4. CREATIVE-RATIONAL TENSIONS IN GAME DEVELOPMENT

A DANISH CASE STUDY ON TEAM COLLABORATION

MARK STAUN POULSEN AND HANNA WIRMAN

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 understanding 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'.

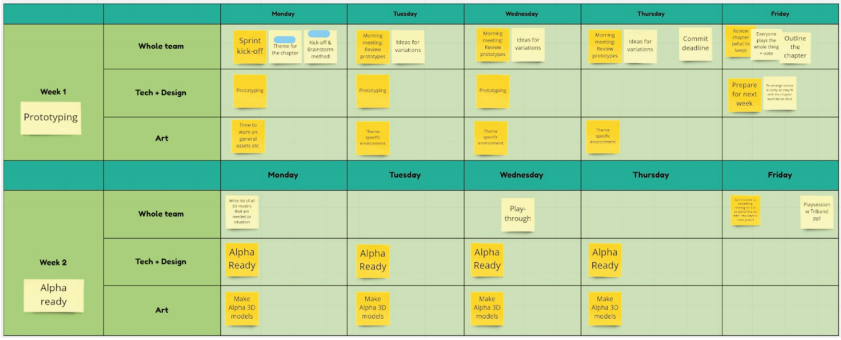
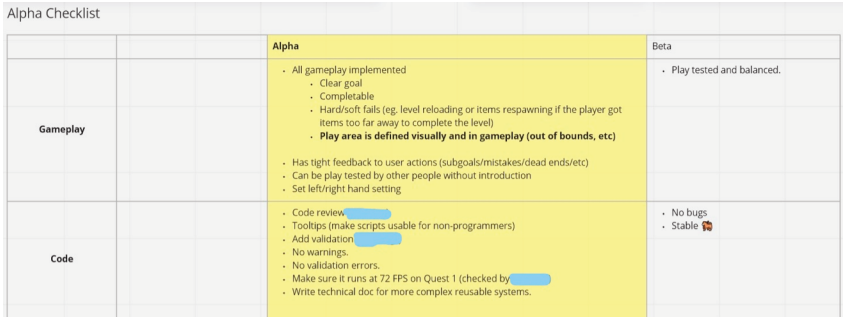


Figure 1: *The development cycle schedule presented in Week 1.*


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 • Tooltips (make scripts usable for non-programmers) • Add validation • No warnings. • No validation errors. • Make sure it runs at 72 FPS on Quest 1 (checked by • 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.

