
Game (Not) Over: The Design and Experience of Positive Experiences of Failure in Games

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Doctor of Philosophy
University of York
Computer Science
September 2024

Abstract

This thesis examines the role of failure in video games. More specifically, it focuses on positive, desirable player experiences of failure in video games, and the challenge of designing them during the game design process. With the stance that player perspective and game design are always in dialogue with each other, this research adopts both positions through a qualitative and a research through design approach.

This research first examines what we mean by ‘failure’ in video games, at a time when games offer very different experiences to players. It explores the player perspective through an exploratory study focused on identifying positive experiences of failure, and the game designers’ perspective through an interview study focused on identifying the challenges and opportunities game creators face when tackling this design challenge. It then shifts to design, with the creation of a toolkit meant to support game designers and developers when addressing the design of failure in their game. The creation of this toolkit provides in depth insight into the process of designing such support toolkits for game design, and into the process of re-framing the concept of failure as designers, for game designers. Finally, this toolkit is put in action in a series of game design workshops, offering a new, moment-to-moment perspective into the process of designing failure in games.

This thesis argues that failure is a highly contextual, personal experience for players, and that while there is no single flawless formula to design it, we can provide game designers with keys to address and unlock its potential by raising the right questions and contextualizing it critically within a game’s gameplay loop, narrative, and intended design pillars.

Acknowledgements

When I was 17, my philosophy teacher, Mr Clément, delivered the single most valuable lesson I ever retained from my formative school years: 'no matter where you think you're headed, I guarantee you, in ten years, you will be anywhere **but** where you think you'll be right now'. Mr Clément was right. Never would I have then imagined that, fourteen years later, I would be bringing the final touches to a PhD thesis. Ironically considering the topic of this thesis, I've been scared of failing. A lot. And yet, here we are. At the finish line. Wherever that is.

Many thanks to Ben Kirman, my supervisor and academic rock, always ready to take a baseball bat at my moments of self-doubts, big and small, justified and unjustified, and to encourage me into the weird and the experimental part of research in a sea of rigorous computer scientists ; to Jo Iacovides and her hawk eyes boring holes into my research but only ever to make it stronger and better ; to the IGGI cohort at large, but especially at York, for making the moments of madness feel more bearable ; to Nathan, for the unwavering support and endless encouragements and friendship ; to Laura, G, and Joe, the best friends I could have wished for for the past four, soon five years. And of course, my parents, and their unrelenting support throughout. A very special acknowledgement also goes out to the game designers and developers who offered their time and expertise throughout this research, the ones who remained anonymous, and the ones who didn't: Alexander Swords, Ben Kerslake, Claire Morwood, Greg Kasavin, Joerg Friedrich, Luna Javier, Lucas Pope, Marta Fijak, Olivia Wood, Jon Ingold, Jordi De Paco, and Madalena Grattarola. None of this research could have happened without them. Literally.

And now, to take a very, very long nap.

Charline Foch,
London,
August 2024.

Author's declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for a degree or other qualification at this University or elsewhere. All sources are acknowledged as references.

This work and that of the entire thesis was supported through the EPSRC-funded Centre for Doctoral Training in Intelligent Games and Game Intelligence (IGGI)

Chapter 4 is based on the following conference paper.

Charline Foch and Ben Kirman. “Slow down and look”: Desirable aspects of failure in video games, from the perspective of players. *FDG '21: Proceedings of the 16th International Conference on the Foundations of Digital Games*, pages 1-10, Montreal, Canada, 2021. [63]

Chapter 5 is based on the following conference paper.

Charline Foch and Ben Kirman. “The game doesn’t judge you”: game designers’ perspectives on implementing failure in video games *FDG '22: Proceedings of the 17th International Conference on the Foundations of Digital Games*, pages 1-13, Athens, Greece, 2022. [64]

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Introduction

"Is this the survey where I talk about how PUBG makes me want to throw my computer out the window?"

I launched my very first study for my thesis at the height of the COVID-19 pandemic; the country on lockdown, myself with my landlady, her three lovely cats, and a gnawing doubt in my stomach: who would make the time to complete a survey on failure in video games, thrown out to (then) Twitter like a message in a bottle out to sea? The above quote was the beginning of my answer - a seemingly disgruntled (or amused?) gamer with tales to tell about PUBG. Encouraged, I went to bed, hoping that I would get lucky, that people would see in this survey a brief respite from their lockdown anxieties. I was hoping for 20 responses - 30, maybe, if I were optimistic. It was, after all, an open-ended questionnaire. People famously get bored if they have to write too much text, don't they?

I woke up the next day to over 180 responses. Most of them, complete, no text box left empty.

What I concluded, after frantically emailing my supervisor to tell him the news and ask for advice (the newly minted PhD student that I was was wondering if there was such a thing as too much data), was that people seem to have a lot more to say about failure than even I initially thought.

Where I had anticipated to study and research a niche area of gameplay few people would take an interest in, to struggle with data collection and dissemination, I was very quickly proven wrong. Failure in video games is certainly a niche topic, a staple of gameplay as much as it is an oddity, but it is a niche oddity that everyone, from my now near five years of research experience in it, has opinions on. Telling people about my research topic is always a great icebreaker: upon hearing it, everyone (and I mean *everyone*) has an anecdote to share about a particular boss they could not defeat, a level they could not complete, or asks me if I have played Dark Souls. Even my grandfather chipped in over a family dinner, nodding approvingly while arguing that my research would maybe help people who are addicted to video games (his reasoning being that failure is one of the things that taunts players into trying again and again, and falling into patterns of addiction). While Christmas dinner was not the most appropriate place for a debate on video game addiction, I did find it fascinating that even an 80-year-old retired physicist with no experience in video games had something to contribute to the discussion.

Crucially, games (both analog and digital) are the only form of entertainment where failure can be part of the experience. Literature, film, theatre etc can expose us to experiences of tragedy and negative emotions [150] but the reader or viewer never really has an input in any of the text's possible outcomes - if they do, they very actively borrow from games structures, such as interactive theatre or interactive films/series like Netflix's attempt at blurring media with *Bandersnatch*. Failure is a feature exclusive to games, which prompted Jesper Juul to call games 'the art of failure' [94].

And while not all games include fail states (an important nuance we will return to throughout this thesis), failure is a staple of the medium, something players expect to find in most games. Furthermore, and crucially, some video games are notorious for using failure to push the boundaries of game design and player experience. When talking about failure, one would be remiss not to mention the Soulsborne 'genre': the *Dark Souls* and *Soulsborne* franchises, known for their difficulty and for weaving failure into their gameplay, to the point of making it a central feature of the experience. Freitas uses the phrase 'failure as design' [68], aptly describing games that have harnessed failure as a resource, rather than only a consequence, for both the game design and the players who engage with those games: a resource to further a game's themes, convey specific emotions, and reinforce a narrative or experience. In the case of *Dark Souls*, Andriano argues, the game "formalizes an agency model based on learning to enjoy failure and the unresolved fragmentariness of the gameworld's meaning" [9]. In other words, difficulty and failure (two devices closely intertwined in the Soulsborne genre) are means to instill a sense of helplessness, powerlessness, and uncertainty that constitute the core of the harsh, merciless, desolate world players explore throughout the game [9].

Dark Souls and Soulsborne games were the first examples of games that seemingly leverage failure I was exposed to as I started this research. Quickly, I began to wonder if other games did the same thing, or did it differently. What about narrative-driven games, where failure is sometimes an unavoidable part of the narrative? What about games that may not explicitly mention failure or make it an overt mechanic like *Dark Souls* does, but hint at it as a theme in their narrative? What about players finding failure in their own

interpretation of a game? One of the most thought-provoking player takes I have read over the course of my research, comes from a Reddit thread, in which a fan of *The Legend of Zelda: Breath of the Wild* shares these thoughts on the game's story:

"You, in this game, are a failure. Zelda is a failure. That's the starting point. She failed to access her holy powers until it was too late - the kingdom had all ready fallen. The Champions are failures, and so is Link. You lost. [...] And that's where the game starts. That's interesting, because that's normally the bad ending of a video game. That's normally where a story stops, or simply isn't allowed to go. Everything is gone. Everyone you knew. Ganon is going to destroy everything - but what's the point of fighting that? Everything you knew is all ready gone. In order for a character to face that question, they likely have to come to terms with that failure, accept it, and move on. In BotW, you don't save the kingdom, the kingdom is gone. You persevere despite that, and fight for a new beginning, for yourself and others, and you win in the end because you didn't let the end be the end. Breath of the Wild asks the question - what happens after the bad ending?" [38]

The breadth of experiences and interpretations between *Dark Souls* and *Breath of the Wild* illustrates the guiding principle behind my thesis: failure is a broad subject, that leaves considerable freedom of interpretation far beyond the quantifiable binary of success and failure, of beating a level and player death. It also begs the question of the relationship between design and player experience: while game studios typically have game designers, combat

designers, level designers, etc., there is no such thing as a 'failure designer' or a 'fail state designer'. This begs the question as to where failure sits in the design process: how, and when in the game design process are decisions made in order to create an experience like *Dark Souls* offers, with failure as design, or to create a story after the story like *Breath of the Wild* does?

