they had a positive view of the games, while 50% had a negative view and the rest neutral. Fassihi (2022), the developer of *Garshasp*, showed a positive attitude to the first game's release, while other developers didn't share the same sentiment (Dadgar et al. 2022-2023).

The results are in sharp contrast with previous titles such as *Valfajr 8*, when 0% of the participants in the same survey had a positive view, and almost no independent developer had shown support for it. The historical approach, as well as the inclusion of Persian nationalism, while contradictory in nature, were among the reasons people seemed to have liked these titles more than the previous ones that were only representative of religious nationalism or Shi'a orthodoxy.

The act of absorbing and co-opting Persian nationalism into Shi'a orthodoxy is something that the Islamic Republic has been concerned about since the days of Ahmadinejad's presidency (Fozi 2016). However, since the surge of Persian nationalism in recent years, the Islamic Republic's concern has become ever more prevalent, especially with the rise of Reza Pahlavi as a nationalist oppositional figure (Elhan 2021). Some examples of this imminent concern are billboards that were installed after the democratic and anti-compulsory hijab movement, *Woman, Life, Freedom,* which stated that, even in pre-Islamic Iran, women wore the hijab. The attempt seemed to be around the idea that Ayatollah Khomeini's Shi'a orthodoxy was not

something that was enforced on Iranians, but also part of the Persian ethno-nationalist narrative. *Ambassador of Love* and *Mokhtar* are prime examples which have arguably had some success in propagating the state's new ideals.

CONCLUSION

To understand the dichotomy of video games in Iran, is to understand the political nature of how identities in Iran have formed and spread through government efforts and independent movements. Video games in Iran are the newest form of entertainment to get approval from the government, as their constant crackdowns on social media has shown a distaste for that form of interaction (Green 2022). Though it is not feasible to completely disregard personal beliefs and personal biases, especially when it comes to creating artistic work within an ideological system, it's important to reiterate what creates the different sides of the dichotomy. Independent game developers were mostly trying to recreate what they enjoyed in their gaming experience, as was told through interviews, but with a veneer of their local culture and aesthetics. That doesn't mean they were exempt from pushing the narratives designed by the Islamic Republic, but it did mean that they weren't ordered to do so. On the other side, the institutional sectors and propaganda game developers had a mandate from the government to push specific talking points. These talking points were often secret, or didn't show until a pattern emerged, and they viewed video games as yet another propaganda arm that already included movies, TV shows, and literature.

Through each side's preservation, an identity was formed for the Iranian gamer. This identity was both of a Persian person and a Muslim person. The idea was that for gamers in Iran, each side would create video games for each part of that identity. Though it was not mutually exclusive, as seen in the war narrative of *The End of Innocence*, propaganda games once fully embraced an Islamist view on identity and pushed that constantly. This was changed after 2011 in what the Islamic Republic viewed as an ideological war against its

values. Propaganda games now had more resources and controls, and easily pushed independent sectors out of the picture, as they were reliant on word of mouth and minimal advertising space given to them by the government. With the crackdowns on social media and the breakdown of the economy, independent games were crushed and the dichotomy became a de facto government-sanctioned supremacy. This, however, did not mean that the products that the government created and pushed were positively received by the intended audiences.

The pushback of the games meant a change in identities enforced by these games. Since 2011, the propaganda sector, as well as the Islamic Republic as a whole, has seen the issue of Iranian identity as a clear distinction between Islamic supremacy and ethnic history (Azizi 2024); but that did not need to be the case. With the popularity of games with a-religious or secular views of history, the Islamic Republic decided to merge its preferred identity with them (Dadgar et al. 2022-2023). The result was an amalgamation of identities that needed to link Persian and Shi'a Muslim together. With this new identity, there was no need for a division between Shi'a and Islamist backgrounds and ethnic backgrounds; so, they were mingled together. Islamic and Shi'a values were mixed and used interchangeably with Persian and Ancient Iranian values. Values like hijab, monotheism, loyalty to leadership, and traditionalism became known as both Islamic and Persian in nature.

Creating a sense of nationalism that within itself housed a paradox that needed everyone adhering to it to both consider themselves fully Persians from the ancient times and yet staunch Muslims with a strong religious root; and that nationalism was pushed through games such as *Ambassador of Love* and *Mokhtar: Uprising Season* for a new generation, through better gameplay and smarter narratives; retroactively folding in both sides of the dichotomy to mean one single goal.

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6. NOITA – A LONG JOURNEY OF A GAME IDEA

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ABSTRACT

In this article, we present a case study where we used timelines as a structuring method for understanding the creative process of game development spanning several years. In the case study, an indie game, *Noita,* with over ten years of development time, was analyzed through a multitude of sources such as devlogs, prototypes, builds, interviews and fan engagement. As a result, we came up with a timeline with over 150 entries in seven distinct phases to showcase the richness of the design journey, with multiple milestones and influences on the development process. In this article, we reflect on

the research process and suggest the use of the timeline method as a part of the multidisciplinary toolset for studying game design.

KEYWORDS

timeline method, game design process, game development, game design praxiology, game production studies, game design, indie game development, Noita, Finnish games

INTRODUCTION

In order for us to fully understand games, we need to also understand how they have been made (Kultima 2018; O'Donnell 2014). Games are not only something that are played by people, they are also works that are made by people. The work that goes into developing a game requires specific skills and stamina, platforms are constantly changing, and audiences that shift from one trend to another. It is hard to keep up with the changes within the industry (Stenros and Kultima 2018; Kultima 2018; Kerr 2017).

Games have been studied from the perspective of their production (Sotamaa and Svelch 2021). There is also a rising body of praxiological (Kultima 2018) studies and a call for more accurate understanding of the development processes (Godin et al. 2020). 'Game design' has been identified as the most used keywords in game studies publications (Melcer et al. 2015). Often, this refers to the construct of the artefacts, instead of the practice of designing. Examining games only after production, when they are already playable and out of the hands of the developers, can bias our understanding of games as a larger phenomenon. It is important that we grow our understanding of the design processes of games (Kuittinen & Holopainen 2009; Kultima 2015a).

Studying game design processes is not a straightforward task. The challenge of accessing (O'Donnell 2014) the design processes of expert game designers has been one of the reasons why we cannot keep up with the increasing variance within the game industry.

While issuing protocol studies (Cross 2001) or praxiographic approaches (Godin et al. 2020) presents a challenge, the more accessible methods, such as thematic interviews have been utilized to examine the practices of design professionals (Kultima 2018; Lawson 2012).

Often, when someone talks about a game idea, they provide a short description of the yet to be realized game's basic functionalities, narrative elements, mechanics, and theme – or any combination of such features, depending on the genre and platform. It is commonly understood that a game idea emerges in the beginning of the development process, and then guides the process towards the finished artifact. While there are some studies on how game ideas are born and how they are brainstormed (Kultima 2010; Hagen 2009), there are even less studies on how game ideas evolve during the iterative development cycle and why (cf. Kultima 2015b).

Furthermore, it is generally believed that the production process of a game is divided into particular phases, where the idea is gradually developed into a full-blown game, through an iterative process (e.g. Fullerton 2014; Lemarchand 2021; Adams 2010). The pre-production phase of game making involves a vast design space, which is then narrowed through design decisions. In the final phase of the game development, right before the launch, the design space is narrowed, and the game has settled into a form that will no longer be changed (Fullerton 2014).

The nature of game development is often fluid, with blurred boundaries between its phases, making the progression between different steps less rigid. (Kultima 2018; Kultima 2010). Game ideas can be born long before the production is set in motion, and they have various paths to enter the hands of a game development team (Tschang 2003). These idealized models of game development are rarely followed, and they are not suitable as all-purpose models. For instance, in modern mobile game development many games take the form of live services, instead of shelved products. The terminology inspired by automobile development has suited certain triple A game productions, and have later been treated as the archetype of all game

development – without grounding it in research. For instance, mobile game development and the development of online games with live operations have different phases, such as soft launch, live operations, and sunset. In a soft launch (or 'market test' for hyper-casual games), a version of a game is launched to a limited market segment, and experiences of that test are taken to shape the game to better fit a larger market segment. Before the global launch of a mobile game, the game continues to evolve, which then, in turn, is changed even further after full release, until the game is slowly taken down from the servers preceding a period of lower maintenance. The "classic model" of game development also becomes an odd framework for game developers that utilize the Early Access process of Valve's Steam marketplace, where an early version of a PC game is released to the audience, and the players can see the evolution of the product before its final release.

Furthermore, it is hard to generalize game development due to various company-specific processes, development philosophies, the variation in team consistency, implications of genre, and basically just the overall plurality of the practices (Kultima 2018). Something that a game developer has in the beginning of the development journey, an idea, has various routes. The game idea is transformed into a playable game through an iterative process, where the game design is altered based on the resources the development team has and the context within which the artefact is born (Kultima 2015b).

In order to deepen our understanding of the game development practices, we conducted a study on a Finnish indie game, *Noita*. The creative process of *Noita* started as early as 2005/2007 and culminated with a PC game released on Steam in 2021. The case of *Noita* is especially interesting due to the long journey it had and multiple creative decisions on changing the core idea while the game was in development. Additionally, the game concept was intricately linked to the development of a unique game engine. We had generous access to *Noita*'s development: Our versatile set of data included multiple interviews, developer logs, objects, prototypes and builds, as well as community engagement, all of which provided us a unique opportu-

nity to detail the journey of ideas within the timeline of *Noita*'s development.

TIMELINES

Timelines are a well-known and effective way of interacting with the past. They provide easily understood narratives and structures that help to make sense of the chaotic and multifaceted nature of actual events. Because of this, they are also used extensively in popular histories, museum exhibitions and other historiographies aimed at the general public. This interest in timelines extends to game history, where popular accounts of critically acclaimed games have been utilizing the timeline structure, especially in popular "retro gaming" accounts listing influential game titles year-by-year.

The timeline as a representation of the past has also been subject to critique. Lubar (2013) noticed how the timeline structure in exhibitions came to be seen as "traditional" in the last third of the 20th century, and how it became increasingly criticized. The timeline structure was seen to be an "institution of confinement" in the Foucauldian sense, which had room for only one point of view in its representations, resulting in authoritarian readings of the past. This has resulted in timelines being replaced by polyphonic exhibitions focusing on categories and themes showing a multitude of voices from the past, but the question regarding their truthfulness and usefulness is still open to debate.

In research, timelines have been acknowledged as efficient tools for data collection (Adriansen 2012; Marshall 2019; Hope, Mullis & Gabbert 2013). Marshall (2019) claims that "Timelining can provide participants with a way to engage their stories deeply and even help to create new meanings and understandings." Adriansen (2012) chimes in by saying that "The method allows the interviewee to participate in the reporting of the interview which may give raise to ownership and sharing of the analytical power in the interview situation."

Hope, Mullis & Gabbert (2013) states that: "The timeline tech-

nique facilitated reporting of more correct details than a free recall, at no cost to accuracy, both immediately and after a delay." Timelines are also utilized in design research. Atman (2019) used timelines in a study of the examining design process. They used verbal protocol analysis as a data collection method, and formed timelines from the data. This helped them to understand how design expertise was impacting the process.

In this article, we explore timeline as a structuring method for studying game design process, similar to Atman (2019), but adapted to a process with a lengthened time period, and accompanied with a rich set of research materials.

CASE: NOITA

Noita is a rogue-like PC game with a fantasy theme. It was developed by Nolla Games, a company consisting of three Finnish indie game developers, Petri Purho, Olli Harjola, and Arvi Teikari. The name of the game, *Noita*, is Finnish and translates into "wizard" or "witch." The protagonist of the game is a mysterious character with a purple cape, and the player can move the character around affecting the environment by shooting spells with a modifiable wand (see Fig. 1).

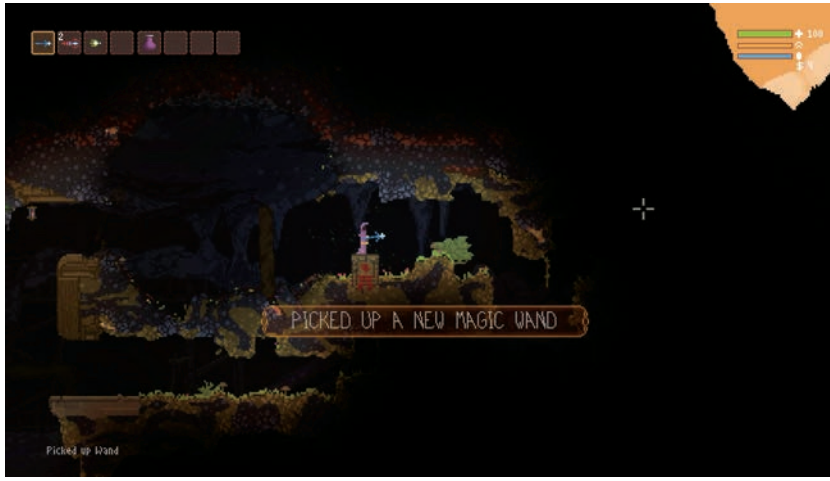

Figure 1: Noita*'s gameplay view. The game character, who has just picked up a new wand (weapon), is in the middle of the image.*

The game is built utilizing a unique game engine, Falling Everything Engine. In *Noita*, all the pixels of the game are simulated, and they all have "physical" properties. This means that if, for instance, a structure in the game environment is destroyed, the behavior of the pixels is based on its given properties (for instance water flows down, and mud sticks to the ground).

The interaction is built in each pixel, instead of animations of the environmental assets. That also means that everything in the game is destructible, and the game affords a lot of emergent content. Furthermore, the environments of the game are procedurally generated, affording unique playthroughs for each session: every round of the game is different.

Noita features perma-death, so the player will always start anew after perishing in the game. The game features multiple levels, where the player is by default descending from the top to reach a portal at the bottom of the level. The portal will transport them to a space where they can replenish their health and modify their wands, as well as create new combinations of spells.

Spells can be purchased from the shop using gold that is collectible from dead enemies and wrecked environments. The game

also has lots of secrets facilitating explorative play and boss-fights to encourage players to build their character's strength. The official game was intended to be a single-player experience, but there are several modifications (mods) developed by the members of the *Noita* community, affording multiplayer features, extra levels, and different additions to the gameplay.