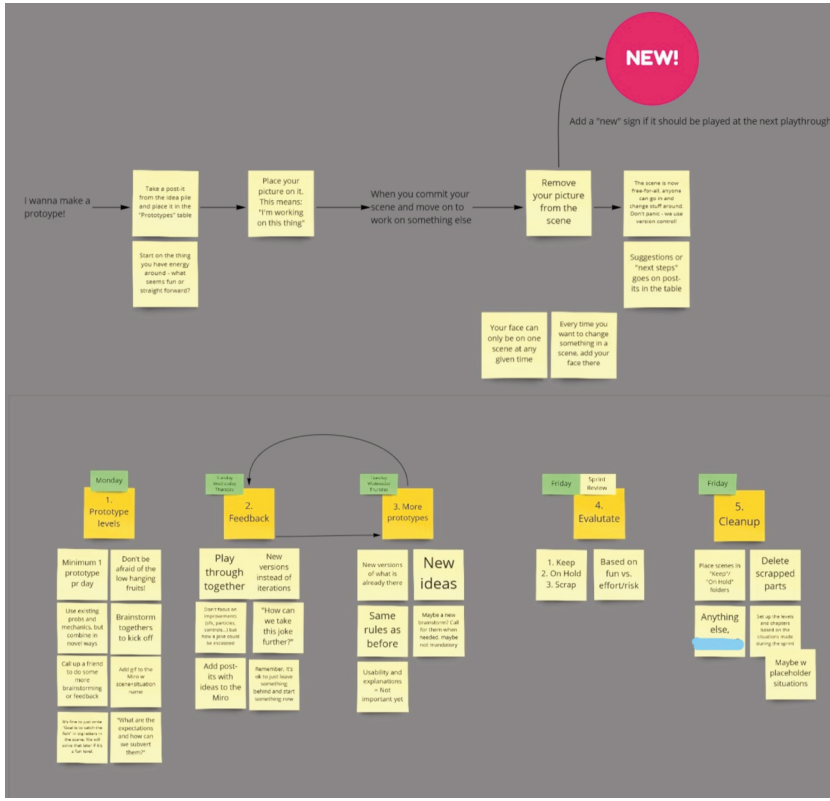


Figure 2: *A snippet of the Alpha Checklist with criteria for review.*

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.*

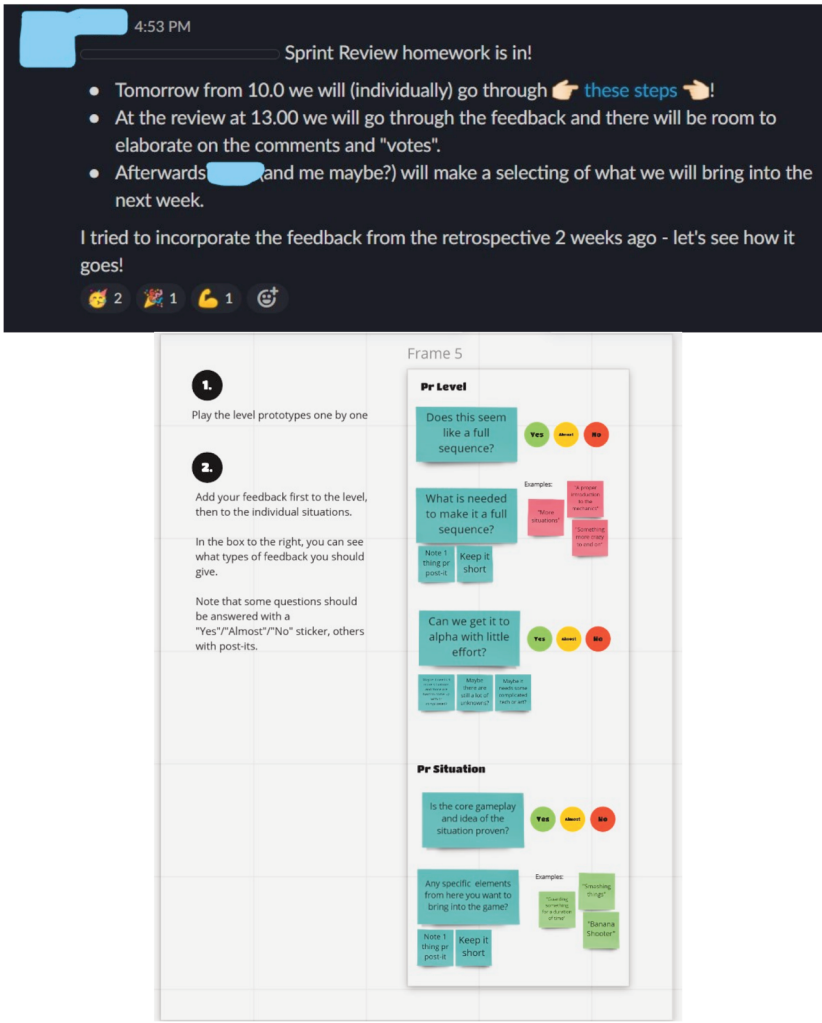


Figure 6: *The procedure for evaluating prototypes in the Home Sprint Review.*

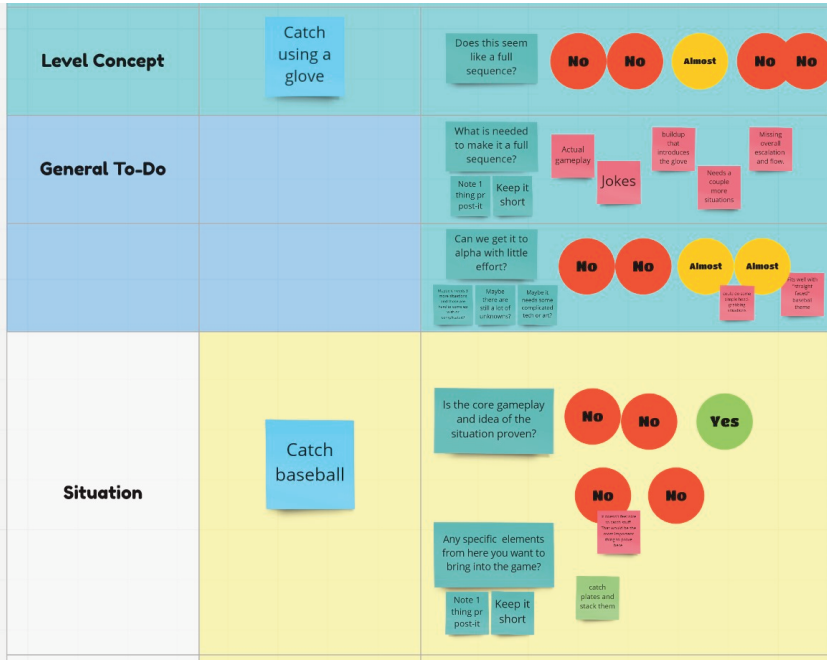


Figure 7: *By emphasizing a distinction between levels/sequences and situations, members were able to express their votes accordingly.*