Game designers create experiences meant to be played by players. Thus, design and player experience, designers and players, are inseparable. To truly understand how failure operates in video games and its impact on the player experience, both angles needed to be accounted for. This constituted the foundation upon which my research was based, and the research themes it was built around, namely: **what failure is in games, how it exists within the ecosystem of a game as a contributor to player experience, and how game designers work out how it should sit in their games, given the multiplicity of possibilities available to them, and players' expectations and literacy.**

This thesis addresses these questions, framing them from the angle of player experience as well as the angle of game design. It is rooted in player experience as much as it is rooted in the actual production and making of games, taking an exploratory approach to paint a player-based landscape of what players understand or interpret as failure, what they conceptualise as its contribution to gameplay, and in what situations they find it desirable. It also takes an exploratory and experimental approach to examine the game design process at a granular level to understand how game designers approach the challenge of designing failure into their games, in ways failure supports their design intentions and the intended gameplay.

Throughout this thesis, and in particular in chapters 4 and 5, readers will encounter the terms *desirable failure* and *meaningful failure*. I use these two terms to respectively refer to desirable players experiences of failure, and the meaningful design of failure:

- Desirable failure is the term I use to discuss experiences of failure video games players, in my research, have identified as positive experiences, experiences of failure they wish to experience in the games they play. These desirable experiences take many different shapes, and vary from one player to another, deeply rooted in each players' subjective experiences, preferences, and personalities. They are rich and enriching experiences, derived from design decisions shaping failure in specific ways that, in turn, affect the players.
- Meaningful failure, on the other hand, is the term I use to discuss those design decisions. It is the purposeful design intent and how game designer give it shape in their games, the decisions dictating whether failure will translate into a game over state, a character death, narrative consequences, or have no consequences at all; or whether failure should be frustrating, sad, puzzling, or funny. Meaningful failure is the form failure takes in the hands of the designers when they integrate it into their game's world and into the intended player experience.

Below is a breakdown of this thesis' structure, offering an overview of how these questions were addressed.

The **first chapter** of this thesis is this introduction. The **second chapter** is a literature review, aimed at setting the theoretical background and

knowledge base that informed this research, and crucially, informing and formulating the research questions, which are fully phrased out at the end of the chapter. It first focuses on defining failure, with a particular dual focus on failure as defined within video game systems and how scholars have situated it within the procedural rules of computational gameplay, and on failure as defined by players themselves. A notable challenge of this literature review was that failure in and of itself rarely constitutes an object of study: rather, it is often a component identified within other topics of research, such as challenge, difficulty, etc. This literature review brings failure to the forefront of the discussion. It also explores how failure, as defined within those systems by scholars and players, has previously been identified as affecting the player experience, namely as a learning tool, as component of challenge, and, more recently, as a component of play that can contribute to emotional experiences in videogames - albeit, again, the literature does not focus on failure as much as it mentions it while discussing a different related topic. Lastly, this literature review lays the groundwork for investigating the design of failure in games, exploring how videogames and how they present or use failure is in constant evolution, and what a challenge it is for game designers to approach, especially from an innovative standpoints. This literature review continues into the **third chapter**, with a statement outlining how I proposed to reconcile the player experience and game design perspectives, by combining 'classic' research grounded in qualitative research methods, with research through design.

The **fourth chapter** sets up the perspective of videogames players and how they conceptualise positive, desirable experiences of failure. This re-

search was performed by conducting an online survey with open-ended questions, so as to collect player experiences and opinions phrased in the players' own words and ideas. By taking on this exploratory approach, the goal was to let players discuss failure in their own words and terms, regardless of my own ideas and conceptions of failure. This was necessary in order to capture rich and nuanced experiences not influenced by my own understanding of failure in games, as someone who may play very different games, or play them very differently from respondents to the survey. Through this research, I identified three main themes around contexts and functions of failure where failure contributes to a positive gameplay experience: when failure is used as a *learning* tool, when failure is a *social* experience, and when failure is an *affective* experience. While some of these learnings echo the existing literature, it offers a very in-depth, player-driven investigation of these experiences. Instead of offering definitions of failure, it situates it in the contexts in which it operates - highlighting failure's highly contextual, personal, and subjective interpretational nature.

The **fifth chapter** turns to the perspective of game designers, and how experienced practitioners have approached this specific game design challenge in their own work. This was done by conducting a series of interviews with creatives in various independent game studios and solo game developers, looking at specific examples from their work. The choice of participants for this study was very deliberate: I identified a list of games that I knew, from my personal experience and from literature and game journalism, had made innovative or notably creative uses of failure, and contacted the studios and developers behind those games. The result of this choice is a very

granular, meticulous post-mortem investigation of specific and purposefully chosen titles, with the unique perspective of the creatives who came up with the design decisions made in order to create these unique experiences of failure. Through these interviews, I identified the *high level constraints* those creators had to contend with while approaching the design of failure in their games, as well as the *low-level design solutions* they came up with to address those constraints. This study offered the perspective of 'the other side of the mirror', so to speak - responding to and complementing the findings in the previous chapter by offering the unique perspectives of those who attempt to create those positive, desirable experiences of failure, despite or thanks to the challenges it poses.

Having established failure as a complex component of gameplay that is highly contextual and can be interpreted differently by different players, the **sixth chapter** investigates how it is possible to navigate this design challenge by leveraging design strategies. A design problem may require a design solution: the solution I propose in this chapter is the creation of a cards-based design support toolkit, named Game (Not) Over. Using the findings of the three previous chapters, deconstructing and reframing it to inform the design of a toolkit, I outline the process behind the design of this toolkit. This chapter breaks down this design process from the ideation stage through to the creation and informal testing of several prototypes, to the final version of the toolkit which can be found in the supplementary materials. This detailed breakdown of the design process constituted a major step in deconstructing and reframing the idea of failure as I had understood it until then, re-phrasing it according to game design needs and priorities.

The **seventh chapter**, the penultimate of this thesis, brings the four other chapters together by getting game designers and developers to engage in a series of individual design workshops centered around the idea of failure, using the Game (Not) Over toolkit. Through these workshops, game creators grappled with the concept of failure in existing game projects they were working on, resulting in a very granular, in-depth, in-situ exploration of the design of failure, directed and supported by the toolkit. These workshops highlighted how contextual and specific to a game failure is, and how it is best designed to fit the particular specifics of a game rather than as a formulaic and necessary presence 'because every game needs some form of fail state'. Because of the chosen workshop format, it sheds light on the moment-to-moment decision-making and reflection process during game design, providing a different perspective from that offered by surveys or interviews. It also highlighted further considerations worth accounting for, such as the time at which experimenting with ideas for the design of failure within a design process may be most productive, further limitations in the challenge of designing failure, and benefits of design solutions such as the toolkit. Lastly, the **eighth chapter** is the discussion, summarising and reflecting on the findings of this research.

Throughout this thesis, I hope to offer an in-depth, compelling exploration of the complexities and nuances that failure brings to videogames - as somebody who has a rather complicated history with it myself. Our attitudes to failure are full of paradoxes. As Juul aptly points out with the phrase 'the paradox of failure': we want to avoid failure, yet engage in activities that will inevitably result in it [94]: through the research presented in this thesis,

I demonstrate that those paradoxes are what make failure a rich, compelling experience, well worth exploring, investigating, and embracing in both games research and game design.

Literature review

Because games come in many different shapes and forms, so do the ways players can fail at and in them. In the same way Aarseth paraphrases from Wittgenstein, “we know what a game is even if we can’t express it clearly” [2], failure may not quite look or feel the same for everyone. While this complicates the definition of failure, scholars have attempted to simplify it to its most basic and inclusive form, thereby enabling the inclusion and discussion of a wide variety of experiences when talking about failure.

This chapter will examine the question of failure from three angles: failure as a feature in videogames and its particularities, failure and its effects on videogame players, and the thorny problem of failure in game design. By examining those three perspectives and triangulating them [1], I outline a detailed account of how failure affects games as a medium, player experience, and design decisions, and highlight both the complexity of the topic and the necessity to address it. Finally, after this review of the literature, I explain how it informed my research questions and the methods I used throughout, namely qualitative research to investigate the lived experiences of players and game designers, and research through design to investigate the act of designing for failure, and the act of designing a proposed solution in the form of a design toolkit.

2.1 Defining failure: players and systems

2.1.1 What is failure? Definitions.

Batu and Aytemiz conceptualise failure as “the inability to make progress towards the objective (or goal) suggested by the game” [10]. This definition of failure situates it within the game system exclusively - which is in line with their attempt at identifying possible places of failure within a gameplay loop, focusing on the system rather than the player experience. Other researchers have put the player at the core of their definition, thus accounting for player interpretation when interacting with the game system.

Jesper Juul, for instance, suggested that the function of failure in games is to serve “as a contrast to winning, that failure thereby makes winning all the more enjoyable” [91], and that failure in its most simple definition “can be described as being unsuccessful at some task in a game, and punishment is what happens to the player as a result.” [91]. Expanding on what ‘task’ may be referred to here, he proposes another definition: that failure occurs “when a player accepts a task, either communicated by the game or invented by the player, and the player does not successfully complete that task” [92]. This definition is also the one found in his more recent seminal book on failure [94].