RESEARCHING NOITA'S DESIGN PROCESS

Our study is based on research conducted for the *Noita – The Long Journey of a Game Idea* exhibition, which was on display at the Finnish Museum of Games from 4th of September 2021 to 12th of December 2021. The goal of the research project was to deepen the understanding of the intricacies that a game development process can entail – as opposed to the superficiality of professional talks and academic studies utilizing interview approaches. A parallel goal for the project was to educate the audiences of a local game museum how game ideas transfer and are altered within an iterative process of game development.

The Research Process

The research project started in January 2021 and was concluded in June 2021 when the work for the exhibition setup (such as graphical work) started. The results were introduced in the museum exhibition in the Autumn of 2021 for a duration of three months. The focal point of the exhibition were seven timeline images that mediated the long journey of *Noita's* idea. The exhibition also featured multiple objects and two playable versions of the game: an early prototype of *Noita* and the first version of the game that was released for the Steam's Early Access program in 2019 (now an inaccessible version of the game).

We started the research process by familiarizing ourselves with openly available sources describing the game and its creative process. These included the game's website, Steam page, press package, arti-

cles in game magazines, conference talks and open lectures on YouTube, as well as an article in a physical book. We also played the game (on the stream and privately), acquired a rich material of developer notes (physical and digital), explored developer diaries, tested prototypes and development builds of the game, examined concept art, conducted multiple interviews with the developers (via Zoom and Discord), and engaged with the fan community. One of the methods of community engagement was a small survey of the community's wishes for the exhibition, but we also utilized fan-created content (such as game wikis) (cf. (Sköld 2015)), and furthermore engaged with them via Twitch and Discord (Kultima, Ojanen & Nylund 2023).

As the game already had Twitch integration as an official feature in 2021 when the research project started, we decided to include streaming as part of our research goals. The project results were planned to be presented in the form of a public museum exhibition, which we anticipated to be of a special interest to *Noita's* fans. We were not aiming to only superficially cover *Noita*, even though our own understanding of the game was limited. We anticipated that we would not be able to become well versed or gain a comprehensive understanding of *Noita* via first-hand playing within the schedule of our research project. We assumed that this could potentially impact the design of our interview questions for the developer team, as well as how well we would be able to interpret the other material, such as sketches and builds of the game. For these reasons, we wanted to probe the community of *Noita* players – as they had already invested extensive hours into the game and had gained expertise in *Noita's* world.

For the purpose of the project, one of the researchers kept a diary, documenting the research process, meetings, design work, as well as engagement with the community.

Research Materials

The development team of *Noita* donated to the museum a collection

of materials in May 2021, to be utilized in this project – but also to be preserved in the museum archive.

The donation included physical materials, such as sketches, and digital materials, such as prototypes. This collection grew with supplemented materials throughout the research process as the developers discovered more materials to share.

The research materials donated to the project consisted of 81 pages of notes and lists written on A4 sheets of paper (or other pieces of paper, such as used envelopes), and a sketchbook (146 pages) from the artist of the game, Arvi Teikari (see Fig. 2 & 3). Most of the notes were lists of ideas, to-dos or comments on the game – often not self-explanatory. The research team picked a handful of the items to be further explained by the developers, but was not able to cover all of them. The long duration of the development process resulted in challenges in memory work, especially the temporal relation of each idea. This made it challenging for the research team to place the ideas on the timeline.

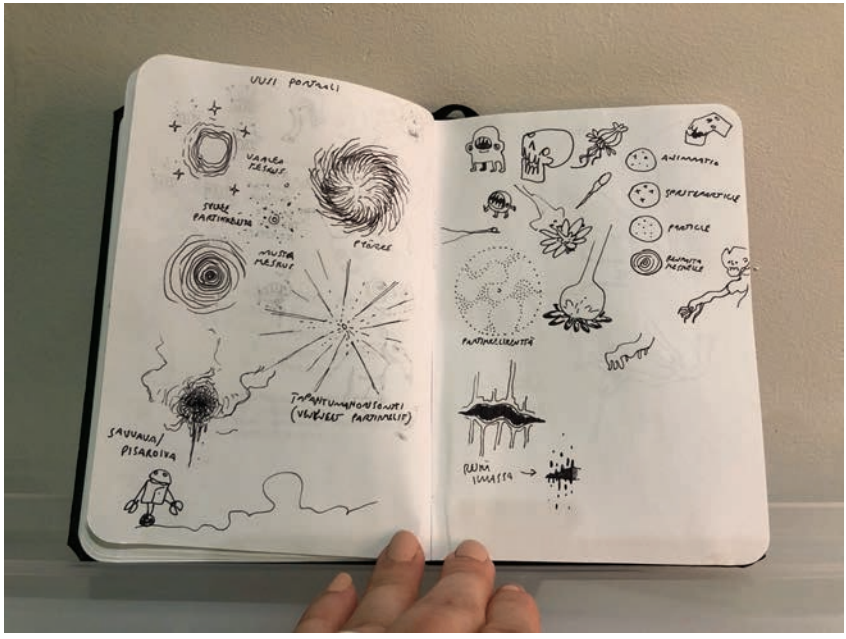

Figure 2: *Arvi's notebook showing ideas for a new portal.*

The donated package of materials also included an external hard drive containing 23 early prototypes, a development log (html) of one of the team members, 181 builds of the game, 157 gifs and movies related to the game, logo files, mockups (concept art), press kit, 82k of automatically created screenshots, 12 game trailer videos, various other videos, and one conference presentation.

Playing the early prototypes of the game was especially useful for the research process, and also for testing later builds of the game. These contributed to our understanding the flow of the ideas and design changes in a concrete manner. It also led to the inclusion of other games as important factors that influenced the evolution of *Noita*.

Interviews and Community Engagements

The process involved repeated interactions with *Noita*'s developers. Each member of the core team was interviewed twice, and the freelancers (additional designer and a musician) were interviewed once. The interviews were conducted via Zoom, recorded and transcribed. The developers were also available on the museum Discord server to answer additional questions, and they also commented on the drafts of the research results; this option became especially useful during the latter part of the research project when we were working on polishing the timelines.

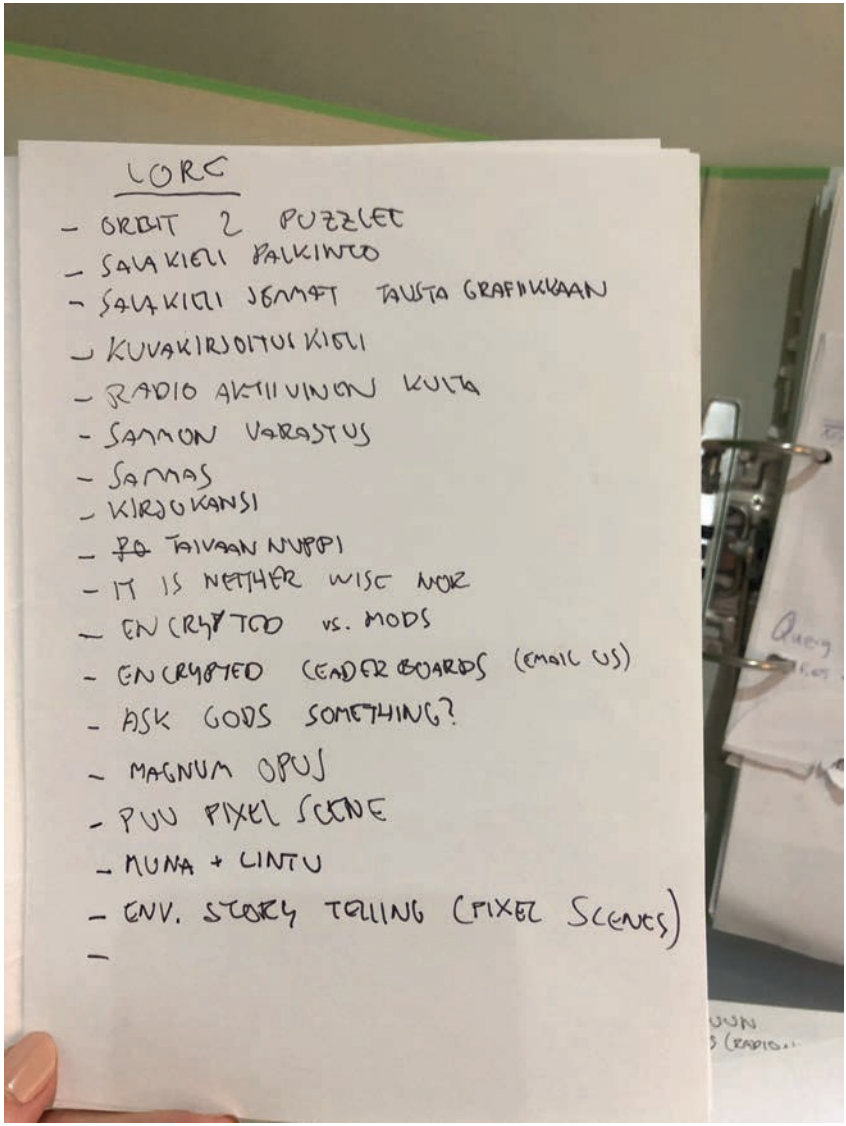

Figure 3: *Handwritten list of* Noita's *lore ideas.*

From the very start of the project, one of the researchers engaged with the game's fan community by watching game streams and playing *Noita* live on Twitch. This engagement led to the discovery of a community of content creators, modders, as well as several Discord

channels, which deepened our understanding of *Noita* as a social artifact.

As we were not so familiar with the depth of the game, we decided to create a survey specifically to probe the *Noita's* community's choices for the timeline items. The fan engagement helped us to start working on the key points of the design process. The community members were asked what kind of things they would like to see in the timeline. In the end we received 60 replies, and ended up with multiple useful pointers on the journey of the game. We did not initially understand some of those notions, but after further discussions with *Noita* Discord community managers, modders and streamers, the entries started to be more meaningful. In the end, the community members were included in the list of exhibition credits.

Originally intended as a smaller part of the research project, the community engagement turned out to play a sizable role in the research outcomes. *Noita's* community of players, content creators, community managers and modders were engaged via weekly streaming of *Noita* on Twitch, almost daily viewings of other content creators playing *Noita* live, Discord discussions, and a survey of the community's ideas for the timeline items. This engagement made it possible for the researchers to see the organic design of the game once it was released for the community to play and modify. It was not possible to fully capture the creative process that led to the played and streamed game, by relying solely on the developer's own creative journey. This led us to also tell the story outside the creative process of the original creators.

The final output of the research was a collection of seven timelines depicting the temporal order of highlighted design decisions, milestones, outputs, and influences (See Fig. 4).

Building the timelines

The process of building the timelines was iterative. Our team of three researchers worked on several shared documents, adding and editing items, first on spreadsheets, categorizing and timestamping the

events. The construction of the timeline drafts started alongside the collection of data. Some of the events were selected from public materials, some were added from the community survey, and a significant number of the items were added based on the developer interviews.

Once we believed we had a somewhat full picture of the development process, we moved to elaborating on the items in a text document. Even at this point, we continued moving the time-stamped items around. The order of the items was adjusted, for instance, when we were able to get confirmation of a more precise timing of an event (e.g. June 2016 → 12th June 2016). There were also new items and events surfacing while we conducted the second interviews with the developers, and chatted with the community members. When placed on the timeline, the timing of some events built an inconsistent picture of the development process, requiring us to go back to the developers to ask for clarification. We also needed to fill the gaps that became visible while building the timed narrative. These were resolved by asking developers additional questions via Discord, or further examining our research materials.

Once the key developers were interviewed twice, the timelines were sent to them to review. As the timeline neared completion, we interviewed the audio lead of the project and added the composing work and releases of the soundtracks as events of the timeline.

The final timelines consisted of milestones of the creative work that happened in parallel: the work of the main team, the work of the community, as well as the composing (and releases) of the game's music. The timelines also hosted a large number of contextual events. Some contextual items were not directly about the transformations of the design, but events that impacted the work, such as the release of the games that inspired the development team to create *Noita,* when the team founded Nolla, met each other for the first time, and when a prototype was showcased at an expo. Some contextual events were not directly related to Nolla or *Noita*, such as the start of the pandemic, and other game releases by the main developers (such as

the release dates of *The Swapper*, *Baba is You*, and *Crayon Physics Deluxe*).

In parallel with the construction of the visualization of the timelines, the timelines were sectioned into thematic phases, which we distanced from the typical pre-production, production, post-production model, and instead, the themes emerged from the data.

TIMELINE(S) OF NOITA

The dissemination of the research results was conducted as a form of a physical game exhibition at The Finnish Museum of Games. The seven timelines depicting the creative journey of *Noita* were placed on the walls as 80x200cm foam boards (see Fig. 5). Selection of concept art and developer notes were framed for the audience to see along with other items. In addition, one early prototype and the first public version of the game were available to play at the exhibition. The exhibition opened on 4th of September in 2021, and its final day was 12th December, 2021, resulting in a public exposure that lasted a bit over three months.

Development Phases of Noita

Noita was released on 15th October 2020. It entered Steam's Early Access on 24th September, 2019. However, the initial idea for *Noita* was born somewhere between 2005 and 2007 in a discussion between one of the creators, Petri Purho, and his friends. The development process was lengthy: game engine work started as early as 2011 and the game design work in January 2013. The development of the game stretched over ten years – ending with the dispatch of final fixes for the game in April 2021 (see Fig. 6).

The development process involved many twists and turns, and the design was impacted by, not only various encounters with peer developers (at conferences and fairs), but also the modding community and feedback from the community when the game was in Steam's Early Access program. The creative influences for the game

were already captured in the early lives of the developers as they encountered memorable game experiences imprinting the young minds of future professionals. The developers shared the game with modders in October 2019, and in February 2020 it received official support for the Steam Workshop. In 2021, the game received its final patch. As a result of the research project, we utilized the language of the game's own fiction to depict the long journey of the idea of *Noita,* breaking the process into distinct phases. The timelines were also illustrated to mimic the characters and the environments of the game.

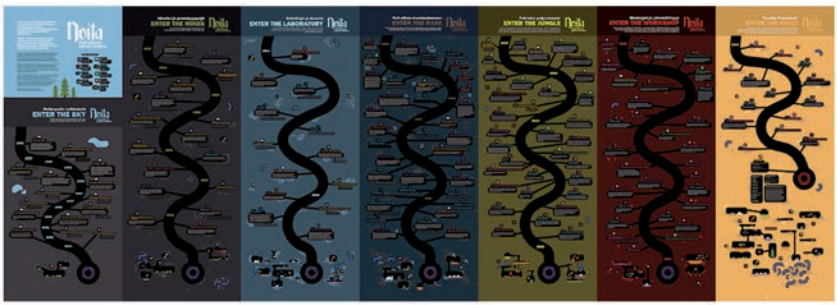

Figure 4: *Seven timelines of* Noita.