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.

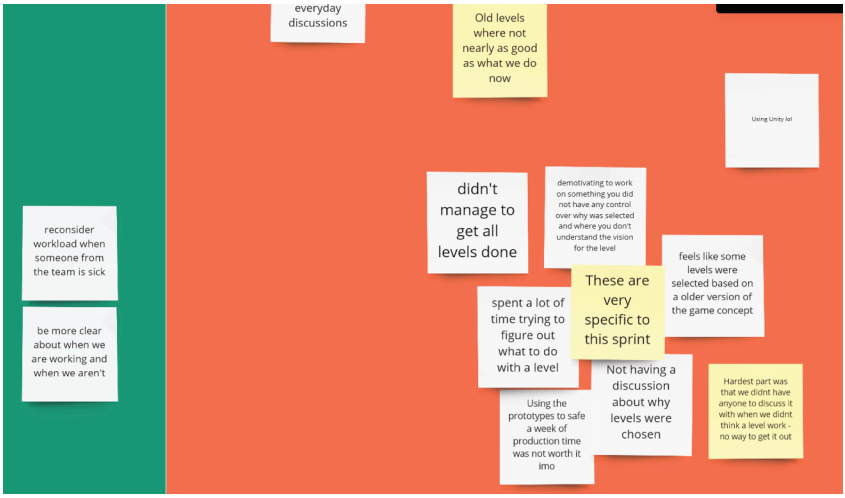


Figure 8: *Notes from Week 7 reflect a troubled week of development.*

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.

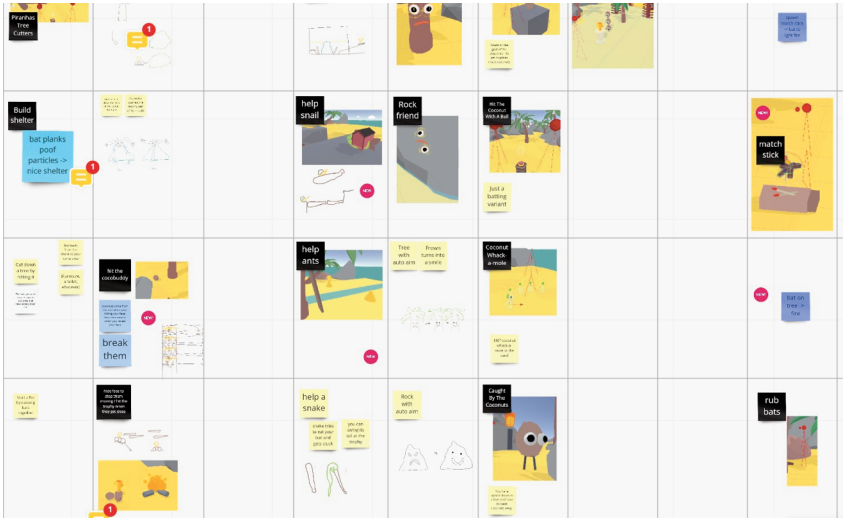


Figure 9: *This live board began with drawings, but was covered with images once digital prototypes had been made.*