This inclusion of tasks communicated by the game and those invented by the player, is crucial to the discussion of failure, in that it allows us to include games and experiences that would otherwise be excluded if the definition of failure only included goals explicitly set by the game system: for instance, sandbox-style games, which do not seek to set overarching end

goals for the players and can be played ad infinitum without ever being ‘beaten’, would not be included in the discussion as there is no way of truly failing at them. Similarly, games like *The Sims* may include micro-goals such as levelling specific skills to unlock achievements and milestones, but there is no hard-coded, explicit way of failing at *The Sims*. Playstyles imagined by players, such as speedrun communities like Games Done Quick, would also be excluded from the discussion: *The Legend of Zelda: Ocarina of Time* does not dictate that the player must complete the game under a certain time threshold, yet there are entire communities dedicated to completing it and other games as fast as possible, and falling short of one’s personal record or set goal, for instance, is experienced as a failure for the speedrunner. Blurring the lines even further, narrative-driven games may put procedural success and failure at odds with how the narrative itself defines it or how players may interpret it: in *Shadow of the Colossus*, the player is tasked with killing gigantic creatures, only to realise as the game progresses that those monsters are innocent creatures the player kills in order to complete a deal made. In these circumstances, is winning a fight truly a success, or an unfortunate, tragic and necessary step towards what may or may not result in saving another character? Including player-defined goals, and by extension, player-defined failure, is crucial to gaining an inclusive and comprehensive understanding of how players experience it, and the multitude of experiences associated with it.

2.1.2 Failure in videogames: a dynamic in a wider system.

Failure, when examined within the context of a game as a system, does not occur in a vacuum. Instead, it is part of, and a consequence of, a wider system constrained by rules dictating the boundaries of that system: a game's rules and game loop. In order to understand how failure intervenes in a game's system, it is imperative to examine how games can be structured and broken down, and identify the various places in which player failure can occur. As such, this section focuses on the place of failure within games as systems.

Because games are the product of their designers' and developers' intentions and of interactions between player and system, it is useful to differentiate between experiences of failure that are intended by the game developers, those that are not but may be interpreted as such by players, and those that may be the result of bugs or unnoticed usability issues. Aytemiz and Smith make that distinction in their diagnostic taxonomy of failure by differentiating between in-loop failure (failures that "support the design intent") and out-of-loop failure (failures that "represent the unintentional (from the designer's side) failures that detract from the vision of the game and should therefore be minimized") [10]. This differentiation is useful in identifying, within a gameplay loop (whether following the one proposed by Aytemiz and Smith or a different model), what counts as an intended experience of failure, and what interrupts or disrupts the player's experience in their engagement with the dynamic systems of a game.

For instance, Hunnicke, Leblanc and Zubeck's MDA framework, one of the most popular game analysis and design models, breaks down every game into

three dimensions: Mechanics, Dynamics, and Aesthetics. Mechanics refer to the “particular components of a game, at the level of data representation and algorithms”, dynamics refer to how the mechanics react to and interact with player input, and aesthetics refer to the emotional responses of the player interacting with the game [85]. In this model as well, we can imagine how in-loop and out-of-loop failures in each of these three dimensions could impact the player’s experience: an in-loop failure in the Dynamics could be the player failing to engage with combining different attacks, instead relying on a single, inefficient attack pattern, whereas an out-of-loop failure in the Aesthetics dimension could correspond to the game eliciting feelings of frustration when it should not due to failure resulting from a bug, or from lag or loss of network.

Even if difficulty and challenge can, according to Crawford generally be defined by the rules imposed on the player “by forces outside of his control” [41], when and how the consequences and roots of failing at this challenge manifests can vary widely from one instance to another. Egenfeldt tells us that at their core, rules pose limitations that define a clear system for the player to evolve in and that dictates what they can and cannot do within the game world. They “give a shape and a drive to the playing of the game; they are what challenge us in the game world, they are what enable us to feel satisfaction when we win” [56] - in other words, when appropriately designed, rules and limitations constitute the constraints within which a player must rise in order to overcome the challenges imposed by these limitations, as intended by the game designer.

Such limitations and constraints can make for ambiguous experiences,

wherein blurring the lines or making information, context, or the relationship between the player and the experience less clear and easy to understand, or subject to potential failure of interpretation, can create desirable experience fueled by mystery and intrigue [71]. In other words, some games can make the clear path to success or failure highly ambiguous, and play upon the threat of failure to put their players on edge: uncertainty, according to Kumari, can be induced through the game's content, the player's ability or inability to make informed decisions, or the supposed outcome of a given action [105]. In *This War of Mine* for instance, the player lives from one decision to the next, unaware of what may unfold after they decide to spend the majority of their resources patching up their rundown house without leaving enough to fuel their stove; or whether giving most available medication to a sick character will ensure their survival without dooming the others should more of them fall ill. The game does not announce in advance what developments the game world will experience, leaving players in a constant state of uncertainty where high risks, high rewards decisions can be as costly as trying to manage all resources evenly.



Figure 2.1: In *This War of Mine*, players can be kind to their neighbours and give away precious medication...



Figure 2.2: ... but their own characters can unexpectedly fall ill and suffer the consequences of this medication shortage.

In more narrative-driven games too, failure can provide an additional layer of complexity when woven into narrative and/or the mechanics of the game. It can complexify the experience by pitting the player character's external and internal motivations against one another where succeeding in one will result in loss in the other. According to Dr Mata Haggis in a talk

delivered at The Game Developers Conference (GDC), such dynamic, simultaneous, and conflicting experience of success and failure, can create powerful experience for players [77]. A good example of this can be found in the very final sequence of *Until Dawn*, where the player, if they have more than one surviving character, has to manage to get them all out of the house before the wendigos can kill them. In some situations, depending on their prior choices, players may have to make a difficult choice: ensure that at least Sam makes it out alive by having her run out and trigger a fiery explosion, which kills all the Wendigos and anyone else who may still be in the house, or wait at the risk of giving the Wendigos opportunities to kill everyone.



Figure 2.3: To run for the switch while other characters are still in the house will kill them all in an explosion, but hiding puts Sam at risk.

Failure, arguably, is a device only available to games in the entertainment media landscape, and as such, is a device that can be taken advantage of to create compelling experiences. Players are generally driven towards success and will take every step they can to ensure a victory or a gain [58], and yet not every game will make things as easy as possible or as non-punishing as possible for their players - the important part, Engelstein argues, is how

designers frame loss in the context of their games, and realise that how players interpret, accept, or reject loss, is also dependent on the player's personal and specific context at the time of play [58].

Failure is not an independent element of gameplay, but an intended, designed consequence of various systems working together alongside player input.

2.1.3 Failure in videogames: a player-based definition?

The previous section outlines our understanding of failure within systems. However, video games are meant to be played by players; and, as Juul's definition argues [94], goals can be defined by video game players. It then follows that failure, too, can be defined by players themselves, independently from the game designer's intention. Likewise, Abramson and Seligman, in their reformulation of learned helplessness, argue that "in ordinary language, failure means more than merely the occurrence of a bad outcome. People say they have failed when they have tried unsuccessfully to reach a goal and attribute this to some internal factor" [4], thus situating the perception of failure in the individual rather than on objective measurements such as an externally set goal that has or has not been completed. Others like Baumeister et al argue that failure "is rooted in the coordination between the several parts of the self-management task, such as if the individual sets goals that he or she is then unable to reach" [13]. What matters, in defining failure, is not just the goal involved, but what the individual identifies and experiences as their goal, and as a failure to reach it - meaning that diverse individuals will potentially experience the same event of supposed failure very differently [6].

Frommel et al investigated how players define success and failure in contrast to one another, and further found that players identified a wide range of experiences associated with failure for different players: failure is defined in relation to goals set by the game and/or the player, players either believe in their eventual success despite failure or eventually give up on it, failure occurs when tasks are challenging, failure can be a continuous feeling rather than a punctual event (and be associated with a feeling of being stuck or lack of progress), failure can be a negative experience or/and a positive experience, and players display a wide range of strategies to cope with failure [69]. Frommel et al crucially point out the difference between perpetual (continuous) failure (such as repeatedly failing at a task) and temporary failure (such as losing to a boss once), and at a subjective level of experience reflected in the player's own words in their survey responses. Looking at player experiences when playing the game *Celeste*, Hefkaluk, Linehan and Trace further highlight a deep interpretative process of meaning-making when players reflected on their experience of failing in this notoriously difficult game [82].

In other words, failure operates on two levels: the failure states hardcoded into, or implied by the game system, and the players' interpretation of what does or does not count as failure. What players accept as failure can possibly be dependent on factors outside the game, for example their personality and general attitude towards failure [6]; therefore, the accepted definition of failure I follow throughout the present research aligns with Juul's inclusive definition of it: that failure occurs when the player is unable to attain a goal set by the game or by themselves. This definition henceforth informs the rest of this research.

2.2 An overview of the effect of failure on player experience

2.2.1 Failure: a learning tool for players and designers.

A commonly understood function of failure in video games is to help the players learn how to play them [8] [72] [73]. When introduced to a game system, players have to familiarise themselves with its rules and components, and understand how they are meant to navigate it. Failure is generally accepted as a key component in helping them do so, not just at the beginning of the game, but in many cases, continuously throughout the game experience, feeding into a feedback loop against which players can figure out how they are performing against the boundaries, limitations, and challenges set by the game. Games, as Raph Koster defines them, are systems of patterns that the player has to learn: the fun of games resides in this learning process [101]. Failure, in that context, contributes towards this learning process, and therefore, when used appropriately, to the fun of games.