Figure 5: *Exhibition setup.*

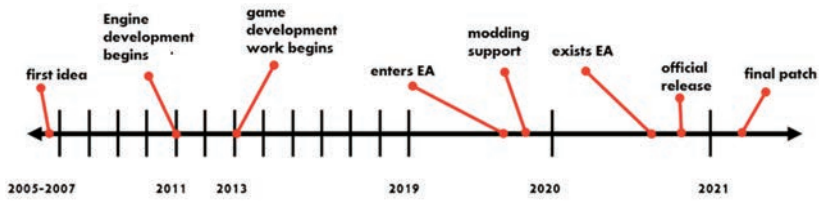

Figure 6: *A rough timeline of* Noita*'s development.*

The seven timelines depicted different phases of the development. Each phase had a different influence on the creative journey:

1) **Enter the Sky, 1980-2005:** The first phase of the game's creative journey was titled "Enter the Sky". It spanned from 1980 to 2005. We considered this as the "prehistory of *Noita*". Within the timeline entries, we marked the birthdays of the developers, the releases of the games that inspired the team to create *Noita*, and events such as learning development tools and creating their first games.

2) **Enter the Mines, 2005-2011:** The second phase was titled "Enter the Mines" and it spanned from 2005 to 2011. Within this period, the initial idea of *Noita* was born, there were multiple prototypes that were created to pay for the formation of the game engine, and multiple exploration of various ideas were placed on the timeline.

3) **Enter the Laboratory, 2011-2013:** The third phase was titled "Enter the Laboratory" and it spanned from 2011 to 2013. Within this period, Petri Purho started the actual work for the Falling Everything engine and the game idea was explored further with various prototypes marked on the timeline alongside stories of how the core team came to know each other.

4) **Enter the Base, 2013-2017:** The fourth phase was titled "Enter the Base" (See Fig. 7), which can be considered in more traditional accounts as the start of the game development process. This period spanned from the start of the official work in January 2013 until 2017. Within this period, the company, Nolla Games, was also founded, the team explored different genres, and a lot of the game technology was developed.

5) **Enter the Jungle, 2017-2019:** The fifth phase of the timelines

was titled “Enter the Jungle”. This started in 2017 and ended in 2019. In 2017, the first trailer of the game was released and the design was locked to match the published ideas. Here the core gameplay was decided and the developers obtained feedback from their peers in various conferences and fairs. Within this period, the game also entered Steam Early Access, and the community for *Noita* was formed.

6) **Enter the Workshop, 2020-2021:** The sixth timeline phase was titled “Enter the Workshop”. This was an intense period between 2020 and 2021. The game is officially opened for modders and the development team continued to add content and features, along with patches to fix bugs in the game. At this stage, the game design process entered a sort of a “maximalistic” period, where the game was filled with content and things for players to discover. `The game was then officially released, and the community bloomed on Twitch, YouTube, and Discord.

7) Enter the Vault, 2021: The final timeline for the game is much shorter than others, consisting merely of events in 2021, and was titled “Enter the Vault.” In this phase, the development of the game was over and was merely patched by the original creators.

Altogether, the timelines consisted of over 150 entries, with each accompanied with a time stamp, title and short explanations, such as:

> *Oct 2016 “Let´s make a roguelike”. Making a roguelike is considered several times while making the game. Finally, the decision is made to try it in order to make the most out of the procedurally generated environments. It takes less than a day to turn the game into a roguelike, and initially, there is an option to switch between the old game and the roguelike. The change feels good right away. At the same time, the building elements are slowly left out.*

Our case study of *Noita* shows how rich the development path and the journey of a game idea can be and how the project does not fit the idealization of the game development processes for various reasons. It was also interesting to see how the roots of the game’s idea

could be dated earlier than the emergence of first ideas, or development was reported to have started, as well as how the early prototypes had a role in shaping the idea closer to the start of the official work. In the idealized model for game development (e.g., the funnel of Fullerton), the design gradually narrows down as the launch approaches, however, in the case of *Noita*, the first exposure trailer of the game had a bigger role than the final launch. When the first trailer was released, the game design was forcefully locked to certain features. Despite this, the game was expanded later with additional content. Furthermore, it seems that the choice of genre, rogue-like, enabled and perhaps even accelerated the ideation at the end of the development phase (when the game was already in Early Access), making it possible to add a lot of content affecting the game design in multiple ways. Our case study calls for more studies looking at the causality between different aspects of the game and the shape of the development process.

REFLECTION OF USING A TIMELINE METHOD

Our decision to use the timeline as our presentation format in the exhibition created an interesting setting for the triangulation of the research materials in building the development narrative.

We worked with several documents within the process, starting with spreadsheets of the events – and then placing them in a Google document in chronological order. We also provided the developers with a draft version of this document for them to provide comments while the research was on a summer break. In the end, this approach did not end up being efficient, although we did receive some comments from developers. The actual fitting of the events to the timeline by the research team, and comparing the information that we had from multiple sources, was deemed key to the critical fact checking. The timelines enabled parts of the development, which had not yet been discussed, to be visible, and highlighted the need for further interviews and engagement. While some parts of the timelines were filled in, we realized that there were also some gaps. The

timelines also revealed challenges in remembering events and dates (memory work).

For instance, the developers might have a memory of early childhood TV programs that were in reality broadcast much later in their lives, or that the time of certain ideas were later discovered to be in different timeline positions when the date of the concept art was checked. Timeline, as a structuring method, revealed discrepancies in the narratives from the interviews, which we would have not otherwise have questioned. We do not believe that this was unique to *Noita*, but typical when trying to recall any creative process.

The timeline method also changed the way we initially interpreted the journey of the prototypes and builds, based on interviews of the developers, and the second-hand materials. When the developers were interviewed, they used different names on the same prototypes and ideas, and when we tried to place them on the timeline, we had to clarify with each developer the exact prototype to which they had referred. In the end, we had to go back and forth with the developers, materials and our timeline. The images of the prototypes built in our heads did not match the actual prototypes.

Despite the critique against using timelines in the history sciences and museology, we believe that using them can be a critical method to map events in a game's development cycle when there is no access to an ongoing process. Developers tend to misremember the past, and therefore, using additional sources such as devlogs and assorted analysis notes can help to confirm certain events in the game's development. In our case, the community members were also able to help confirm the timelines. Fans often have more detailed memories than the developers themselves. As Sköld (2015) notes, hobbyist communities, formed around games, also document games, which can provide additional access into the details after the release.

DISCUSSION

The use of the timelines in our case turned out to be not just a concrete way to show the long journey of game ideas for the audience

of the museum, but also a critical tool for our research work. Compared to our previous research experiences with interview studies, the development narrative got much deeper and more concrete. We believe that using the timeline method for structuring our findings, forced us to work on the topic more accurately and helped us to question the developers' personal narratives. It also helped us to adjust our own misunderstanding of the narratives shared in the interviews.

In this case study, we had exceptional access to the development story of a single game. The research materials that we gathered resulted in an archive of materials that will serve as a starting point for many other research projects that follow ours. As we had no prior experience in utilizing timelines in structuring the game development narrative, we worked on all aspects of our set of research materials. It is useful to ask whether one needs all of these data points to form an illuminating design timeline. Potentially, the same results could have been attained with a limited set of data, such as interviews combined with devlogs and game builds. In the end, we did not have access to *Noita*'s GitHub, an option that could prove useful in other research projects (cf. Khaled, Lessard & Barr 2018). However, when we requested confirmation of a date or resolution of a contradiction in our timelines, the developers themselves referred to their development notes on GitHub.

Even though we constructed timelines with over 150 entries, these entries were only illustrative of the different forces in the evolution of the design ideas. We ended up excluding some minor entries to create balanced timelines. However, given more time for the research project, we could have added more details to the entirety of the timelines. That said, the development process consisted of over a decade's worth of work, and we also inquired in factors pre-dating this work, so it is possible that some details may reflect false memories. Even though we were not able to do a full overview of all design decisions, situations, inspirations and influences, the timelines nevertheless showcase well the long journey of a game idea and the multitude of design situations of *Noita*.

We did not initially plan to include the early life inspirations and developments in the game's journey – nor the latter part of the development in the hands of the community. But these turned out to be important for us to build a holistic picture of the creative space of the development of *Noita* as a game. In the end, though, these influences were not fully covered. We were not able to go through all mods or community engagements. For the early inspiration, we purposefully asked the developers to name 10 games that they thought would have an influence on *Noita*. The limitations were set from the practical limitations of our exhibition work. It was interesting to see that the developers started to add to their list and noting how there were many more games that were influencing the design and creation process of their game. This could be an interesting separate research project, to continue looking at the various reference games and their relation to *Noita*. In the end, the game reference entries that ended up on the timelines, were only an indication of the multitude of the influences. Furthermore, it is possible that some of the games that the developers had played, also had an influence that they were not fully aware of.

Our access to the development materials was exceptional. We are aware that it is not possible to get the same access to all game projects, making O'Donnell's (O'Donnell 2014)) mention of access still a valid point. Furthermore, the development journey was so long that it was challenging to keep up with everything. In the end, we did not systematically go through all the material. For example, even though we had access to a large collection of builds (183), we did not spend a lot of time playing them. We were also not able to ask the developers to explain all their handwritten notes (81 pages) and sketches (146 pages). For the purpose of our project, we ended up selecting only a few (12) that represented the variety of the materials and the features of the game. This, again, ties back to the exceptional access of the data. In order to go through the entirety of the materials, we would have had to ask the developers to devote even more time for our interviews and inquiries.

In many of the timeline markings, we settled on finding out their

approximate placements on the timeline. It was often helpful to try to place them in relation to some other, more accurately timed, event. Here again, the temporality of timelines was a helpful tool. It could have been possible to check the order and timing of the design changes further, if we'd had more time to systematically go through all of the materials. More thorough triangulation of the materials could have been done if we'd had better resources, or if the duration of the selected game had been shorter.

It is also notable that *Noita* is a game that has a lot of secret content. While the community had not yet found all the secrets in the game, the developers also did not want to talk about their design history. In the end, the genre and the form of the game impacted access to the process. Even though our process was very extensive, not all stories were available.

It is also important to note that the timeline method might bias the nature of the design work, where ideas are revisited and perhaps placed "at the back of developers' minds" for an extended period. Ideas tend to linger in the discussions, and are vaguely considered at times, so there may be no clear point in time when the idea is abandoned or forgotten. Timeline asks us to simplify this phenomenon into specific pins within the linearity of the temporal space of the design process. At some point we did consider making arches or "blobs" in the visualization to depict this, but doing so ended up being too complicated and out of the scope of our project.

In the end, for this project, the timeline method proved to be a focal point for us to unravel the narrative of the changes and influences in the development of *Noita*. Structuring the creative journey of *Noita* into a timeline forced us, as well as the developers, to correct and recheck the original development narratives expressed in the interviews (and some external materials). The interplay of several sets of data made it possible for us to dig deeper into the process without a direct observation, which in this case, would have been impossible. While there are multiple instances of anecdotal evidence that some aspects of the *Noita* project are not unique, it is hard to challenge our

commonly accepted game development models based on a single case.

In contrast to research that predominantly focuses on specific phases or layers, such as pre-production and ideation in game development (e.g., Kultima 2010, Hagen 2009), or that utilize timelines to explore the general nature of design (e.g., Atman 2019), we argue that we need comprehensive exploration: mapping the extensive trajectories of game concepts in a holistic manner. Game productions exhibit diverse lengths, sizes, social dynamics, influences, and contextual nuances, yet discussions often oversimplify these complexities, leading to overly generalized perceptions of how games are, or can be made.

In order to further understand the commonalities and causalities in game development processes, we invite other game scholars to explore the timeline method and its variants in a quest for understanding game development and especially the creative work in more (accurate) detail. While there is a rich body of developers' reflections available in the form of conference presentations and blog posts, it seems to us that the narratives shared in those formats, akin to studies relying on mere interviews, are prone to biases. We need to base our understanding of game development, design and production on actual (descriptive) academic studies.

CONCLUSION

In this paper, we have reflected upon the Timeline method for researching game development. While the method can create biases in creating temporally simplified narratives, the timeline does deepen and calls for accuracy in the memory work of the interviewed developers. The Timeline method helps researchers to question the developer narratives of the creators, which can be temporally skewed. The Timeline method forces us to focus on multiple details and their relation to each other.

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7. ZINECRAFT

ZINES AS COMPANIONS TO GAMES RESEARCH

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ABSTRACT

Zines are small-circulation magazines that creators make themselves, often through simple means. Zines and zine creation are linked to marginalized voices, and have historically amplified the voices and perspectives of these communities. Their very design is personal, reflective and beginner friendly. Zines have also been used as, and alongside, research, including interdisciplinary research and games criticism. Though intersections between zines and games have been identified, zines remain largely underutilized in games studies. In this paper, we apply our individual creative practice methods to argue that zines can be created as

companions to games research and conferences. We argue that zine creation, as a companion to research, makes for more personal and relatable outputs, and helps the creator visualize, reflect and make previously unmade connections. Conference zines can be used to capture trends, record proceedings, and communicate personal experience. Games studies can benefit from embracing zines and their interdisciplinary potential.

KEYWORDS

fanzine, creative industries, creative practice, travelogue, conference

BACKGROUND

Zines are "non-commercial, non-professional, small-circulation magazines which their creators produce, publish, and distribute by themselves" (Duncombe 1997, 6). Also known as fanzines, zines are considered DIY (do-it-yourself) publications that express "all variety of personal and political narratives" (Peipmeier 2008, 214). Historically, they have been used as a way for marginalized communities to express themselves and disseminate information.

Zines, and the scholarship surrounding them, are interdisciplinary in nature (Hays 2020). Zines can be about any subject, and made up of images, poetry, writing, collage, drawing and/or any other means of creativity. Zine-making has been used as a way for marginalized groups to document, reflect and call to arms. Similarly, zines have also been used in research to document and reflect on scientific subject learning (Brown, Hurley, Perry and Roche 2021; Dunwoody, 1992; Yang, 2010; ScienceGrrl, 2018; Liu, 2019), as part of social science and educational teaching pedagogy (DeGravelles 2011; Desyllas and Sinclair 2014) and as (self-)reflection tools (Lonsdale 2015). Zines have spanned several different subjects, like art, science, and social sciences, among others. The interdisciplinarity of zines and zine-making allow them to encompass and connect several seemingly separate spheres, especially as a means of reflection.