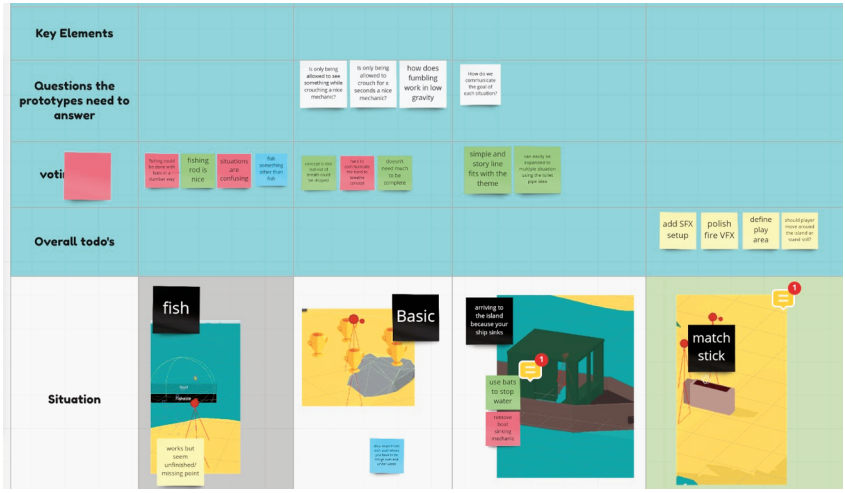


Figure 10: *During the halfway Sprint Review, members loosely evaluated the levels and wrote the coloured post-it notes, but they didn't vote to deselect levels.*

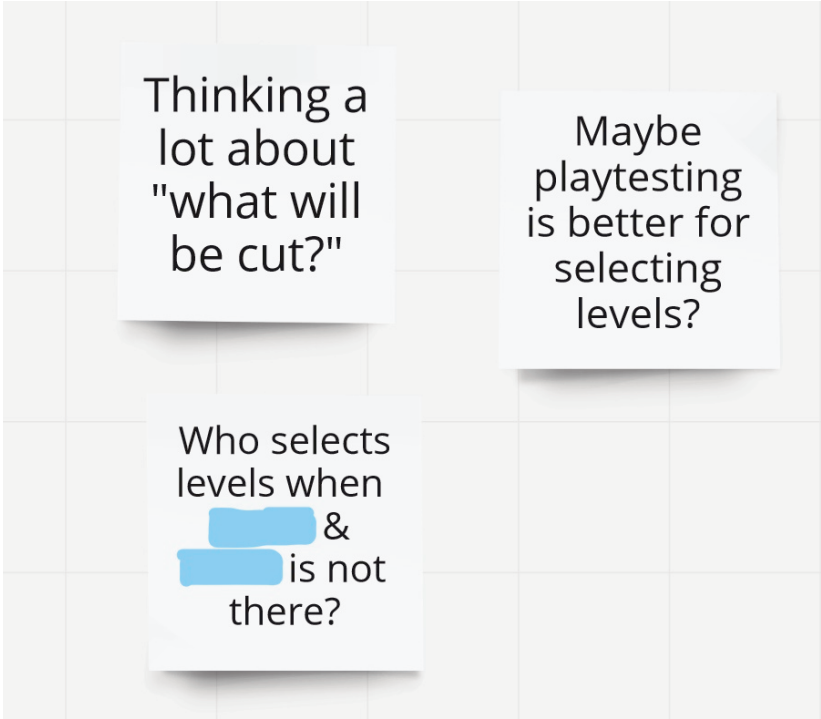


Figure 11: *The project lead noted these topics from the discussion.*

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.