Player input, and the possibility of failing, are two key components to the process of learning in games. At the heart of this process lies the player engaging with the game and being confronted with problems they have to solve: in the process of facing these problems, they will either succeed or fail, and draw lessons from those successes and failure that they can then generalise to the rest of the game, assuming that ‘this is how the game as a whole functions’ [72]. Gee identifies three main design requirements for successful learning experiences in games: 1. Empowered learners, 2. Problem-solving, and 3. Understanding. [73]. In other words, players must be ‘producers’

or ‘co-designers’ of their own experience, actively participating in what obstacles they are faced with, and they must be allowed to make sense of the game world by engaging with problems that are well-ordered, frustrating but not too frustrating, and feed them just the right amount of information at the right time to allow them to build up their expertise and practice their skills [73]. In this context, failure provides the player with feedback, informing them that they are not employing the correct strategy to solve a problem, and helping the player infer what the correct strategy really is. Looking at some specific ways games make these experiences possible, Linehan et al argue that some commercially successful games follow the following formula: 1. The main skills the player has to learn are introduced separately from one another, 2. They are introduced through simple puzzles that only require basic mastery of that skill, 3. The player has the opportunity to practice in subsequent level and to combine the various skills they have been learning, and 4. The puzzles become more complex and challenging until a new skill is introduced [110]. Here too, failure has its function to claim, providing the player with information as they learn to use and then practice their skills in increasingly more complex scenarios. Iacovides, Cox and Knoll describe these moments of failure as breakdowns, and argue that breakdowns are necessary to lead players to breakthroughs, by way of trial and error strategies, experimenting with what players have learnt via exploratory trial and error (formulating and testing hypotheses based on their experiences), pausing and reflecting, and practicing [87] [86].

Relatedly, while serious games and educational games lie outside the scope of this thesis, it is worth noting that research into educational games has

demonstrated that embedding learning material into the game mechanics is an efficient way to get students to learn and train behaviours, with failure in particular being leveraged by students being able to discuss adjusting strategies, unpacking the mechanics, and thus unpacking and retaining the learning material at hand - by analysing why they failed at the game, they understand the mechanics of the game better, and by extension, how the particular topic they are learning about works [8].

Leveraging the potential of failure for learning, however, is not a uniform and formulaic endeavour: players are individuals, with their own personal histories, learning styles, gaming experience, and difficulties in gaming or learning. For instance, Abramson and Seligman argue that there are two kinds of helplessness: universal helplessness (wherein “course of events is independent of all responses as well as responses of other people”) and personal helplessness (wherein “outcome is not altered, regardless of any voluntary response the person made”) [4]. In other words, Universal helplessness occurs when nothing can be done to change an outcome anyway, and personal helplessness stems from the individual’s inability to change the outcome of a situation. One can easily imagine, then, that depending on where players lay the blame for their failure (there was nothing they or anyone could do to avoid it versus nothing they do will ever change the outcome), discouragement and disengagement could easily follow. Failure is frequently associated with negative feelings - what these feelings are, and how players handle them, is a nuanced and complex question. However, even those negative feelings can be the source of rich experiences.

2.2.2 Failure and challenge: it's complicated.

Relatedly to failure being a key component in learning experiences, failure and challenge are intricately related, and often difficult or impossible to dissociate from one another.

DeKoven's 'well-played game' is the idea that a game is at its best when it is played and experienced for its own sake - for the sake of playing the game, with losing or winning being integral, but secondary considerations to the experience [45]. Anderson rephrases the concept as a game "in which all players are challenged at optimal levels, inviting the prospect of failure as a result" [6]. In this paraphrase, Anderson focuses on the optimisation of challenge and of the player experience - stepping away from DeKoven's focus on well-played games being a deeply social experience, less focused on optimising outcome and more focused on producing an experience players want to engage with for its own sake. DeKoven's idea of a well-played games, success and failure always operate in the (social) context in which games are played. In Anderson's more capitalistic, productivity-focused configuration, failure becomes an inevitable possible outcome of any challenge: the player either succeeds at the challenge, or fails. This reasoning holds as long as we define failure solely through the lens of the game's structure and exclude the interpretative layer that comes from player interaction, experience and reflection.

But what might a successful experience of challenge look like, and what role does failure play in it? The theory of flow posits that flow occurs when a person participating in an activity is met with the right level of challenge for their skill level, inducing an enjoyable state of 'flow', wherein the individ-

ual is engrossed by the activity to the point of, for instance, losing track of time [40]. Central to flow as applied to games is the right balance between player skill and game difficulty: the game must provide a challenge and not be boring, but not too difficult so as to frustrate and discourage the player, ultimately leading to disengagement. Crucially, however, critics have pointed out that flow may not be the desirable state of engagement that such a deep absorption into an activity can be painted to be. Braxton Soderman, most notably, argues that engagement through flow does not necessarily equate fun or enjoyment - flow simply is a state of engagement wherein the player is entirely absorbed into an activity, with no inherent positive or negative valence being associated with this all-consuming immersion [151]. Furthermore, losing track of time, leading players into such a state of absorption, leaving no space to critical distance and moments of reflection, may actually position players as passive consumers of media and the ideologies and messages games vehiculate [151]. Following this line of reasoning, difficulty and failure can, in their own right, be candidates for the intention and purposeful disruption of flow. It is generally thought that repeated failure can lead to a decrease of player enjoyment (although the moment of failure/player death itself can provide the player with a moment of respite as well as feedback on their performance) [160], but failure, challenge, and how players actually perceive them, is less uniform, less universal, and more complex than that.

Canossa et al define frustration as follow: “Frustration is an emotional state that arises as a response to a perceived opposition towards the achievement of a goal, and it can either resolve in anger or disappointment [31] according to whether the level of perceived opposition is too high or too low

and according to each individual's personality" [31]. This definition excludes, as well, the player experience or feelings - Canossa et al's definition on the other hand accounts for the diversity of possible experiences of frustration resulting from failure (which, again, is defined here as the player's inability to achieve a goal, echoing the situation described here). As Canossa et al state, there are many different types of players, with different levels and types of game literacy, who have have very different experiences and levels of tolerance to failure - as well as different ways of interpreting it in the context of a given play experience.

For example, players with a greater mastery orientation (people who are more inclined to interpret failure as a stepping stone in their progress in mastering a game) may be more attracted to challenging games, because they may be better equipped to face them, or have a different understanding of what failure means to them [7]. For those players, failure may not really count as failure - perhaps it will only be a temporary setback, a mechanic they deliberately use to try different strategies before actually deciding on how they will move forward. How much importance a player attaches to a challenge and its outcome may also change the way failure will be perceived: navigating the fine balance between hope of success and fear of failure may either fuel the player's determination to overcome failure, or make them more sensitive to failure [14], which in turns may become a much more significant threat and inadequacy on their part than it would for other, more secure players [25].

Frustration, excessive difficulty, and absurd demands put on players can also be leveraged by game designers to provide particular and unique play

experiences: hoping to provide players with only an optimal experience with an ideal threshold of difficulty vs skill, may arguably limit game designers in their creativity and in the potential affordances failure could give them. *Getting Over It With Bennett Foddy* is a notable example of a game designed to frustrate and enrage its players, offering tremendous challenges with an unforgiving level design and clumsy controls, and memorable moments of failure, as launching the player character just a bit too far over a rock may mean falling all the way back to the beginning of the game and losing hours of progress - with no checkpoints to respawn to.



Figure 2.4: *Getting Over It With Bennett Foddy*, a prime example of 'rage-inducing games'.

This apparent contradiction in player enjoyment of and engagement with games and attempting to solve it would fall far beyond the scope of this literature review. However, for the purpose of discussing failure and the particular case of engaging with deliberately difficult and infuriating game, possible leads may include the idea of intrinsic versus extrinsic motivation: being motivated to engage in an activity for the sake of the activity, or for the external rewards one receives as a result of engaging with the activity [133] [141]. It

is possible that for some players, the game itself, as frustrating as it is, fuels their intrinsic motivation enough that it helps them overcome the frustration caused by repeated failure. *Getting Over It With Bennett Foddy*, with its ridiculous levels of difficulty and frequent, merciless setbacks, does not just taunt players - it offers a lengthy commentary on failure, motivation, why we play games despite the frustration they often bring about, interwoven into its gameplay and Bennett Foddy's voiceover commentary breaking the fourth wall to comment on the player's missteps. Some players may find incredibly difficult challenges motivating, and overcoming those challenges, the process of going through these motions [160], perhaps even the moments of failure themselves, memorable as they are, feed into the intrinsic motivation that keeps them going.

2.2.3 Positive negative experiences: the emotional effect of failure.

Beyond its key function in learning experiences and challenges in games, failure can be the catalyst for complex emotional experiences. It can be frustrating, and thus be the source of conflicting, negative emotions. However, scholars have argued that these negative emotions experienced by players can be very valuable, and that videogames have the potential to leverage those negative emotions to create unique and impactful play experiences.

Some games are meant to elicit experiences of fun, while others, very notably, are not necessarily meant to be fun - or would be very difficult to classify as such. Games dealing with heavy and difficult topics like *This War of Mine*, *Spec Ops: The Line*, *That Dragon Cancer* etc, would be difficult

to describe in terms of fun. Yet, they are critically acclaimed and successful games, despite falling out of what someone might categorise as pure fun. Herein, perhaps, lies the difference between fun and appreciation: we appreciate some games because they are fun, but games do not need to be fun for us to appreciate them, because they procure us a different, but just as valuable, experience. By this logic, we can divide games and entertainment experiences between hedonic experiences (centered around fun) and eudaimonic experience (centered around appreciation and cognition) [12] [37] [134]. For example, players may experience difficult or tragic content in media, and appreciate the emotions elicited by the experience [150] - in interactive experiences such as games, feeling uncomfortable can also be a powerful effect that can both entertain and ‘enlighten’ the participant [16]. Failure, arguably, can feed into the discomfort Benford et al argue in favour of in interactive experiences: the devastating consequences of failing to find enough food or medications for a character in *This War of Mine* can invoke challenging themes, while the difficult controls of *Getting Over It With Bennett Foddy* may question the control the player has over the game, make them wrestle (cognitively and physically) with the system, thus creating ‘discomfort through control’ [16].