Zines have been used as an aid for students to reflect on their research experiences (Vong, 2016). We argue that zines are also powerful tools for research practitioners because the materiality of zines enables self-reflection, which is critical to understanding research, experiences and processes in a unique way. Biagioli finds that "Via the Zine Method, complex sets of elements can be represented in one package (the zine) letting ideas emerge from the active handling of the paper matter [...] by setting up the zine into a three-dimensional structure that refers to a larger concept taking shape in the mind of the participant" (2018, 2). The material nature of zines and the act of making them sheds light on the importance of the process and also the final product, allowing inferences and data collection to happen from multiple points. Zines offer a form of reflective support that makes them accessible to participants and researchers alike (Carlile and Jordan, 2007). While Biagioli has argued that zines can be used as a research method in and of themselves, we find that they function well as companions to research.

In this paper, we argue that zines can and should be embraced as a unique research tool for creative industries, especially games studies. Zines enable self-reflection through materiality, allowing the creator to process a myriad of different theories and narratives in a unique manner. Zines have the ability to physically capture data, information, and methods in a way that papers alone cannot.

Zines are an underutilized resource in games studies. For the most part, zines are equated with indie games and the DIY publication culture (Westecott 2013). Henderson and Iacovides argue in a 2020 DiGRA paper that "the culture of DIY groups, personal expression and social activism is well established in game creation" (2020, 3). They go on to equate the self-expressive elements and inherently playful creativity of vignette game design with the DIY culture of zines (Henderson and Iacovides, 2020). Similarly, Keogh describes the emergence of DIY developers making personal zine games, citing these developers as often taking advantage of the lower barrier of entry into videogame production for marginalized people (2015). Saklofske (2020) and Hughes (2017) argue that games criticism, rather

than scholarly games studies, have moved to alternative publishing formats like zines, blogs and websites.

Though parallels have been drawn between zines and indie games due to their methods of publication and self-expression, zines are largely absent from current games studies. We hope to demonstrate their interdisciplinary potential to the field. To do so, we have broken the article into sections that give context to our argument and method. First, we explore how the zine medium gained popularity in Sweden and influenced the games industry there. Then, we demonstrate the parallels between games and zines in a broader context, showing the various intersections between games and/as zines. In the following section, we discuss our individual creative practices using zines as research companions and reflection tools for academic conferences while documenting our methodologies. Finally, we detail our process for Nordic DiGRA's 2023 zine-making workshop, and suggest companion zines for future research and conferences.

ZINES IN SWEDEN

Before discussing zines and games as a whole, we have chosen to discuss the rise of zines in Sweden, and their connection to comics and games. Research into Sweden's creative industries prompted the creation of Hailey's travelogue zine and the creation of this paper. Hailey's report titled *Sweden's Female-Forward Creative Industries* found that comics and fanzines are an ingrained part of the Swedish culture that have shaped the current games industry there (Austin 2022b). Because, historically, comics and zines were adopted as high art early on in Sweden, they were well-integrated into Swedish culture as serious mediums and artefacts. The 1964 art exhibition titled *Amerikansk popkonst. 106 former av kärlek och förtvivlan* (*American Pop Art. 106 Forms of Love and Despair*) was the first Pop Art exhibition ever held by a major European art institution (Andersson 2017, 45). According to Krantz, this was a transformative part of both comics and fanzines in Sweden (2018, 268). This led to the first comic exhibition *Seriernas fantastiska värld* (*The Wonderful World of Comics*)

opening in December of 1965 (Krantz 2018, 268). The emergence of the Swedish Comics Association in 1968 led to a comic fanbase that began to share reviews and feedback, leading to fanzine fairs and fan meet-ups (Austin 2022b). The culture surrounding art in Sweden led to the popularity of comics and other forms of 'pop' art, and established fan cultures that produced fanzines. Krantz and Ingemar Bengtsson created an in-depth *Swedish Comics Index* in 2001 detailing all of the fanzine artists they were aware of at the time (Austin 2022b).

The rise of the feminist movement has also played a large role in the number of women making and consuming comics and zines around the globe. In particular, the Swedish feminist and punk scenes have created, and continue to create, a fervor and interest in fanzines. According to Nordenstam and Wallin Wictorin, original feminist comics were being produced in Sweden in the 1970s and 1980s, establishing comics as a feminist medium (2019, 77). These comics and fanzines were part of the women's liberation movement and socialist women's movements in the 1970s that were attempting to use activism and social movement to change the patriarchal world (Nordenstam and Wallin Wictorin 2019, 78). Zines also share commonalities with media used in earlier women's movements, such as scrapbooks, manifestos and pamphlets (Creasap 2014, 157). While in the 1970s there were only a few female comic artists active in Sweden, by the 1980s the number of women publishing comics in independent fanzines and in comic anthologies grew (Nordenstam and Wallin Wictorin 2019, 79). In 1986, there was an exhibition of comics at the Kulturhuset (Culture House) in Stockholm titled *Serier (Comics)* where art historians and other researchers published about comics (Sommerland and Wallin Wictorin, 2017, 3). A catalogue accompanied the exhibition titled *Boken om serier (The book about comics)* that discussed several prominent feminist comic creators such as Christina Alvner and Cecilia Torudd (Nordenstam and Wallin Wictorin 2019, 81).

In the 1980s, Swedish female humorists were working to be visible in the male-dominated cartoon landscape (Lindberg, 2016, 5). Women's creativity was restricted in the 1990s because comic creators

and editors were male-dominated (Lindberg 2016, 6; Strömberg 2012). However, there was a boom in alternative comics when feminist creators like Liv Stromquist published fanzines of their own and used fanzines as proof of concept for larger comic works (Austin 2022b). This led to the creation of the Serieteket (comic library), which is Sweden's foremost specialist library for comics, cartoon, zines, and graphic literature. In November 1996, Kristiina Kolehmainen and Elisabet Andersson created the Serieteket as part of the Stockholm public library system in Södermalm (Gardner 2016). They recognized that these forms of literature did not fit within the Swedish library classification system and were, instead, separate and deserving of their own classification (Gardner 2016). In October 1999, the Serieteket moved to the Kulturhuset in central Stockholm and later began hosting Fanzine Heaven, or the Small Press Expo for local comic and zine makers (Gardner 2016).

Zines have allowed women and girls to write about issues that were not written about anywhere else (Flannery 2005; Piepmeier 2008; Creasap 2014). As such, it is natural for zines to look to feminist tropes and women's involvement in Sweden's creative industries. With their ties to underground movements, zines are inherently feminist. Thus, zine-based methods reveal feminist movements and challenges in male-dominated spaces and cultures. Making zines elicits three principles of feminist pedagogy: "participatory learning, validation of personal experience, and the development of critical thinking skills" (Creasap 2014, 156; Hoffmann and Stake 1998).

Today, contemporary Swedish comic creators also tend to create fanzines to test their comic ideas and as part of serieskolan (comic school) (Austin 2022b). Fanzines are not only found in comics or zine conventions, but also through online distribution. In Sweden, newspaper shops and bookstores sell a broad spectrum of zines, from scratchy feminist comic-style works to highly polished books with high-quality printing and binding (Austin 2022b). The Serieteket also boasts an entire fanzine section of work made by local zinesters for loan from the library (Austin 2022b).

Zines in Sweden have a link to the popularity of comics and pop

art, the fan cultures surrounding that pop art, as well as feminism. Their popularity has aided the legitimacy of other creative industries in Sweden, including the games culture. Zines and games have intersected, and continue to intersect, in different ways.

ZINES AND/AS GAMES

Games and zines are not only linked to the rise of the Swedish creative industries, but also have similarities in and of themselves. Both games and zines give the creator (and player) the tools to transfer something intangible (in their minds) to another medium, whether on screen or on paper. They both fuel creativity. As discussed in the above section, zines contributed to the Swedish creative culture and were a companion to the popularity of games and gaming in Sweden. Internationally, we find that zines and games have several other intersections, such as being used as aids for game programming, zines made of games, games created as zines, and zines made as games criticism.

Anna Anthropy suggests in her book *Rise of the Videogame Zinesters* that games have the potential to be considered "as zines; as transmissions of ideas and culture from person to person, as personal artifact instead of impersonal creations by teams of forty-five artists and fifteen programmers" (2012, 9). Game creation can be like zine creation in that it transmits personal stories to broad audiences in a cost-effective manner and without mainstream publishing constraints. Just as zine creation is meant to steer away from established publishing houses, Anthropy argues that videogames should speak to more than just the people already engaged in making and playing them (2012, 16). The zine format and the culture surrounding zines are well suited to the task.

Dev Zines have been used and distributed in order to help digital games developers and other creators with different programming tools (devzines). Kate Compton's (@galaxyKate) zine titled *Tracery: A text generation JS Library* (n.d.) was made as part of her PhD (Figure 1). It is free and open-source, and details how other programmers can

use Tracery, her author-focused generative text tool, in order to "make generative text for NPC dialog, gameplay collectables, twitterbots, music and more" (galaxykate). The Tracery text tool itself is also designed for a broad audience of creators and as an open-source tool (Compton, Kybartas and Mateas 2015, 155). The zine that demonstrates how to use the text generation tool utilizes similar principles of accessibility and collaboration, further demonstrating the links between zines and games.

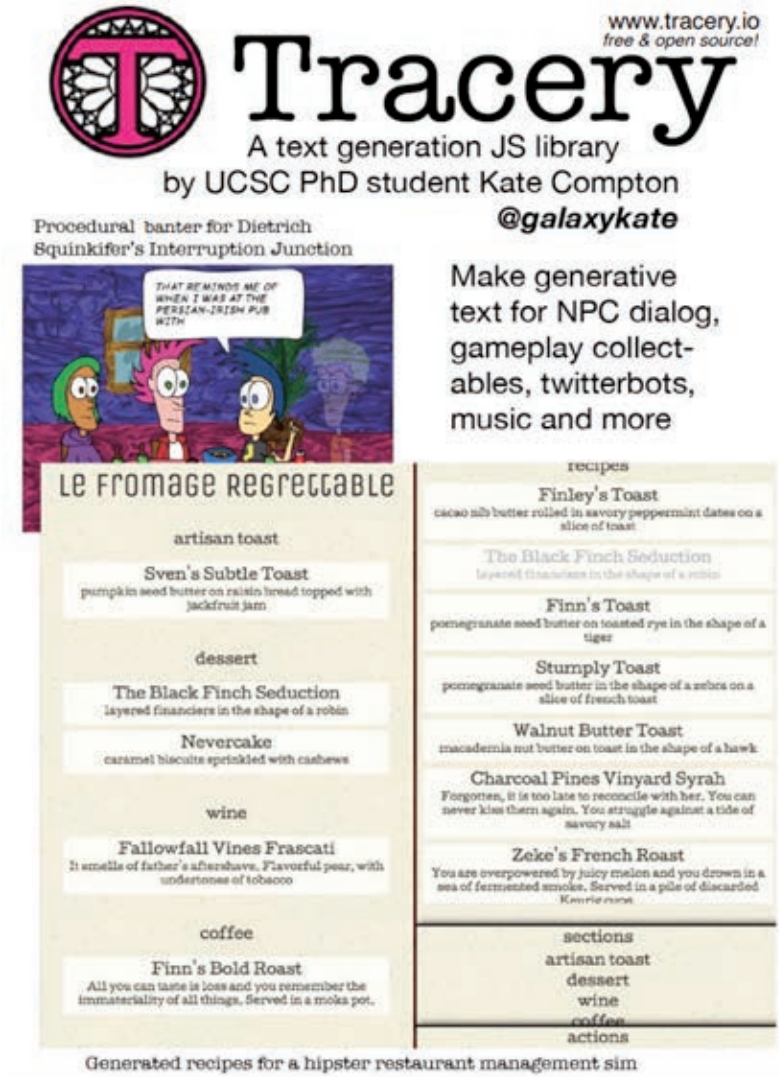

Figure 1: *@galaxykate (nd)* Tracery: A text generation JS library by UCSC PhD student Kate Compton. *[zine] Accessed 18 May 2023*

Similarly, Julia Evans' (@bork) Wizard zine collections break down fundamental programming tools in an accessible way. According to Evans, the wizard zines focus on "fundamentals: things that haven't changed much in the last 10 years and probably won't

change much in the next 10 either" (2021). Zines like *Oh Shit, Git!* and *HTTP: Learn your browser's language* help readers build foundational skills in program and languages that can be applied to other tools as well. These zines are informal, approachable, informational and often free to download, which helps lower the barriers for people wanting to get into games and programming, in an effort "to de-monopolize game creation [and, thus] to de-monopolize access to games" (Anthropy 2012, 16).

Roleplaying games and printable boardgames have historically shared similar methods and distribution channels as zines. They are often published as low-cost booklets that can be purchased at conventions, or directly from the author by mail. There are zines that are created to be played as games, like Everest Pipkin's *The Ground Itself* (c.2019), an RPG-style game printed as a zine. The crowdfunding platform, Kickstarter, also promotes zine-making RPGs every year in February through their ZineQuest event, which boasts nearly 1200 zine RPG games (Kickstarter). Zine games are not limited to role playing games or even paper-based games. Jo Reid's successfully Kickstarted 2023 game *Border Riding* is a collaborative map drawing game about borders and intergenerational trauma, inspired by the Scottish border riding tradition and its history.

Many comic creators, zinesters and game makers use Kickstarter to crowdfund their work, making digital creation and distribution outside of the mainstream more accessible than ever. As Anthropy points out, "It's now possible for people with no programming experience – hobbyists, independent game designers, zinesters – to make their own games and to distribute them online" (2012, 9).