More explicitly addressing the idea of failure or loss, Bopp et al’s research points at players experiencing intense negative emotions in a positive way when they feel they are responsible for negative consequences, for example the loss of a character [20]. According to this research, “the friction caused by both the in-game conflict and the conflicting emotions may perhaps even add to the intensity of the experience” [20]: in other words, the strong emo-

tions experienced by the player as a result of the negative consequences of their actions in the game world, add a layer of interpretation and material for the player to engage with during their play experience. Just like movies and other media depicting tragedies can be enjoyable or appreciated, and sought after by viewers and readers [150], so can negative emotions elicited by games be a positive experience for players, especially when tied to the negative consequences unfolding as a result from the player's direct actions and input into the game [21]. Narrative-driven games that rely heavily on player choices are arguably particularly well suited to convey this type of experience, where make a wrong choice, failing at resolving a conflict in a dialogue tree, or failing a particular gameplay sequence, can have dramatic consequences that will heavily impact the player's emotional experience with the game. The notion of failure and 'painful art' or, here, painful experiences, can also emerge from or give rise to an interesting design paradox, wherein in some games, the choices the game asks the player to make or the actions the game requires them to take, are in direct conflict with the player's convictions or moral standards [170] or what they had identified as their best interest. In other words, the 'emotional challenge' faced by the player (the challenge confronting their internal and personal emotions and feelings) and the 'functional challenge' (the challenge set externally by the game's structure) can conflict with one another [21] and produce an experience where succeeding at a challenge can be experienced as a failure on an emotional level, and a failure in the game may feel like a lesser evil compared to what succeeding would mean. A striking example of this paradox can be found in *Spec Ops: The Line*, where the player, playing as the captain of a

three-man squad in a war-ridden Dubai, cannot progress to the next stage of the game without using white phosphorus on what they assume to be enemy troops - only to learn, a few minutes later, that they actually attacked and killed civilians. Functionally, they succeeded in progressing through the game in this very conventional military shooter where killing America's nebulous enemies is the way to win; emotionally, this sequence is particularly distressing, because it highlights the usually unspoken implications of this particular gameplay and how success is framed within it [90]. As the game's hero, the player is constantly and consistently failing the people they thought they would be saving throughout the game. This approach to failure suggests that failure may be a very suitable functional and narrative device to trigger or illustrate themes such as loss - although scholars warn that falling into an oversimplification of always equating losing to loss as a thematic poses a risk [80]. Having the player lose or fail can be a powerful way of convening such themes, but it is not the only one, and it might now always be the most suitable way of doing it - as exemplified by the white phosphorus episode in *Spec Ops: The Line*, where the player succeeding is the catalyst to a deep emotional and distressing experience, with the aim to thus "inspire reflection by deliberately trying to create discomfort and displeasure in the player" [90].

2.3 Designing failure in video games: a thorny problem

2.3.1 Game design and player failure: constantly evolving medium, constant new ways to fail

Examining the recent history of video games, some scholars argue that modes of failure have evolved dramatically along with game form and the technological affordances and aesthetic evolutions of the medium. Video games have certainly gained in complexity and diversity since their early days, offering progressively more varied experiences for players, and evolving modes of failure have followed this trend.

Some scholars have argued that failure in video games originally comes from the technological limitations and financial incentives of the early arcade games: the software was not developed enough to allow players to save their progress, and having the player character die and have to re-start the entire game meant players would put another coin in the slot [128]. While these design choices arguably do not simply come down to limitations but could be considered deliberate developments to address certain necessities, such as incentivising players to start again, it is true that video games have dramatically changed over the past few decades, and offer a wide variety of gameplay, genres, and experiences, that inevitably led to new ways of winning and new ways of failing. The very threat of dramatic progress loss was eliminated when games started implementing the possibility for players to save their progress at any point, giving players more control over their progression and risk management and mitigation - and other mechanics such as

healing or frequent checkpoints contributed to lessening the threat of failure in the games that chose to implement such system, to the point that some players feel that modern games have become too easy or ‘coddle’ too much to their playerbase [128].

Such generalisations however overlook the diversity of experiences afforded by modern game design practices. On the other end of the spectrum of technical gameplay challenge, the controversial walking simulators, wherein players do little more than walk around in an environment and interact with various items, usually in order to piece together a story or investigate and uncover a mystery, challenged the way players and designers thought about games, with some arguing that their lack of actual win or lose states (you can only complete a walking simulator, not win or fail at it) meant they were not ‘real games’, while for others, walking simulators are just another game design playground to tell new stories under very specific constraints, defying typical game conventions [95]. In games like *Gone Home*, or *What Remains of Edith Finch*, two critically acclaimed walking simulators, the player revisits their character’s childhood home and seeks to uncover some family mysteries by interacting with game items, reading descriptions and text, and paying attention to their environment and what it might be telling them about the events that occurred prior to the game itself.

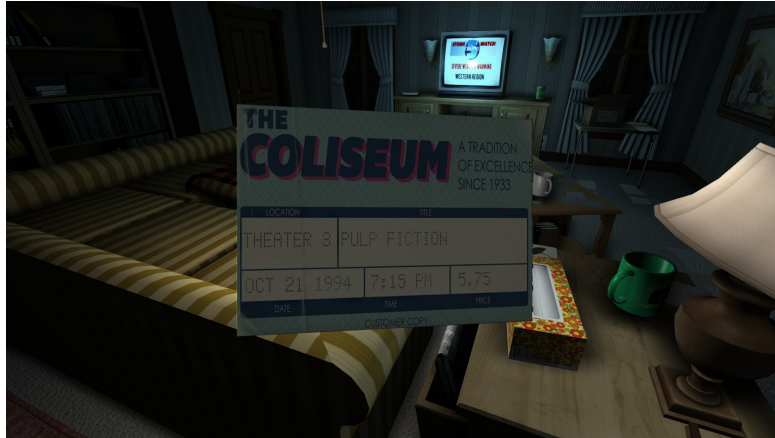


Figure 2.5: In *Gone Home*, the gameplay revolves around exploring, picking up items, and inspecting them.

In *Gone Home*, the player wanders the halls of their family home alone, and the only way to complete the game is to interact with all the items necessary to unlock the next step of the story - the worst that can happen is for the player to get lost or not realise where they need to go or what they need to pick, but they will not be punished or penalised for doing so: the game does not move forward independently from the player.



Figure 2.6: In *What Remains of Edith Finch*, the player explores the old family house and learns of the family history through a series of vignette mini-games with no fail state - here chasing after a bird as a cat.

What Remains of Edith Finch follows a very similar structure, with the exception of a series of mini-games being riddled throughout the game to illustrate each family member's untimely death: however, the player cannot fail at those minigames either. In the screenshot above, the player is turned into a cat and must catch and eat a bird: the player need only advance towards the bird, which will not fly away when the player draws near, no matter how long it takes them to do it. Success is guaranteed - the alternative is to be momentarily stuck.

Where *Gone Home* and *What Remains of Edith Finch* offer a riskless contemplative experience where the player's actions do not influence the game world and bear no consequences or possibility of success or failure, *Firewatch* follows a similar pattern, but with a twist, by introducing a branching dialogue system. While the storyline unfolds in invariably the same way, the player can shape their dialogue with the other character, Delilah, and their relationship with her through their dialogue choices. Whether or not Delilah's resulting reactions, sometimes negative, can be considered failure on the player's part, is left up to the player's interpretation - the game gives no measurement of 'good' or 'bad' answers.



Figure 2.7: In *Firewatch*, dialogues can orient the characters' interactions, but there is no clear win or lose condition in these exchanges.

In-between these two extremes of difficult games with severe punishment for failure, and games with no failure at all, exist a broad range of experiences, where even difficulty and failure may end up being two completely separate notions. Notoriously difficult games such as *Celeste* may be technically very challenging, but the endless lives and very quick reset means that the player can fail any number of times, and never be severely penalised or lose any significant progress, allowing them to experiment with the platforming mechanics to their heart's content:

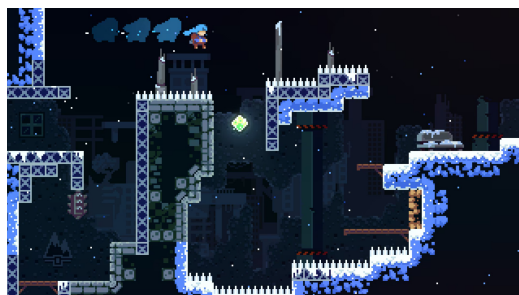


Figure 2.8: *Celeste*, where high technical challenge is paired with forgiving fail states and quick recovery.

Hollow Knight, another platformer, follows a similar approach with fre-

quent saves - but only as long as the player still has at least one life left (the player starts off with five, and can increase this number throughout the game). If the player loses their last life, they respawn at the last bench they visited (benches are the only save points in the game, and the player must interact with them for the game to actually save - it is not an automatic process, and the last time they used a bench may be in an entirely different area of the map if they weren't careful enough), without the currency collected until their death, and with a broken soul gauge preventing them from collecting as much soul as they could (soul being the in-game substance they can use to heal up or cast spells). The player must then make their way back to where they died, and fight their shade to restore their soul gauge and get their currency back.

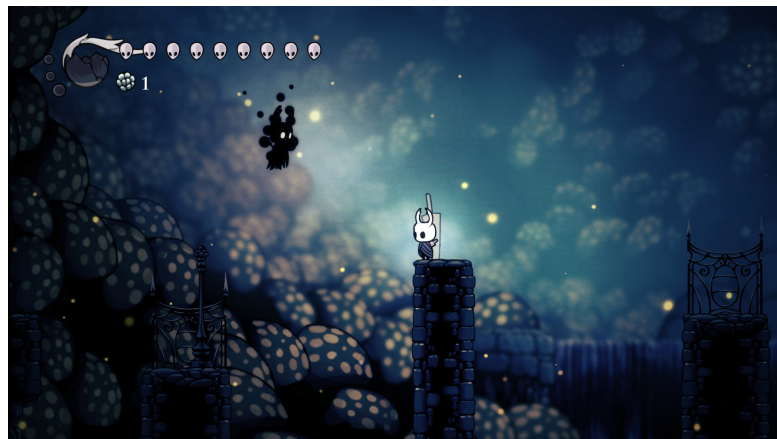


Figure 2.9: In *Hollow Knight*, the player must confront the lingering evidence of their failure and beat it to regain their lost resources.

Hollow Knight blends forgiving mechanics with more severe punishment if the player fails to adequately manage their resources and the risk they decide to take while navigating challenging boss fights and platforming - and, for the more dedicated players, includes a permanent death mode, unlocked after

completing the game for the first time.

Those examples demonstrate the diversity of shapes failure can take. But how do the people who make games decide what is appropriate for their games?

2.3.2 Game design and failure states: an easy obstacle to trip on.

The diversity and complexity of failure in video games, in turn, creates challenges for the designers who create those play experiences. With failure being the result of the interactions between a variety of systems and elements (player skill, levels of difficulty, game-dictated goals, player-decided goals...) designing satisfactory experiences of failure in any game becomes a thorny problem to tackle. An open question remains about how game designers approach the challenge of designing failure - fortunately, game developers have written blogs and articles across a range of platforms to share their experiences, questions, and recommendations for other game developers.

Examining such resources, there are a few trends that become identifiable across the board. Around the time of release of particularly difficult games, or games belonging to a franchise known for its high difficult threshold, such as *Elden Ring* from FromSoftware and the Dark Souls franchise, discussions spark around the difference between accessibility and difficulty, and the thin line that seems to separate the two. Accessibility is a complex term, that usually refers to whether or not a game can be played by players with visual, auditive, motor, or cognitive impairments by making the game-play more inclusive and removing barriers for those players to access and

engage with the game content. However, it can sometimes be conflated with something I would rather dub ‘approachability’ - wherein a game’s content is difficult to access due to high skill requirements, for instance. Game journalists make this shortcut between accessibility and approachability notably when discussing difficult games: indeed, when do difficulty and failure become a barrier for accessibility, and can difficult games with high failure still be accessible? [127] [154] [28] [152].

In a talk at the Game Developers Conference (GDC), game developer and narrative engineer Jurie Horneman points out the potential frictions between the abstract, mechanical side of the game (the rules the game world follows) and the meaningful, fictional side of the game (the story it tells), and that character death is a prime example of these two sides coming into conflict and breaking suspension of disbelief [84]. Indeed, the die-and-retry model adopted by many games, wherein if the player character dies, they respawn at a previous checkpoint and resume their attempt at overcoming an obstacle without consequences to the story, seldom makes sense within the game’s world and narrative logic, and thus interrupt continuity, immersion, and the flow of storytelling. On the other end of the spectrum, developers from Inkle Studio, a studio specialising in narrative-driven games such as *80 Days* and *Heaven’s Vault*, point out that failure is a particularly difficult design challenge for story-driven game: if there is no failure, players may end up going around in circles, but if there is failure, players may end up being locked out of story content. Using the example of mystery games as an example of failure being a particularly thorny problem, they point out that designing mysteries that feel neither too easy nor impossible is extremely

difficult, and that the question of what to do if the player misinterprets the clues, is a key design problem in many such games [89]. Likewise, forced failure is a contentious problem to handle, as players may not always be forgiving when forced into a fail state for the sake of storytelling [34].

For game designers, the difficulty in designing failure can also come from the fine line between ensuring that the failure is only due to the player's skill, and not because the game fails to communicate key concept to the player who cannot beat the game without them [97]. Likewise, gauging what constitutes the right amount of difficulty, the right amount of failure, and the right consequences of failure for the player, is much more complex than creating an impossibly challenging game [47]. In fact, for some developers, the mere notion of punishment might be detrimental to the entire player experience if designed wrong [29].

Another challenge, of a more artistic and innovative nature, comes from the constantly evolving nature of video games and new design ideas constantly emerging across the field - the need to innovate also exists in the realm of failure, as exemplified by the developers of *Lord of the Fallen* and their bid to 'improve the death cycle' into something that is 'not just the death and restart loop' [61]. Creativity here can be a particularly thorny problem in an industry where the consumers, the players, have certain expectations and are already used, through their previous experiences, to certain models of failure [66], that will lead them to care more about certain aspects of the game (preserving themselves and their resources) and perhaps ignore or discard others for the sake of ensuring that failure and loss are avoided at all costs [167].

2.3.3 Game design and intended player experiences of failure: a potential beyond learning and narrative.

In the ever-changing landscape of video games and the wider society in which they are created, video games reflect the world in which they are created, and can be leveraged to communicate ideas, messages, to be a vector for meaning and meaning-making [164]. Video games have, for instance, been at the centre of numerous and much-needed discussions around representation of gender, sexual identities, or race [139] [157] [114]. However, beyond visual or aesthetic representation through character models or story, some scholars argue that the very systems that make up the video games we play are vectors for ideas, and that the mechanics with which the players engage, can express political or societal ideas and values. By that reasoning, failure should be one of those mechanics or dynamics that have the potential of carrying meaning through the player's interactions with the game system.

Games are quite unique in the way they can communicate meaning to players: namely, scholars argue that meaning is not only conveyed through the story or the visuals of a video game, but also through its procedurality. Procedural rhetorics are defined by Bogost as “the art of persuasion through rule-based representations and interactions rather than the spoken word” - in other words, the rules and systems that orchestrate the game world and the player's experience of navigating this world are key to expressing and representing ideas to the player [19]. Likewise, Flanagan and Nissenbaum argue that social and political models and values can be embedded in the rules and systems that form the very fabric of any game: games are not

neutral, but instead reflect, in some ways or others, the world and society in which they are created [62]. Stepping away from video games, one can see these principles illustrated in the game of *Monopoly* and its original version, *the Landlord's game*. Where *the Landlord's Game* was designed to illustrate socialist ideas and criticise land monopoly, the inventors of *Monopoly* took the same basis, but with modified rules [96] so that players would only win the game by buying as much land as they can and accumulating more capital while the other players are led to ruin - illustrating much more capitalist ideas than its predecessor by changing the win and lose conditions of the game.

Because failure results from a variety of interactions between the player and different systems in a game, it follows that failure can be one such rhetorical device that contributes to the expression of certain ideas and values; and, because failure is so closely associated with negative emotions such as frustration or powerlessness, some games have proposed to harness the potential of that 'negativity' to do so.

Failure in games has the potential to bring out discomfort [16], but beyond discomfort, failure is tied to a certain idea of transgression. According to Mortensen and Jorgensen, transgressive games tend to encapsulate "issues that disturb, create discomfort, or shake established norms, and to which we react immediately and with affect" - such games do not necessarily seek to transgress societal norms (which the authors argue is the true definition of transgressive - that which is so disruptive that it is outright unacceptable, making it impossible to be featured in games, hence games more commonly erring on the side of "transgressive aesthetics", rather than "profound transgression") [122]. More specifically, a transgressive game is a

“designed artefact that includes topics that may challenge, provoke, or disturb some people”, and a transgressive experience “may challenge a person’s sensibilities or emotions, but is only an approximation that makes visible the boundary for absolute transgression” [122]. In other words, games can disturb players through the topic or subjects they depict, but more broadly, by challenging the expectations of players.

On a more mechanical level too, Mortensen and Jorgenssen argue, the way the flow of the experience is broken can be perceived as, or contribute to a sense of transgression: as previously detailed, failure can be one such breakdown of the flow of the play, abruptly interruption it or disrupting it, or threatening to do so. The authors discuss the example of *Alien: Isolation*, where at the very beginning the of game, the player is thrown into a situation of high challenge (the xenomorph is coming for them and cannot be fought off) and low mastery (the player is not very familiar with the controls, the environment, the systems of the game, creating a very overwhelming sense of confusion, danger, and powerlessness), going against what most games would do by progressively introducing the player to the game’s mechanics in easy, low-risk challenges to begin with. In this example, the very early and pressing threat of failure sets a very specific tone for the game, purposefully making players uncomfortable and putting them on edge.



Figure 2.10: The xenomorph in *Alien Isolation*, stalking the player throughout the game.