Another platform for selling and housing games and zines is the open-source website, itch.io. It hosts numerous hobbyist and/or student games for little to no cost. One such game is Natalie Lawhead's (@alienmelon) Electric Zine Maker, a digital game that allows the player to create zines in an electronic format (Figure 2). The game maintains the look, feel, method and ethos of zines. It is a tool with a drawing interface where players can import images, write text, change fonts, smudge, paint, etc. in order to make zines. The

creator states that "some tools are meant to be playful, goofy and interesting. Exploring it is just as fun as creating in it!" (unicornycopia)

Figure 2: *alienmelon. n.d. Home page of* Electric Zine Maker. *https://alienmelon.itch.io/electric-zine-maker*

Lawhead's game can be accessed for free, and players are encouraged to give a donation for the continued refinement and development of the game. *Electric Zine Maker* was created and developed by one person "around the old-school concepts of sharing and distributing free small experimental software [...] a lot like what zines are" (unicornycopia). Several zines made using the program have been featured in *The Guardian* (Griffin 2021), and it was nominated for an IndieCade award in 2020 (McAloon, 2020). In the spirit of collaboration, another user, Jeremy Oduber, made an html template that turns zines made with the *Electric Zine Maker* into web-ready html zines or web zines that can be hosted on itch.io (Oduber 2021). Naturally, the instructions are given in a zine format, as seen in Figure 3.

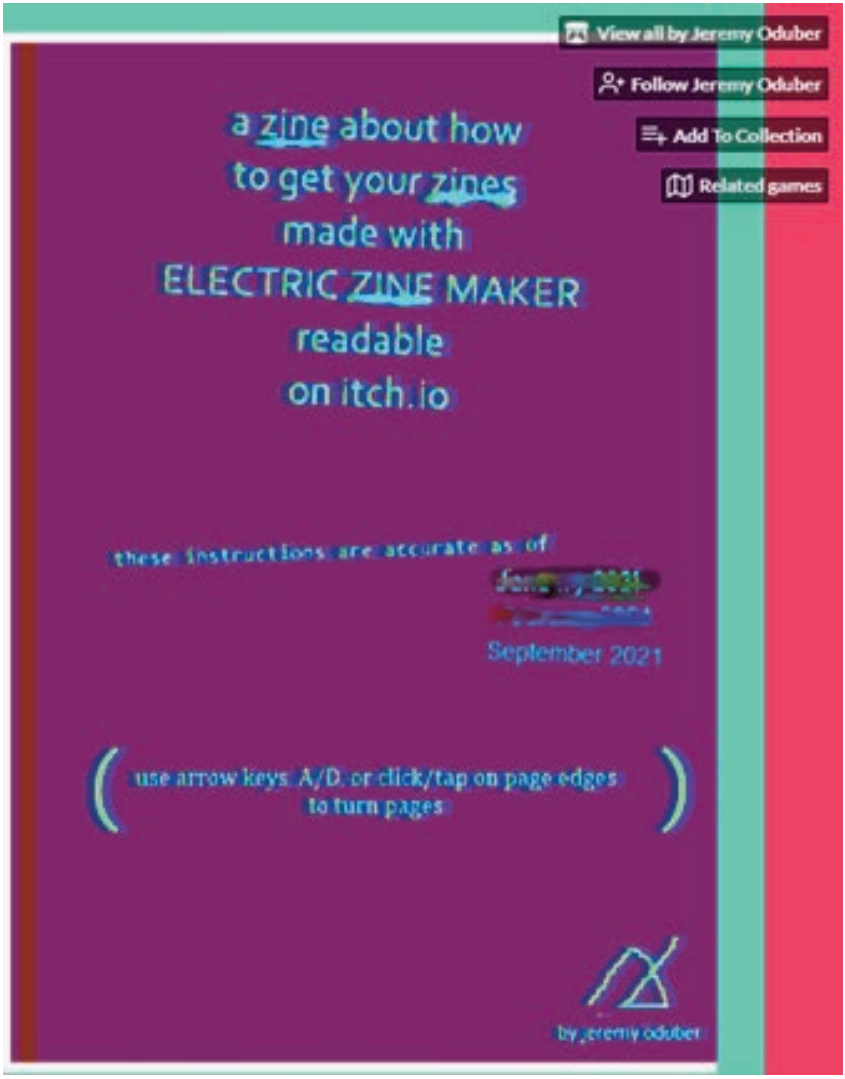

Figure 3: *Jeremy Oduber. 2021.* A zine about how to get your zines made with ELECTRIC ZINE MAKER readable on itch.io *https://jeremyoduber.itch.io/js-zine*

Zines have also been used in games criticism and journalism. Hughes argues that "we are living in a golden age of game criticism. A constellation of scholarly journals complements entertainment journalism and the blogs and zines of game enthusiasts" (2017, 283).

Saklofske finds that "scholarly critical work on digital games is not just limited to print-based output but has evolved along with the emergence of the internet and social media platforms," going against the traditional scholarly publishing models of academic fields by producing zines, podcasts, and video essays (2020). Games criticism websites such as Game Developer have featured games criticism zines such as Devon Wiersma's *Dare to Suck* zine, which discusses why game developers should pay more attention to seemingly 'bad' games (Wiersma 2017).

Similarly, Saklofske discusses 'digital scholarship zines' as a large part of modern games criticism (2020, n.p.). For example, Gareth Damina Martin's *Heterotopias* zine anthologies are high-quality photo essays on the intersections of games and architecture. Each issue focuses on a particular topic; for example, landscapes featured in the 4th issue in Figure 4. Martin Robinson, the features editor of Eurogamer, described *Heterotopias* as "a smart and beautiful zine, the meeting point between Foucault and video games I never knew I wanted" (Heterotopiaszine, n.d.) There are now nine issues of the zine available digitally through itch.io and there may be print versions available in late 2023.

Zines are linked with games, intersecting through their relationship with the creative industries; the use of zines to help people make games, games being played in the zine format, digital games where the player creates zines, and/or games criticism through the zine format. Zines have historical links with games and research, but are not often used in games studies research.

Figure 4: Heteretopias Zine *Issue 4, https://www.heterotopiaszine.com/*

In the following section, we discuss how zines have been used for academic research through our individual creative practices. Because these are about our personal creative practice, the following sections are written in the first person.

ZINES IN RESEARCH

As mentioned in the background section, zines have been used in interdisciplinary research (Hays, 2020) from science (Brown, Hurley, Perry and Roche, 2021; Dunwoody, 1992; Yang, 2010; ScienceGrrl, 2018; Liu, 2019), to social science (DeGravelles, 2011; Desyllas and Sinclair, 2014) and beyond (Lonsdale, 2015). Zines have also been used as research methods, as described by Biagioli (2018), French and Curd (2022), and Biagioli et.al (2016). Additionally, Lucy Robinson finds that "punkademics produce (aca)zines rather than conference packs to match form with content in the history of subcultures" (2018, 49). Thus, zines have been used as part of academic research across disciplines as reflective companions to research, as a method in and of themselves, and in conferences. While some research has gone into the use of zines as reflective of student research work (Vong, 2016), our argument is that zines are well-suited as companions to research and as reflective tools for researchers alongside their main publications.

Below, we detail our individual creative practice in the creation of a research travelogue as well as conference zines. We then discuss our methods of creation as well as the concern with using zines as a sole method of research.

Nej Men Hej: A Research Travelogue

In *Sweden's Female-Forward Creative Industries* (Austin 2022b), I (Hailey) studied what the UK could learn from Stockholm's creative industries, such as videogames, comics, zines, and board games. To accompany the research paper, I created *Nej Men Hej: A Research Travelogue* zine that serves as a material, physical representation of the human-side of the research project (Austin 2022a). The cover can be seen in Figure 5. In my write-up of the travelogue zine, I identified three key findings: 1) that the act of zine creation allowed for self-reflection of my research, 2) the tactility and physicality of zine

creation helped me condense and visualize larger concepts, and 3) adding a personal touch to research makes it more relatable.

Figure 5: *Austin 2022a.* Nej Men Hej: A Travelogue Zine *cover.*

For me, Biagioli's zine method holds true; zines are a useful self-reflection tool and help visualize relationships between previously disconnected elements (2018, 6). By reflecting on the fieldwork from

the trip, I was able to make several connections between mentions of menstruation in my zine, Liv Strömquist's *Kunskapens frukt [The fruit of Knowledge]* (2014), which was purchased on the trip, and the 2014 comic anthology *Kvinnor Ritar Bara Serier om Mens* [*Women only draw comics about periods*] which was mentioned in one interview with a comic creator (see Figure 6).

Figure 6: *Olausson, S. 2014.* Kvinnor Ritar Bara Serier om Mens [Women only draw comics about periods*] Carthage Publishing. Photo by Hailey Austin.*

Looking through my notes and listening again to interviews, I was able to add to the period discourse in Swedish comics by creating a page about losing a day (and half a life) to menstruation (Figure 7). This page has red seeping over the previous and following pages to

demonstrate the effects of menstruation on multiple days of the research, and in an effort to normalize some people's experience doing research. Similarly, I was able to reflect on the cultural landscape of Sweden and Scotland, noting that in several interviews participants noted that period products were freely available in their offices, while in Scotland a policy was implemented to tackle period poverty through local authorities and education providers' free provision of period products. By creating the zine, I was able to "maintain a more overall sense of what the experience was for an individual participating in an activity" because "retaining more of a holistic sense of an experience is also crucial at the analysis stage," as Biagioli, Owens and Pässilä suggested zines were uniquely able to do (2016, 3). Creating this zine enabled me to condense and analyze my trip in a visual form, make previously unnoticed connections, and create a material way to hold these reflections.

***Figure 7**: Hailey Austin 2022a.* Nej Men Hej *excerpt.*

For me, the physical creation of the zine is just as important as the finished product itself. As Biagioli notes, "setting up the zine into a

three-dimensional structure [...] refers to a larger concept taking shape in the mind of the participant" or creator (2018, 2). My travelogue zine is produced from envelopes that physically hold the notes and images from my trip, as well as the metaphorical memories I made along the way. The first page includes real sticky notes and to-do lists from planning for the research trip, as seen in Figure 8. I cut pieces of travel tickets and placed them in the zine to give authenticity to the representation of traveling for research purposes after lockdown. Similarly, the backgrounds of the zine are just as important as the text and images pasted on top of them. They were created in an art studio with my co-author Mirjam who was my research advisor during the trip. Thus, the materials are intrinsic to the trip itself. Painting and monoprinting were mixed on a Gelli-block to create unique, one-of-a-kind prints, as opposed to screen prints, which can be replicated multiple times. Just as the prints could not be perfectly recreated, neither could my time in Stockholm.

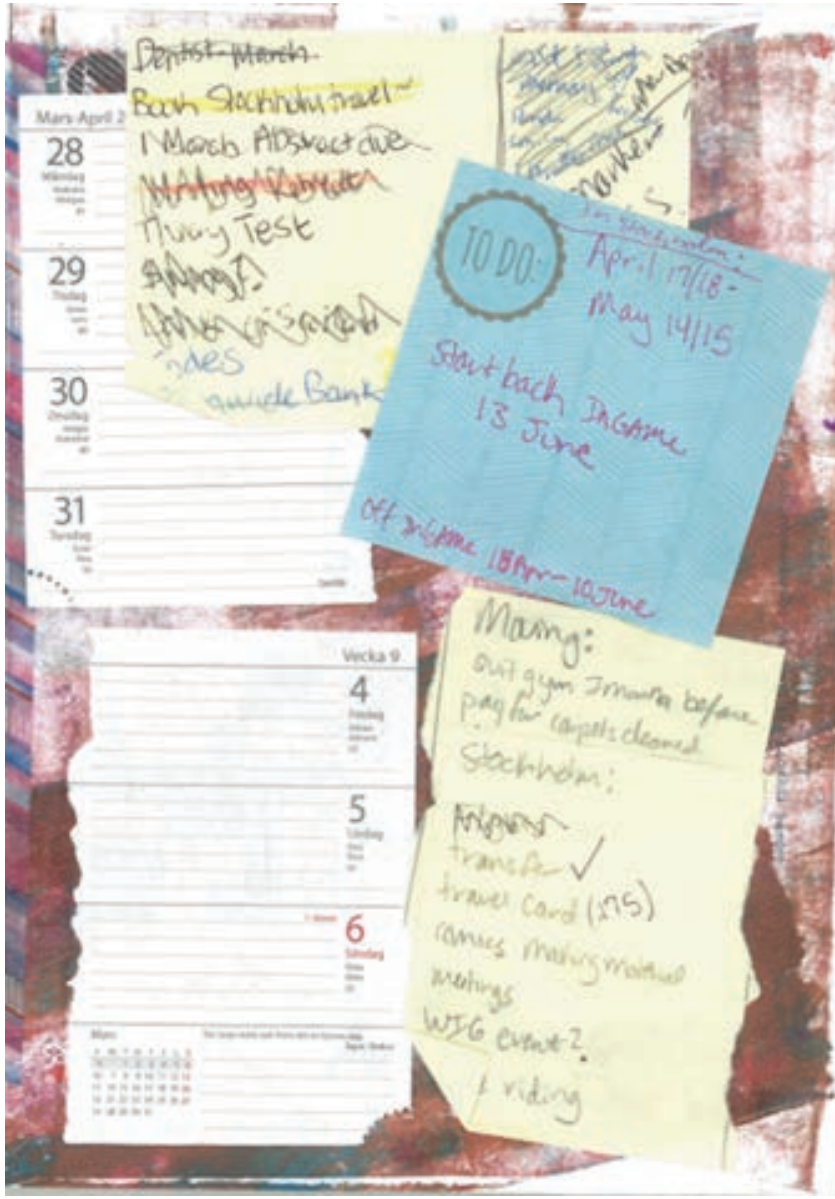

Figure 8: *Hailey Austin 2022a. Nej Men Hej, excerpt.*

Finally, by creating a zine about my experiences of the trip, I added a personal touch to the research project. Data and papers by themselves only provide part of the whole story of research, losing

many important elements like "tacit engagement, experiential knowledge and individual judgement" that human creative input can capture through creative outputs. (Biagioli et. al 2016, 3). I added photographs of myself and horses to the front and back covers of the travelogue zine to literally add a face and name to the research project, making it more personal and relatable than black text on a white page. These also bookended (literally and metaphorically) the trip and the zine.

The title of the travelogue zine is "Nej Men Hej," which is pronounced *neigh men hay* in Swedish. It literally translates to "No, but hi" in English. This phrase is used in Sweden when greeting someone you have not seen in a long time. While in a comic store, I found a very popular meme (Figure 9), where a man (unseen in the image) says this to a woman, whom he has not seen in a long time. She responds by saying, "Hej men nej" or "Hi, but no". In doing so, she is essentially rejecting his advances by flipping the phrase around.