In similar, yet perhaps more self-reflective manner, *The Stanley Parable* has the player navigate a corporate company while their journey is voiced over by a narrator who seems all too aware that the whole experience is indeed a video game, constantly calling attention to the constructed nature of the experience, and noting how the player cannot escape the pre-determined path set by the developers. The player, feeling challenged, can try to perform actions to go against the narrator's expectations (for example: going through the blue door, rather than through the red door as instructed) and continue the story in the way they intend to, to explore what they want to. However, often enough, the narrator will immediately negate the player's efforts to break free of their influence by resetting the player to a previous room, or otherwise ruining their efforts.



Figure 2.11: The player is instructed to go through the red door, while being given a choice. If the player chooses to go through the blue door, they immediately get reset to the same room, and are politely reminded to go through the red door. If the player chooses the blue door again, they get reset again. The red door stands alone, highly highlighted by neon lights. If the player chooses to turn around and go through the blue door once again, they are led to an empty room before being reset yet again.

The Stanley Parable is one such example where the player failing to achieve what they set out to do entails a transgressive dimension: the game makes the player's lack of control and agency very explicit, highlighting the arbitrary systems and rules other games may not spell out as clearly or in a confrontational manner.

Transgression, challenging expectations and norms, challenging entire systems, can also entail a political and identity-defining dimension. Queer theorist Bonnie Ruberg highlights that a significant portion of game design and experience literature focuses on finding ways to provide players with fun experiences, or enjoyable experiences, and argues in favour of 'no fun' experiences instead. If 'fun' is the predominant way of approaching games and thinking of the kind of desirable experiences we aspire to, Ruberg argues, we are locking ourselves out of other interesting potential development possibilities, some of which "disrupt accepted paradigms of video games and heteronormative pleasures more broadly" [137]. More specifically, Ruberg connects video games

to Jack Halberstam's *Queer Art of Failure* (a book that has nothing to do with video games and is unrelated to Juul's book of a similar title), wherein Halberstam argues that negative emotions such as pain or disappointment are valuable in and of themselves, and that embracing them equates to "rejecting neoliberal values - the very values that tells us to be happy, wealthy, and healthy, and to have fun" [137] [78] (a notion echoed by Soderman in his argument against flow as an agent of capital [151]). Considering Halberstam's encouragement to embrace, and even celebrate, failure as a direct challenge to a world dictating that wealth and happiness are the only mark of success, it is indeed a natural development to extend this philosophy to video games. If "queerness means both desiring differently and simply being differently (or, in this case, playing differently): a longing to live life otherwise, a resistance to social structures, and an embrace of the strange" [138], embracing failure, the very thing we are encouraged to avoid and minimise in our work lives, love lives, and when playing games, becomes a queer act of resistance to hegemonic modes of play - one which makes us question what success and loss mean in the first place. As demonstrated throughout this section, failure is a complex, but fascinating element of gameplay. Difficulty remains, however, in determining how to harness its complexity during the design of games and the elaboration of rich player experiences.

2.4 Reconciling player experience and game design: research questions

The research outlined above highlights fascinating design potential for failure, and opens up further avenues to look into how video game designers approach the question of designing for failure in their games. Likewise, to broaden our perspectives on failure, it is necessary to look into addressing some of the questions and problems involved in designing desirable experiences of failure in games - failures that are part of the intended player experience. So far, we have learnt that failure is a component of gameplay that operates within complex systems, and can be a contributing or a disruptive force within those systems; we have also learnt that failure can make positive contributions to the player experience, but that defining those positive experiences is a complex and fuzzy problem. Finally, we have learnt that designing such experiences is a fascinating design problem, a very promising design space, but one that can be difficult to approach.

These areas define the research questions in the project. Those research questions were as followed:

- RQ1: What constitutes a positive, desirable experience of failure in video games?
- RQ2: How can we reconcile player and designer perspectives to broaden our understanding of failure in video games?
- RQ3: How can we approach the design of positive experiences of failure, or failures suited to the intended player experience?

There are areas of research into and around game design that provide valuable insights into research approaches that can be applied to the question of failure specifically. They also map out the structure of this thesis, with each research question being answered by one or more of the studies making up this thesis.

This shared structure is as follows:

Chapters 4 and Chapter 5 address RQ1 by investigating the perspectives of video games players and video games designers respectively, exploring how players and designers define positive experiences of failure from the standpoints of player experience and game design.

Chapter 6 addresses RQ2, by turning research findings into an actionable game design toolkit and outlining the design process behind the Game (Not) Over toolkit. The toolkit is a practical, designerly solution to the 'how' in this research question - and the chapter breaks down the process behind the design of that solution

Lastly, **chapter 7 addresses RQ3** by placing game designers in a game design workshop and having them use the toolkit to zoom into the question of the design of failure. Chapter 7 investigates how game designers approach the design of positive experiences of failure, specifically with the support of the Game (Not) Over toolkit to hone in on an experience of failure befitting their design intentions and their intended player experience.

Finally, the last section of this chapter accounts for relevant approaches to investigating games and the finer details of failure, allowing for the involvement of game developers and a focus on both player experience and game design. Lastly, this section is followed by a methodology statement

outlining how research can use design as a tool of inquiry, and why this particular approach was particularly relevant in the context of game design, and of addressing a specific game design problem such as failure.

2.4.1 Understanding more than one perspective

With a better understanding of player experiences of failure, the next opportunity lies in researching game designers' and developers' to broaden those perspectives and complement them [1]. Understanding the perspective of game makers constitutes an important if not crucial step in games literacy and understanding, as games are not created from a vacuum and result from deliberate constraints, opportunities, and decisions. Investigating how game designers can navigate the challenges and opportunities around failure, these perspectives cannot be overlooked, and need to be put in dialogue with other the other voices available for investigation: doing so "helps us observe how even small changes in one layer can cascade in others" [85]. In other words, those perspectives are the crucial step allowing us to understand how decisions made in the studio will impact the design in the game and the player experience. As argued by the MDA framework, "by understanding how formal decisions about gameplay impact the end user experience, we are able to better decompose that experience, and use it to fuel new designs, research and criticism respectively" [85].

Denisova et al provide a pointedly relevant example of the valuable process of including game designers in research, with their interview study around designing emotionally impactful games [49]. While research had already explored video games' potential for emotionally salient experience, this

particular study dives into the detail of the reasoning of the designers behind such experiences. This process highlights both the opportunities and limitations game designers face when designing such experiences, such as the lack of implication of players in the evaluation process during the design [49].

Likewise, production studies look into very granular detail into the making of specific titles, offering great insight into highly specific design decisions and processes under specific conditions and contexts. De Smale et al, for instance, collaborated with 11-bit Studio to study the production context of their game *This War of Mine*, documenting it through interviews with studio members as well as game design documentation [46]. This particular type of research is not generalisable (nor does it seek to be) because it examines very specific case studies and titles, but the level of detail in the reflection around the design process and game design constitutes an invaluable contribution to our understanding of game design, game production, and the games industry. Crucially, the avenues of communication between games professionals and academics are difficult to navigate: Benoit et al point out that generally speaking, between practitioners and academics, different ideas of relevant material, different priorities, and concerns around cost can make it difficult to establish such collaborations [17]. Greenwood et al, looking at academics and game practitioners specifically, listed the following barriers to collaboration [76]:

- Research outputs are difficult to access outside of academia
- Industry does not always understand what research does and produces
- Each side has opinions of the other and around what they think they do, how they think they work

- Research moves at a slower pace than industry
- Concerns around IP issues and trust
- Lack of incentives for such collaboration and complicated administrative questions

Yet, this collaboration was indispensable to answer the research questions outlined earlier in this section. This research's aim was to study and understand the granular details that go into the very specific dynamics of failure, and to explore how game designers can circumvent or address them. In other words, this project had both a theoretical and a design component. The next section outlines how I went about addressing this divide, by involving game designers in my research process throughout my research, and how I turned to research through design to address and answer my research questions.

Methodology statement

The research questions established in the literature review outlined two lines of inquiry: the perspectives of video game players, and the perspectives of video game developers. Most importantly, the research questions revolved around the junction between the complexity of designing failure and the complex experiences that result from it. In other words, understanding how to approach the design of experiences of failure constituted the crux of my research, making it a design problem as much as an investigation into player experience. Player experience and design, throughout my research, were inseparable. As such, addressing a design problem required looking into a design solution. This section briefly outlines the design approach used to address the research questions, namely the design of a cards-based toolkit, and the reasons behind those decisions - Chapter 6 will outline the toolkit design process in much greater detail.

As previously outlined, academic research suffers from a disconnect from the video games industry; as a result, research can often focus extensively on the player experience and be disconnected from the design side of the medium. However, as Hook and Coulton argue, there is space for including design research in games research, particularly at design as a means and output of research [83]. Investigating the literature around design and research,

Hook and Coulton, citing Frankel and Racine [67], point out two areas of design research particularly relevant to the research questions I investigated: research about design, which looks into the “experience of designers and those who use their products” and research through design, which consists in “creating design knowledge and not the project solution” [83]. In other words, research about design, applied to the research questions of this thesis, was research about game design, game designers, and video game players; whereas research through design was an avenue of inquiry into the game design process by way of designing, and learning from this design process rather than just the resulting product. In Hook and Coulton’s words, “there should also be a place for game design research that provides reflection on the processes of design” [83].