Figure 9: *Jan Stenmark nd "Hej men nej" https://www.comicsheaven.se/prylar/magnet-jan-stenmark-hej-men-nej*

This not only fit what I learned about Swedish feminist culture in the creative industries, but also worked as a self-reflection tool that brought together the significant take-aways from my work. I also loved the sound of the words in English, and their connection to my experience. Nej means no, but sounds like neigh, the sound that horses make, relating to all the horse games I'd played and horses I'd ridden while in Sweden. It further captured the gendered focus of my research with men being spelled and sounding like the English word

men, or male. Finally, hej, meaning hello and sounding like hey and hay, English words that have multiple meanings. For me, it related to a level of familiarity. In English, I would only say "Hey" to someone I knew, whereas I would say "hello" to someone I did not know. Having people all around me say "hej", which also sounds like the beginning of my name, made me feel a level of familiarity with those around me. It also sounded like hay, the food that horses eat, which fit well with my horse theme. For me, the title captured the ambiguity and familiarity of my research trip, while also referring to the feminist comics and horse games I encountered there.

This personal touch came across in the presentations of my research. At the Scottish Funding Council's Team Saltire Awards, my Flash presentation (or three-minute thesis) was shortlisted for Public Engagement in the Culture and Creative Industries category. It was the personal touches I added, as well as the way I was able to relate my research effectively to an audience, that won me the People's Choice award for Public Engagement that evening. This was not only from my research, but largely because the zine rooted my research in the personal as well as the professional.

Zine creation as a companion to research makes for more personal and relatable outputs, and helps the creator visualize, reflect and make previously unmade connections

Suggested Method for Research Companion Zines

In this section, I explain the method I used to create my travelogue zine in the hopes that others who are interested could implement a similar method for zines as a research companion. As Mirjam will discuss below, we see zines as a helpful addition to research and a reflection tool whose materiality offers unique insights. We do not necessarily view zines as a method themselves.

To make my travelogue zine, I implemented five steps:

Plan and Document: While on my trip, I took notes about what I did and felt each day with the intention of creating a zine when I got back to Scotland. This was an intended output from the trip. I also told my advisor in Sweden, so she helped me find zines in Stock-

holm's zine library in the *Kulturhuset,* as well as find materials and generate backgrounds for the zine while I was in Stockholm.

Reflect and Map Out: I waited at least one month after my research trip to begin reflecting on the findings that I had been analyzing scientifically for a research output. I then had to reflect on what I'd gained as a researcher and as a person from the trip, rather than the hard data. I then began to map out and plot the narrative I wanted to tell in my travelogue zine.

Create: With my outline in one hand and collage materials in the other, I began to create my zine. I deviated from the outline, but it helped to center and ground my thoughts.

Accept Mistakes: I made several spelling, drawing and linear storytelling mistakes in my zine. But I had to accept that this was part of the process, and embraced the mistakes.

Scan and Distribute: Once I'd completed my zine, I scanned all the pages and prepared it for printing. I have since been distributing it at comic conventions and research conferences.

CONFERENCE ZINES

Prior to the Nordic DiGRA Conference in the spring of 2023, where the work in this article was presented, I (Mirjam) took stock of past DiGRA conferences I'd attended. I leafed through stacks of handwritten notes and browsed folders of digital photographs dating back two decades to the first DiGRA conference held in Utrecht 2003. Through these notes I could see the emergence of game studies as its own discipline. I could see colleagues' development over the years, and I could sense my own. There were moments captured of when I had met long-time friends for the first time, and notations of sparks for future research projects being ignited. I made a zine to bring with me to the Nordic DiGRA conference (Eladhari 2023a). Having these memories fresh in my mind gave me a sense of history and connection when I arrived for the introductory speech given by the organizers of the conference. Lina Eklund recalled the sense of coming

home when she first presented at Nordic DiGRA in 2013. I remembered her talk well because of the notes and photos I had taken.

Over the years, I have used my notes to make sense of my experiences at conferences. Some of them I have put on a blog (Eladhari 2023b). To me these blog posts are important, partly for helping my memory, and partly for enabling me to have my say without having to ask for permission or approval. In this respect the blog shares some of the advantages of zines – documentation of one's own voice. Zines, however, have a quality that production of digital publications lack: the physical process of fiddling with notes, gluing, taping, tearing out and saving particularly interesting pieces from a printed conference program, as wells as ticket stubs, receipts, luggage tags, and flowers plucked in a backstreet, dried in whatever booklet is at hand.

This sets zines aside. From what? you may ask.

I see three main utilities of making conference zines, especially zines that are about personal experiences at particular conferences. One use is for posterity, for capturing the otherwise not told. Perhaps they could be useful for someone digging into the history of ideas as they have emerged in the field of game studies. A second utility is the process of zine making, for sense making. A third utility is communication, where personal experience is the focus.

The first utility, documentation of the otherwise not told, is not unique to zines as a form. Other types of informal documentation that may capture what may not fit into the modus of research papers and articles, including blog posts (dependent on being online), posted photographs, shared slides from conferences, keynote presentations, and even video recordings. Zines are part of this body of informal documentation that may be of interest to people trying to make sense of the past.

The second utility is the process of creating zines, and this is unique to the form. The zine making process allows for a moment in time when connections can be drawn that would otherwise not have been made. Hailey's recount of her time visiting Stockholm is an example of that, and the zine making workshop described in the following section is another.

Zine making, the toying with ephemera, creates a space for debriefing, a space for making sense of what one has experienced during a conference trip. It is costly to go to conferences, both in money, but also in time for travel and socializing, something that for many is expensive in terms of mental energy. The travel is costly to the environment as well. To not take time to appreciate the experiences and/or make sense of them seems like a waste. If we immediately, when coming back from a trip, focus on our next duties, we risk losing the memories. Even more importantly, we risk not fully appreciating light bulb moments, topics that have resonated deep within us, or things we noted in a passing interaction. Fiddling with the physicality of ephemera collected, flicking back through photographs taken, making notes of who to send a follow-up question to about their work: all these things create value, feeding into our future trajectories of thought and even the application of our research.

As communication tools, zines are relatable to readers in a similar way as art, in that they convey a personal perspective. They are distributed between individuals on a small scale. If published, the publisher is the zine-maker themselves rather than an organization. Therefore, zines are not subject to being edited by other people, for example from an organization's information department, nor do they (in most countries) need the approval of an organization. Another important quality is their immediacy – they can be given to peers while the experience is still fresh and can feed into a shared memory of events.

The Issue of Method with Conference Zines

With these three qualities in mind, let's address the issue of method with regards to conference zines.

In this article we argue for zines to be used as a research companion – a tool that affords more informal ways to document, process, and communicate potentially valuable data that might otherwise not be captured. Previous work informing this stance relies, besides our own experience, on studies conducted by Biagioli

et al. In Biagioli et.al. (2016), they propose "the Zine method" as a way to collate research data from conference participants. In their study, they juxtapose a quantitative outset of data collection to a qualitative one, aiming to draw summarizing conclusions of experiences from specific conferences using qualitative approaches. They demonstrate how, for several years, they experimented with different ways of collecting and making sense of the zines created by conference participants. One of the examples was a conference where they aimed to create, from zines collected from participants, a curated, summarizing zine. The curated zine would highlight the topics the participants had found noteworthy. Biagoili et al. show a remarkable sensitivity to their material when they describe the change of course in their process – they concluded that the material did not lend itself to generalizations. Interestingly, instead, they created an exhibition where all the individual zines were displayed as art pieces.

Based on our own and Biagioli et al.'s work, we see zines as pieces of art. In their nature, they are generally closer to art than other forms of communication, in that they offer unique perspectives on, and representations of, an experience, which in the case of conference zines – are perspectives on a shared experience. Having made this statement we do not mean that other ways, especially approaches where conference zines are analyzed in a quantitative manner, examining occurrences of types of content, would not hold value. On the contrary – studies assessing zine data, perhaps analyzing common themes have, to our knowledge, not yet been carried out. Studies regarding the development of ideas in the field of game studies have been done using data about publications including Melcer et al. (2015) and Martin (2018). Melcer et al. took a network approach and examined over 8,000 papers from 48 core game research venues. They studied how keywords of papers cluster around particular game research themes, identifying 20 distinct themes. They were also able to find a fundamental separation between technical and non-technical fields. Acknowledging the importance of fields, Martin (2018) is concerned with research communities. Martin's work shows the broad strokes of the emergence of ideas in game studies by identi-

fying five main communities: Education/Culture, Technology, Effects and Medical. Co-citation analysis identifies five communities: Education, Humanities/Social Science, Computer Science, Communications, and Health.

If zines were to be analyzed in a manner similar to scientific publications it would be problematic. Zines do not have keywords, and would as a corpus be a plethora of anecdotes and outliers, represented in ways of art, or close to what we perceive as art. The state of the current technological advancement, along with researchers' skills in defining datasets and schemata for how to interpret the material (drawings, personal annotation styles and more) pose a difficult challenge at the moment.

For the time being, we see the main utility of zine making lies in the process of their assembly. This process may help capture what may otherwise be unrealized. In this respect, they offer a unique affordance: zine making allows for sharing the otherwise untold and intangible. Zines allow forms for considering and expressing what would not otherwise be seen in the academic structure of publication that we as researchers have been and taught and socialized into.

NORDIC DIGRA'S ZINE-MAKING WORKSHOP

We implemented Mirjam's practice of creating conference zines, combined with Biagioli, Owens and Passila's work on using zines to capture a conference, as the backdrop of the zine-making workshop we ran at Nordic DiGRA '23 (Figure 10). We proposed a zine-making workshop at the end of the conference as an opportunity to demonstrate the reflective power of zines, and allow participants to reflect on their findings of the conference with a physical manifestation of their takeaways.

Figure 10: *Nordic DiGRA's Zine Making workshop. Photo by Hailey Austin*

We employed a combination of Hailey's method for creating research zines and Mirjam's previous work making conference zines. At the start of the conference, we asked participants to collect their ideas throughout the conference to prepare for the workshop.

Mapping onto Hailey's Plan and Document step, the participants were encouraged to take notes, take pictures, and keep other physical materials like ticket stubs, receipts and napkins to use in the workshop.

We had 12 participants (excluding the facilitators) in the workshop who each made a zine about their experience of the conference using the memorabilia they had collected. There was limited time to Reflect and Plan Out, due to the workshop being at the end of the conference, but the participants still had the conference and proceedings fresh in their minds.

The workshop took place on the last day of the conference, and lasted for three hours. The agenda was as follows:

Introduction. Hailey showed examples of zines, and showed how they can be made practically, for example how to fold an A4 or letter sized paper to create a small booklet. Mirjam showed the material we provided to the participants. The materials were paper, glue, scissors, thermal printers for printing small stickers of own photos, colored paper, pencils, and more.

Zine making. We sat together around a table making our zines, while sometimes telling each other anecdotes about what we had experienced during the conference (see Figure 10). This maps onto Hailey's Create step of the process.

Show and tell. The last half hour we showed each other the zines we had made, taking turns. This allowed for reflection from the participants, and many people spoke about accepting their mistakes in the zine they had created. For example, Lina Eklund reflected in her zine about the three years of planning that went into organizing the conference (Figure 11).

***Figure 11**: Lina Eklund presenting her zine at the zine-making workshop. Photo by Hailey Austin.*

We have found zine creation to be impactful in our own research, both as physical sites of reflection as well as tools for personalizing research, which can often be solitary or dry. Using a combination of our creative practice methods, we were able to deliver a workshop

that allowed participants to reflect on the games studies conference they had attended, create a physical version of their reflection (making previously unnoticed connections), and understand how zines could be used as companions to their own research. The communities and appetites for intersections between zines and games have been established, as have the use of zines for games criticism. We argue that it is time for games studies to embrace zines just as other areas of game creation and distribution have.

CONCLUSION

Zines are DIY creative tools for expression that have been used on the periphery to amplify the voices of marginalized people in various communities. Though they are underutilized in games studies, zines have intersected and continue to intersect with games in fascinating ways. Historically, zines have had a profound effect on the Swedish creative industries in particular, establishing a culture around the creative industries that has led to the booming games industry. Zines have been used to help programmers make games. Zines have been used as role-playing games. Digital games have been created to make games. Zines have been used for games criticism and in research. The physical creation of the zine is just as important as the finished product (and research) itself, emphasizing the importance of reflection on process. As Anthropy suggests, making games as zines allows "games to be personal and meaningful, not just pulp for an established audience. I want game creation to be decentralized. I want open access to the creative act for everyone. I want games as zines" (2012, 10).

Though games studies has noted the similarities in distribution between zines and indie games, zines have not been utilized in games studies as a whole. By demonstrating our use of zines in our individual creative practices, we hope to inspire others to utilize zines in games studies as companions to research and/or research conferences. Games studies can benefit from embracing zines. Zines reveal an interdisciplinary history between the creative industries. They can

be used as and alongside research to share personal stories, reflect and document. Zines are for everyone, and can be made by everyone. Like Anthropy, we want games as zines, but we want games studies to use zines too.

FUTURE WORK

Throughout the paper, we have argued that zines are helpful tools through which to reflect on research and conferences, and are underutilized in games studies specifically. However, there is a largely untapped opportunity for zines to be used as games postmortems for game creators within the industry. The zine format is a way for game developers to document, reflect upon, and share their personal processes of game making, even if they work independently or in the commercial sector. We found one example where Avery Alder, a Canadian games creator, uses a zine as a postmortem reflection of a game (Cross 2017). After the success of *Monsterhearts,* Alder created a zine detailing both the origins of the game as well as her thinking behind updating the game and releasing *Monsterhearts 2* (Cross 2017).

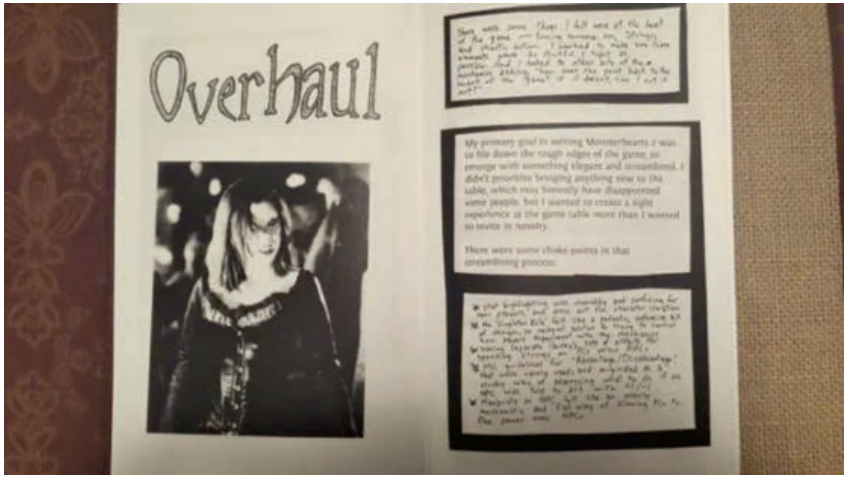

Figure 12: *Avery Alder* Monsterhearts 2 *zine, https://www.gamedeveloper.com/design/opinion-game-design-lessons-from-the-tabletop-rpg-monsterhearts-2*

As seen in Figure 12, the zine was included for people who backed the Kickstarter for *Monsterhearts* 2, and "resembles the bespoke care put into the making of an indie game" (Cross 2017). The zine acts as a postmortem for the first game, reflects on the success and missed opportunities of the initial game, and provides personal insight into the development of the second game. Zine postmortems have the potential to enable other practitioners across the games industry to utilize similar, personal methods of reflection on their games. We argue that games can, and should, be embraced by games studies and games studios alike.

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8. A POSTDISCIPLINARY POSTURE ON GAMES

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Abstract

This postscript considers how our field's interdisciplinarity status provides the possibilities for *post*disciplinary approaches to the study of games. Here, postdisciplinarity is described as a project of critical and politically committed knowledge production that eschews the notion of disciplinary homes – a notion that interdisciplinarity largely leaves intact – in favour of a more nomadic orientation. Through an autobiographical account of the power relations at work in a mundane ritual of play, I show how a postdisciplinary posture on gaming allows us to ground accounts of digital play in some of the more urgent issues of our time, while also

showing how postdisciplinarity is itself made possible through certain expressions of intersectional and institutional privilege.

Keywords

postdisciplinarity; mobilities; infrastructure; interdisciplinarity; masculinities; colonialism; race; materiality

EVERY BEGINNING IS A NEW ENDING

In the fall of 2022, I was asked by Lina Eklund, Björn Sjöblom, and Jon Back to provide the senior keynote address for 2023's Nordic DiGRA conference. I enthusiastically and gratefully accepted. I did so while also feeling that the keynote, as a genre of knowledge-sharing, is an odd beast: often offered at the start of a gathering, it is supposed to set the tone for what is to follow (the 'key note' around which all others should harmonize) but usually without the benefit of knowing what the gathering will be like, beyond conference theme, titles, and abstracts. A central worry is that the keynote will fundamentally misunderstand or misrepresent what follows; that the keynote deliverer will end up a solo act, conceptually and (even worse) socially, an academic version of the nightmare scenario in which you start to sing in front of others and no one joins in. Fortunately, this worry did not materialize at Nordic DiGRA, due to the generosity and creativity of its community.

The conference theme of "interdisciplinary embraces" is timely. We are at a moment – not just in game studies, but in academia more broadly – where interdisciplinarity is often frequently framed as an imperative, and not just an opportunity. This state of affairs is not without ambivalence; as Eklund, Sjöblom, and Back point out in the introduction, interdisciplinarity is often easier to talk about than it is to enact in practice. But the possibilities it presents are captured poignantly by the assembled works in this special issue, and by the editors themselves, who enacted the conference's theme of "embracing" by choosing "to be as inclusive as possible when considering

presentations at the conference" (Eklund, Sjöblom, and Back 2024). The topical, theoretical, and methodological diversity on display in this special issue brings this vision to fruition. From AR-enabled playground escapades to acculturation processes among games industry expats, and from game development workflows to the casual misogyny of casual games, this special issue demonstrates that the "interdisciplinary project of game studies" remains timely and vibrant (Eklund, Sjöblom, and Back 2024).

I used my keynote to provisionally develop what a "postdisciplinary posture" on knowledge production in game studies, in playful deference to the conference theme of interdisciplinary embraces.[i] I now have the opportunity to book-end this project with a postscript, concluding this special issue by both reworking what I offered in the opening to the 2023 Nordic DiGRA conference, while also exploring what sorts of new beginnings are made possible by this collective work. I do so through expanding upon what a postdiscplinary orientation to games might entail, and how it might prove generative for game studies.

Articulations of postdisciplinarity are often deliberately slippery and nebulous (Darbellay 2019; Pernecky 2019). Here, for the sake of clarity, I consider a postdisciplinary posture towards game studies as one that involves an openness to and engagement with knowledge traditions that may, at first glance, have very little to do with games. The point is not to engage in empty sophistry or promiscuous theory-play. Rather, it is to understand how games are enmeshed in some of the most urgent challenges of our time, while also acknowledging that such sense-making may be difficult even within game studies' current broad interdisciplinary purview. This posture is necessarily idiosyncratic and personal, but in my case at least, it is intended to *ground* understandings of games in the broader conditions and ongoing transformations – historical, material, infrastructural – that make digital play and its manifold forms of pleasure, belonging, and communication, possible (for some). Here, ground is meant quite literally, emphasizing the importance of land, and our relations to land, in our accounts of digital play. This is particularly (though not

exclusively) important for those of us living and working on lands wrested from Indigenous populations through the still-unfolding legacies of colonialism and the extractive regimes they enacted (Liboiron 2021; TallBear 2014; Tuck and Yang 2012).

In what follows, I distill discussions of postdisciplinarity into a more straightforward account of what it involves and how it relates to the handful of other forms of disciplinary travel, blurring, and transgression. I focus primarily on how postdisciplinarity differs from interdisciplinarity. This prompts a critical reflection on *why* interdisciplinarity is so frequently positioned as a goal for academic knowledge production, and of the political economic conditions under which interdisciplinarity has become common sense. Far from a liminal and precarious mode of knowledge production, interdisciplinarity has become institutionalized. While this means that interdisciplinarity is frequently expressed through, and captured by, the neoliberal logics of contemporary academic management, it also creates possibilities for the kind of critical postdisciplinarity that I see as one route forward for game studies. This postdisciplinary posture is illustrated through an autobiographic account of play and privilege, an analysis made possible through a deliberate and reflexive engagement with scholarly traditions that engage with the politics of place and space: here, feminist cultural geography and critical infrastructure studies. In doing so, I show how enriching the soil of game studies with these knowledge traditions – which are not new, but relatively new to game studies – has allowed me to consider how digital gaming is enmeshed in some of our most vexing social and political crises.

POSTDISCIPLINARITY AND/AS PLAY

Discussions of what postdisciplinarity is, or ought to be, are most rigorously undertaken by scholars in tourism studies. This is a field with which game studies has had little engagement, despite a plethora of shared conceptual boundary objects, aside from the somewhat tired notions of 'virtual travel' that circulate in game

studies (Bjarnason 2020; Nitsche 2008). Tourism studies has had to engage with the very material legacies of colonisalism, and the relations of class, gender, coloniality and race that undergird the tourist industry, in ways that have only recently been critically interrogated by game studies scholars (Mukherjee 2017; Murray 2018; Patterson 2020). Postdisciplinarity emerges as a concern in tourism studies due, in part, to the inability for other, more discipline-bound modes of knowledge production to reckon with such legacies (C. M. Hall and Tucker 2004; Hollinshead 2010).

According to tourism scholar Frédéric Darbellay, "post-"disciplinarity is not imply a strict temporal relationship: it is not imagined as coming after disciplinarity, as if we are wandering through the "ruins of outmoded disciplinary structures" (Buckler 2004, 2; Darbellay 2016, 364). Rather, it stands in relation to disciplinarity in the same way we speak of postliteracies or postmodernism: a stance in which disciplines are still present, but do not (or ought not) exert a gravitational pull on academic knowledge production. As such, postdisciplinarity is an effort to "both capitalize on the contributions of disciplines while transforming them into new theoretical, methodological, and practical frameworks" (Darbellay 2016, 371). Thomas Pernecky, in his "unintroduction" to the edited volume *Postdisciplinary Knowledge*, describes this as a "horizontal" orientation to disciplinary knowledge with "multiple entry points and ways of assembling", in contrast to a "tiered, structured and vertical organisation of knowledge" (Pernecky 2019, 15). At times, descriptions of postdisciplinarity are characterized by a rhetoric of radical departure and emancipation from convention that is somewhat undermined by the material formats in which they circulate: Pernecky may describe his opening to the edited volume as an "un"-introduction, but it is still preoccupied with the conventional introductory work of outlining a curated collection of scholarship. In light of this, it is perhaps best to approach postdisciplinarity as an active and aspirational process rather than a state: as a *posture*, one that may be difficult to hold for sustained periods of time as the gravitational pull of disciplinary

structures (such as expectations for tenure and promotion) wax and wane.

The association between postdisciplinarity and play that appears throughout Pernecky's introduction offers a useful avenue for further consideration. Where Pernecky understands play as a "free", uninhibited, and undisciplined, a conceptual strength in game studies is its appreciation for the ambivalence and precarity of play, as an activity that frequently depends upon the labour and support of others (Harvey 2015; Kerr and Kelleher 2015; Trammell 2023b), and often involves the belittlement and dehumanization of Others (Fickle 2019; Trammell 2023a). This ambivalence is intimated in one of the most canonical definitions of play, as "free movement within a more rigid structure" (Tekinbas and Zimmerman 2003, 304). If we think of postdisciplinarity as a kind of intellectual mobility, a capacity to skip across constellations of knowledge without being pulled into the gravity well of disciplines, we must also reckon with the fact that playful mobilities – "free" movements -- *always* involve relations of power. We are well past the point in game studies where we could romanticize play as a universal human activity; under patriarchal settler capitalism, the resources for play are never distributed equally (Dyer-Witheford and Peuter 2009). Someone, somewhere, always pays for our play. In my case, and as I discuss below, the capacity to maintain a postdisciplinary posture is due in large part to my social location as a white, settler, cis-gendered, middle class man, with a relatively stable institutional home. By approaching postdisciplinarity as a kind of play that is neither innocent nor liberatory, we are able to take seriously Darbellay's assertion that postdisciplinarity is not only an epistemological stance – the unfettered exercise of an undisciplined mind, as Pernecky characterizes it. Rather, "we should take into account the institutional, social, and material conditions for its implementation and its sustainability in the academic system" (Darbellay 2016, 371).

THE INSTITUTIONALIZATION OF INTERDISCIPLINARITY

While postdisciplinarity is one among a number of terms in use for various forms of disciplinary-blurring or breaking – cross-, multi-, trans-, anti-, and so on – it is compared most frequently with interdisciplinarity.[ii] Reflecting on these differences can help make sense of a vital moment, not just for game studies – where the field's interdisciplinary status is a perennial topic of debate (Deterding 2017; Gekker 2021; Malaby and Burke 2009; Ouellette and Conway 2020; Simon 2017; Stenros and Kultima 2018) – but for academic knowledge production more broadly. This is a moment in which interdisciplinary collaboration is not only a possibility in the academy, but is impelled, at least in the social sciences and humanities. Interdisciplinarity is discursively positioned as inherently good, appearing across all manner of internal academic documents, job calls, conference outlines, calls for papers, grant applications, job applications, course and program proposals, tenure letters, and so on. It is materially instantiated in cluster hires, labs, research centers, and other sites of disciplinary mixing, blurring, and hybridization. Interdisciplinarity has become institutionalized. In what follows, my aim is to contextualize interdisciplinarity, historically and in its unfolding political economic milieu. This allows us to then situate the discussion about game studies' interdisciplinary status, and clarify what might be at stake in the vibrant discussion – outlined and extended by the introduction to this special issue -- of how (and whether) game studies ought to 'do' interdisciplinarity.

As it is understood and practiced in contemporary academia, interdisciplinarity involves a cyclical motion of scholars away from their home discipline and back again. Perhaps this means you go to DiGRA to see what other game studies scholars from other backgrounds are up to, even as you find a greater sense of belonging amongst, say, other historians, or literature scholars, or sociologists. One quotidian, albeit suitably playful, metaphor to illustrate the difference between postdisciplinarity and interdisciplinarity lies with LEGO.[iii] We can imagine a group of LEGO enthusiasts, who agree to

come together to build something that can solve a particular challenge; for example, building a bridge. In an interdisciplinary arrangement, each of the LEGO enthusiasts involved exclusively collects sets from a different 'theme', or product line: one may be an avid *Star Wars* enthusiast with its monotone palette of spaceships, while another may gravitate towards the pastel-drenched ingenuity of Friends sets. They each contribute a few pieces from their collections, perhaps exchanging techniques for putting pieces together. The result is an artifice that, while collaborative, still clearly bears the imprint of multiple, separate collections of techniques and bricks. After the session is done, the builders sort and gather their pieces and return to their respective homes, perhaps with a couple new ideas for how to assemble the bricks they have. A postdisciplinary approach would instead involve each collector dumping all their pieces on the table, mixing them all up together, and collectively deciding how to combine them in novel ways in order to do the work of bridge-building. At the end of the session, each collector has had their collections fundamentally transformed.

Like a LEGO enthusiast who only collects one particular product line, interdisciplinarity presumes that the researcher retains an intellectual and institutional home to which they return in between bouts of interdisciplinary exchange. Such bouts may be as brief as an academic conference or as sustained as a research cluster, but in each instance, the logic of cyclical departure, exchange, and return remains constant. Interdisciplinarity is premised on keeping the disciplines firmly intact, and maintaining their status as central apparatuses of training, specialization, and belonging. For this reason (among others), interdisciplinarity is a frustrating proposition for scholars seeking a more foundational recalibration and democratization of academic knowledge production. Felix Guattari, for instance, found interdisciplinarity to be "subject to an institutional orthodoxization and normopathy" that amounted to intellectual tourism rather than anything more intellectually or politically transformative: for Guattari, interdisciplinarity thus amounted to an *abracadabra* word deployed cynically by many pretenders" (Genosko 2003, 129).

Proponents of interdisciplinarity tend to draw from two distinct justifications: what we can term a *reparative* rationale, on one hand, and a *performative* rationale on the other. A reparative justification for interdisciplinarity sees it as a key strategy for addressing the vexing, multiscalar challenges that are too complex and/or too monumental to be effectively solved by any one discipline acting in isolation. The solution for mending a broken world is to contribute our various specialized knowledges. This forms the impetus behind the proliferation of interdisciplinary fields, beginning in the mid-20th century and continuing into the present (Darbellay 2016, 364): Cultural Studies, Media Studies, Gender Studies, Food Studies, Science and Technology Studies, Tourism Studies, Game Studies, Interdisciplinary Studies, and so on. The ascendancy of neoliberalism in academic governance has brought the second rationale for interdisciplinarity – a performative justification -- to the fore. The term is provided by Jean-Francois Lyotard, describing the fundamental shift in scientific knowledge well underway by the late 1970s, (when *The Postmodern Condition*, his report on the "condition of knowledge" for the Quebec Council of Universities, was written; (Lyotard 1984). Lyotard outlines a confluence of numerous transformations including the rise of digitization, the emergence of a neoliberal economic order, and well-placed mistrust of Enlightenment ideals of progress, combining to create a crisis of legitimacy for higher education. Emerging out of this crisis is a university increasingly realigned according to the logics of free market liberalism, in which the "performative" function of science --- its capacity for economic productivity – replaces the search for transcendental truth (Lyotard 1984, 41–51). Universities exist to train workers for jobs in a digitized economy, and to produce quantifiable outputs that can help drive an economy that runs on the proliferation of information (and, now, data). In a performative rationale, which has only become more intensified under the platformization of higher education (G. Hall 2016; paperson 2017), academic disciplines continue to serve a useful function, but ought not become barriers to the generation of quantifiable outputs: papers, citations, grant applications, university rankings, recruitment numbers. For the

ballooning and well-compensated university managerial class, interdisciplinarity becomes a key technique in ensuring greater productivity , which – under a neoliberal logic – is the same thing as making the world a better place (Giroux 2014).

It is certainly not the case that reparative and performative rationales for interdisciplinarity are mutually exclusive; after all, fields of study (and, for that matter, individual scholars) explicitly embracing a reparative logic must also, always, worry about performativity. Under current conditions, it's hard to argue for the legitimacy and importance of a field if it fails to attract students, citations, grant funding, or public interest. That said, it is important to note how some of the more well-circulated commentaries on game studies' relation to disciplinarity seem to unproblematically rely on and reproduce a performative rationale. Sebastian Deterding, who offers one of the more generative discussions of game studies' interdisciplinarity and the tensions it produces, argues that game studies scholars should align themselves with fields that are more oriented towards performative priorities, such as HCI or design (Deterding 2017) – forgoing the fact that these fields often struggle to embrace critical and social justice related approaches (Fox et al. 2016). According to this line of reasoning, game studies is interdisciplinary, but perhaps not the right *kind* of interdisciplinary: too much of a critical and reparative focus, and not enough emphasis on productivity. In contrast, the introduction to this special issue embraces both the performative and reparative justifications for game studies' interdisciplinary ventures: offering scholars (and particularly, junior scholars) an avenue to find generative collaborations with other folks interested in games, while also, crucially, remaining "open to new influences, allowing formulation of novel research problems that might not fit our current formulation of what game studies is and is not" (Eklund, Sjöblom, and Back 2024).

GOING TO GROUND

In contrast to the birds-eye view on the field offered by Deterding and other scholars concerned about the field's interdisciplinary status, the postdisciplinary approach outlined here is resolutely personal, situated, and grounded. I offer it less as a prescription and more as a possibility space – one that is afforded by a critical mass of interdisciplinary work, including the scholarship gathered in this special issue, rather than a radical departure from interdisciplinarity. For this reason, my postdisciplinarity posture will be resolutely different from that of others, due to social and institutional location, career conditions and pressures, and one's own understanding of where the reparative work in and around games is most urgent. In a forthcoming book called *The Grounds of Gaming,* I suggest that we might gain some traction towards reckoning with gaming's long-standing injustices if we attend to the material contexts and infrastructural conditions that make play possible (Taylor 2024). The "new influences" that I engage in the book include, among other knowledge traditions, anticolonialism, critical infrastructure studies, and cultural geography: all interdisciplinary fields explicitly foregrounding reparative goals, and all centrally concerned with understanding the histories and contemporary politics of our relations to land.

The consideration that I borrow from this larger project for consideration here centers on a ritual that I shared with a friend of mine, when our two families lived close together in our former home of Raleigh, North Carolina. My partner and I moved into the rapidly gentrifying neighborhood of Boylan Heights in 2014, months after my friend and his partner did. Our child was born five weeks after their eldest and like many neighbours who are also new parents, we fell into a fast friendship. Every so often, after our children's bedtime, he and I would meet in my kitchen, where I would set up an ad hoc gaming station on my kitchen counter. We initially landed on this specific location out of sheer convenience: I had the gaming equipment, and our kitchen island was within range of both our baby

monitors. The gaming setup consisted of a PS4, a small computer monitor, and a portable speaker. He would bring beer and I would provide salty snacks.

We jokingly referred to these sessions 'mancounters' and inevitably, the name stuck. These sessions took place on a kitchen counter, after all. The name carries further semantic weight: it combines "man" and "encounter", invoking so many other transient sites of homosocial and homoerotic ritual between (predominantly white) men, from locker rooms, to frat parties, to sporting events (Sedgwick 1992; Ward 2015). It is also a self-deprecatory play on "man cave", those spaces of masculine leisure and bonding carved out from the fabric of the middle class, and again most frequently white, North American home with all its feminizing / feminized place-making (Rodino-Colocino, DeCarvalho, and Heresco 2018). In practice, however, the mancounter held very little in common with the man cave. If the latter is a stable space of masculine seclusion and escape maintained through both misogynistic gatekeeping and privileged relation to leisure time, the mancounter was characterized by its ephemerality and precarity – momentarily occupying a central space in not one but two domestic media arrangements (again: it needed to be within range of two separate baby monitors). It was designed to be set up and taken apart with minimal work, and without a trace; it existed within the seams of mine and my friends' roles as active caregivers and considerate partners. Intricate conditions had to be met in order to hold a mancounter: after our child's bedtime, no urgent demands from work or family, the approval of our respective partners and the assurance that we would be 'on call' should the baby monitors start chirping. While we occasionally tried party games like *Gang Beasts* or arcade-style sports games such as *NHL Hitz,* the titles we gravitated towards most were FPS games such as *Titanfall 2, The Division 2,* and *Battlefield I.* These are games that plainly draw from the well-worn and well-studied tropes of "militarized masculinity" (Blackburn 2018; Eichler 2014), but for the mancounter, these games' aesthetic and ideological aspects were far from the only draw. Crucially, these games make use of control schemes with which my

friend and I were both familiar, and recalled the kinds of gaming experiences out of which those embodied competencies first grew: places and periods in our past lives when we had more time to play.

As a site of scholarly interest, the mancounter could be analyzed any number of ways from within game studies' current interdisciplinary purview. These approaches include, but are not limited to, interpretations of the games' representational politics; positivist investigations into our self-efficacy, immersion, or ability to navigate three-dimensional spaces; formalist analyses of the rules, mechanics, and interface elements; critical accounts of the techniques of monetization and surveillance coded into the platform; speculative theorizations about the flows of affect, agency, pleasure and frustration that circulate between the provisional arrangement of the mancounter. Such considerations are of course just a sample of some of the more well-established and central preoccupations of game studies, and they tell us much about the alluring and problematic circuit between players, games, and platforms. At the same time, they tell us little about the *conditions* that allow the mancounter to come into being. Indeed, for us as players, the games were not really the point. They were eye- and thumb-candy for the mancounter's underlying purpose: a way for two white, cis-gendered new dads to bond over shared life experiences and a shared history of having played similar kinds of games, with other boys and men, in other times.

MAPPING THE MANCOUNTER

When approached as a place-making ritual of homosocial nostalgia and belonging, the mancounter invites us to shift our attention away from the dialogue between player and game – set of relations that constitute the predominant "figure" of game studies – and instead ask about the grounds. By this, I mean the spatial, material, and infrastructural arrangements that made the mancounter possible, not to mention countless other gaming experiences.[iv] Such arrangements might reveal much about the contemporary cultural politics of digital

gaming, and about the relations of power and the conditions of privilege and oppression that video gaming engages and transforms. Part of the scholarly significance of the mancounter (however minor) is in how it departs from other domestic media arrangements intended for masculine leisure. Such sites can be traced back at least as far as the "curiosity cabinets" of Renaissance Europe (Williamson 2019), but this genealogy comes into sharper relief in the decades following World War II, with the "white flight" of the white middle class to the suburbs (Trammell 2023b). As scholars of media domestication so adroitly point out, the central domestic arrangement promoted by media industries positioned the television as the "glue" for white surburban domesticity, but also as a passive and feminizing medium (Spigel 1992). Men were encouraged to carve out spaces and times for properly masculine media within the feminized domain of the home, in the form of elaborate high fideility stereo setups – laying the foundation, discursively, and materially, for contemporary man caves as well as space- and time-sucking gaming setups (Harvey 2015; Keightley 1996; Taylor 2022; Williams and Tobin 2022).

According to feminist media theorist Sarah Sharma, these dedicated spatio-temporal media apparatuses can be characterized as domestic machines for the uniquely masculine fantasy of exit (Sharma 2018). The man cave and the hardcore gaming setup alike are both sites intended for sustained immersion – not in virtual space, but in the not-so-magic circle of a media apparatus made for them, in which men and boys can find freedom from both domestic obligations and political correctness. This is the historical set of cultural politics that the mancounter engages, even as it tries to be a little more careful and respectful. In fact, the mancounter could only come into being because my friend and I had both played a lot of games growing up, and had access to the kinds of spaces, leisure time, and technological infrastructures that are required for the cultivation of "gaming capital" (Consalvo 2007). Even while it engages a more progressive politics in which the work of social reproduction is slightly more equitable, the mancounter builds upon foundational experiences with co-located gaming, in dorm rooms, parents' base-

ments, friends' houses, and so on; these histories were made possible in part because my friend and I belong to a racial, gender, and class demographic that has consistently been *the* target audience for video games and game systems.

Along with these more intimate gendered power relations that make the mancounter possible, we might also incorporate a cultural geographer's sensitivity to the ways that hierarchies of class, race, and gender are concretized through our built environments. These relations are experienced as access to and use of key infrastructures, understood as systems for the storage distribution and storage of vital resources – in other words, as the kinds of mobilities and 'freedoms of movement' available to us and that cater to us. Here is a brief but evocative audit of the infrastructural privileges, and the associated forms of mobility, that the mancounter relied upon: access to current-gen gaming consoles and monitors, as well as fast and stable Internet connectivity; white collar jobs that allowed both my friend and I considerable control over our time; and, once my friend and his partner moved their family to another neighborhood in Raleigh, the ability to travel through an urban setting, at night, without fear of harassment or violence.

Indeed, shortly after they moved, my friend's new neighbourhood was featured on the front page of the *New York Times* (Badger, Bui, and Gebeloff 2019). According to the article, the neighborhood epitomizes the racial dynamics of home sales in gentrifying areas of the southeast US, as prior to the pandemic, white professionals moved back into cities lured by short commutes and hip microbreweries, often forcing out long-time Black residents. The mancounter was made possible through geographical intersections of race, class, gender, intersections that quite literally became a poster for gentrification. The relatively unfettered mobility and bodily autonomy we enjoyed by simply traveling by bicycle or foot, at night, between two downtown neighbourhoods represents a nexus of privileges not easily afforded to women, African Americans, the disabled, and the urban poor (Massey 2013; Nicholson and Sheller 2016; Sheller 2018).

These are some of the considerations made possible through a

postdisciplinary posture on gaming: one that attends to the scale-defying dynamics of place and time that allow for a seemingly mundane gaming moment between friends.

POSSIBILITY SPACES

Edited collections such as this one largely represent the multidisciplinary and interdisciplinary efforts of its individual contributors. Even when not guided by a reflexive attention to interdisciplinary and a concern for inclusivity as this collection is, this kind of venue is absolutely central to a field like game studies, as it offers scholars a chance to experiment with and/or rehearse perspectives that are novel – either to them, or their discipline, or the field. Such is certainly the case with several of the contributions here. Marie Dalby's keen and artful application of Sarah Ahmed's queer phenomenology in order to map the "orientations" of queer game studies is a key example, as is Holger Pötzsch, Therese H. Hansen, Emil L. Hammar and Tobias B. Staaby's efforts to incorporate institutional and infrastructural conditions into a theoretical model of gaming's pedagogical applciations, and Annakaisa Kultima, Riina Ojanen and Niklas Nylund's inclusion of developers' personal histories into what gets included and what matters when looking at how a game develops over time. There are more, of course. The point is that these eclectic and boundary-pushing interdisciplinary efforts of individual authors and teams produce rich soil for nurturing the critical and playful postdisciplinarity I gesture towards here.

Proponents of postdisciplinarity position it as a radical break from disciplinary modes of thinking and working: as a de-disciplining. I am less inclined towards this kind of oppositional stance, in part because I recognize the valuable support that disciplines offer, particularly to young and/or emerging scholars for whom sustained disciplinary boundary-crossing – say, publishing primarily in game studies venues rather than in those in their disciplinary homes -- might represent a risk to their career prospects. I imagine that this is why, when the panel members collectively constituting the junior

keynote at Nordic DiGRA were asked whether they see themselves as postdisciplinary, they politely shook their heads. When envisioned as either a radical departure from disciplinary forms of belonging and support, or as an individual stance that can be adopted in isolation and through sheer act of will, postdisciplinarity makes little sense. Rather, the postdisciplinary posture towards game studies that I emphasise here is gentler, and perhaps more subtle. It is an emergent property of interdisciplinary collaboration, when accompanied with both a deliberate effort to ground a critical study of games in an understanding of the manifold crises we face, and a reflexive stance on the constraints that disciplinarity (and interdisciplinarity) impose on such efforts. It is an effort to make disciplinary specializations, discourses, and resources work for us, in our collective efforts at making games (and game studies) more equitable and inclusive, rather than the other way around.

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i. Frédéric Darbellay first used this phrase, in passing (Darbellay 2019).

ii. A full reckoning of the differences and continuities across these positions is

beyond the scope of this postscript. Readers are encouraged to once again consult Frédéric Darbellay's work for a concise overview (Darbellay 2016, 365).

iii. For a useful discussion on LEGO's utility as an epistemological tool — its conceptual plasticity — see Kate Maddalena's work (Maddalena 2021)

iv. This intentionally invokes Marshall McLuhan's use of the figure/ground motif from gestalt psychology, which he uses to draw attention to the spatial and temporal transformations wrought by new media rather than their representational content (McLuhan 1964; Sharma and Singh 2022)

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