Hook and Coulton specifically talk about using *game* design as a means and output of research; however, I argue that their argument applies to other forms of design intended to support the game design process, such as the design of softwares, tools, or toolkits. They state: “if game design research is to more closely align with game design practice, this would suggest it should take a turn towards facilitating research outputs that actively encourage the inclusion of designers’ reflections on a particular design process.” [83], a reflection that indeed does not limit those potential outputs to other games. Zimmerman and Forlizzi specifically describe research through design as a research process that focuses on “how the application of design practice methods to new types of problems can produce knowledge” [172] - in other words, how the application of design practice methods for the purpose of research can produce a type of knowledge that would not be accessible

through other means, offering a unique perspective into designerly problems and questions. The value of research through design also lies in that it does not limit the research to the researcher's perspective: it also brings in the voice of the users of the intended product [27]. For this thesis, the intended users of such a toolkit were game designers and developers: in other words, experts in their field, who would bring invaluable knowledge and expertise to complement my more academic background and focus.

3.0.1 Epistemological positionality: interpretivism and qualitative research

To investigate how game designers and developers can approach the question of implementing positive experiences of failure in their games, it was necessary to explore player experiences, design perspectives, and the act of designing itself. Therefore, I followed a complementary approach of empirical research about design, and practice-based research through design.

The epistemological position I adopted throughout my empirical research was that of interpretivism. Interpretivism as an epistemological position affirms that the subjective interpretation of the human experience lies at the centre of the object of study, through the eyes of the participants of the research and through the eyes of the researcher as well. Qualitative research is often described as interpretivist by nature [165]. Denzin and Lincoln describe it as "the avowed humanistic commitment to study the social world from the perspective of the interacting individual" [50]. Interpretivism allowed me to firmly anchor my research in the experiences of the video game players and video game designers who lied at the center of my inquiries.

The first step was to investigate players and designers perspectives, which constituted the research about design part of my research. In order to garner those perspectives, I followed research methods widely adopted in HCI research. I started by using an exploratory approach through an open-ended survey [30] to cast a wide net and paint a landscape of what video game players consider to be positive, desirable experiences of failure. I then continued with an interview study with game designers and developers from the industry, to focus in more detail on the design process itself and what considerations go into it [30]. Both of these studies followed a qualitative research method called Reflexive Thematic Analysis [24], and followed an approach which is firmly interpretivist in that it focuses on the participants and the researcher's reflexivity and lived experiences ('Erlebnisse', lived experiences, as emphasised by Wilhelm Dilthey as central to the human sciences [54]) to provide a rich, contextually informed description and interpretation of a given phenomenon (Geertz calls this 'thick description' - the description of a phenomenon along with the social and cultural context in which it occurs [74]).

Once these two studies were completed, the next step was to reconcile the existing literature, those player perspectives, and designers perspectives to delve further into the missing component of the moment of design; namely, identifying the granular detail of the intricacies of designing failure, the opportunities that arise, and the obstacles that remain - and how to address them by understanding them more clearly. At this point, the process of research about design turned into research through design. The design of the toolkit itself, too, is rooted in the idea of lived experiences, as its format and contents are designed to draw on the personal experiences of the users to

tease out ideas, reflections, and design strategies.

3.0.2 Research through design: toolkits as methods for design

The use of toolkits to investigate such granular design problems and reconcile academic research with industry practice, is a well documented practice [88]. Designers have been particularly interested in this concept in the context of encouraging behaviour change through design, as per Lockton’s Design With Intent toolkit [111], or as vehicles for reflection around design itself such as Logler, Yoo and Friedman’s Metaphor cards framework [112]. Peters, Loke and Ahmadpour, in their review of existing analog toolkits, break them down into seven possible types, and argue that toolkits can be any combination of those seven types: methods, prompts, components, concepts, stories, embodiment and construction [130].

In game design, one of the most pertinent examples for the purpose of this thesis is Matthew Whitby’s ‘Challenging Perspectives on Mental Health’ (CPMH) Toolkit [162]. The CPMH Toolkit was designed as a translational resource to help game designers create perspective-challenging experiences, but the detailed account of the creation of the toolkit itself provides invaluable insight into the challenges of creating such moments, and of translating knowledge into actionable talking points meant to support a creative design [162]. This approach aligns with the research questions outlined in this thesis. Therefore, I explored the creation of a design tool created to accompany and support designers during the design process, with the double objective of: 1. using the design process of the toolkit to approach the ques-

tion of failure from a designerly angle by reframing existing knowledge and my previous research into a design-centric format, and 2. creating a toolkit that does not offer definitive solutions to the question of designing failure (for no one design idea will work for every single game possible), but prompts and supports design discussions and reflection.

Pointedly, Dalsgaard proposes that a creative design process can be considered an archetypical example of inquiry. I define designerly inquiry as an explorative and transformative process through which designers draw upon their repertoire of knowledge and competences as well as resources in the situation, including instruments, in order to create something novel and appropriate that changes an incoherent or undesirable situation for the better” [44]. Where the first and second studies of this thesis followed a qualitative HCI methods approach, the third and fourth studies marked a turn to research through design, following Dalsgaard suggestion that the creative process itself is an act of inquiry: first, the creative act of designing the toolkit, second, the act of using the toolkit in the creative process, by having game designers use it in a game design workshop. Thus was the Game (Not) Over toolkit created.

Once the toolkit was created, it was then tested with a group of game designers. Once again, interpretivism lied at the core of my approach: acknowledging that I was examining the specific experience of a specific group of people using this toolkit, I followed a resolutely qualitative approach to content analysis [57] [119], focusing on the contextualisation and ‘thick description’ of my participants lived experiences rather than the statistical validity and potential for generalisation: thus, in line with Schreier’s nuanced

reading of qualitative content analysis [146], I did not run inter-rater reliability checks nor did I include frequency counts. This more quantitative approach would not have been aligned with the goal of the study, which was the thick description of the participants' experiences during the testing workshops.

3.0.3 Positionality: my personal game design experience

To further situate the context of my research, I must highlight that I have some personal experience with game design and development, which informed and nourished my interest in a more game design-focused approach. Because of this background, I was more sensitive to and aware of the importance of the perspective of game designers, and how detrimental to my research their absence would be. My experience included, at the time of research:

- Over a year of professional experience working at Sandbox Interactive, an independent video game studio producing Albion Online, a highly competitive, PvP-focused MMORPG. I was employed there as customer support agent, and worked closely with players and developers.
- Courses in game design and game developments taken as mandatory modules on my PhD programme at the Intelligent Games and Game Intelligence Doctoral Centre, which were core components of my doctoral training
- Participation in multiple game jams between 2019 and 2024

- At the time of write-up of the thesis, I started working as a games user researcher in industry, further cementing those perspective during write-up

The aforementioned experiences all informed, knowingly or not, my approach to this thesis and why game design and the merging of player and game designers perspectives always lied at the heart of my inquiry - as well as my interest in finding a design solution to what clearly appeared to be a design problem.

Having now laid out the theoretical and research landscape from which I constructed my research questions and approach, the next chapters will outline the individual studies that addressed and answered my research questions, and led up to the creation and evaluation of the Game (Not) Over toolkit. The next chapter focuses on drawing out player perspectives and painting an initial landscape of what makes failure a positive component of video games, and the contexts in which such an experience becomes possible, and even desirable.

“Slow down and look”: Desirable aspects of failure in videogames, from the perspective of players.

4.1 Introduction

Whilst research has investigated how players react to instances of failure in specific games, the effects of frustration on play experience, and how failure works within intended learning processes, there is comparatively little literature investigating how players actually define failure themselves, and what they believe its purpose to be in the medium they engage with. In the research outlined in the previous chapter, participating players would be given specific games to play, or be confronted with specific instances of failure. The onus of defining failure and its accepted purposes or benefits would most often fall upon the researchers; likewise, literature investigating the merits of failure, such as Juul’s *The Art of Failure* [94] or Aaron Smuts’ *Paradox of Painful Art* [150] focus on a more heuristic approach that relies on their extensive expertise and experience with games.

Player-oriented perspectives are still lacking in regards to the question of failure. Centring research around player perspectives, however, makes a sig-

nificant contribution to the general understanding of how failure may affect the player experience. For example, Anderson investigated self-described experiences of players by conducting a study wherein participants would have to play *Cuphead* (a game known for its high difficulty). Anderson then interviewed them about their experiences, thus more explicitly looking into player perspectives in the players' own words. The study highlighted how players themselves described what failure was, to them, during their experience of playing *Cuphead* (citing, for instance, participants describing failure as their lack of ability to progress, to perform adequately, quitting the game, or reporting not feeling like they failed at all because of the lack of severe punishment for failure in the game) [6]. Similarly, Juul sought to determine whether players preferred games in which they do not feel responsible for their failure and determined that participants in his study provided seemingly contradictory opinions: players do not want to lose or fail, but failure is desirable because it provides players with a chance to reconsider their strategy, and winning without ever losing is not a satisfactory outcome [91].

Research in player perspectives has pointed towards failing being a valuable component in emotional experiences. As previously discussed, failing does not typically feel good, and can be very frustrating, but failure can also trigger powerful emotional responses in players that can at times be valued experiences. To uncover these experiences, Bopp et al surveyed players about emotionally moving games that they played and whether these experiences were rewarding, and have found that their participants did value the process of experiencing negative emotions (such as loss, sadness...). Such experiences were often tied to in-game events such as losing a character or experi-

encing the negative consequences of their own, often failed, actions [20]. They also investigated how players experience emotional challenges, and found that games tying difficult themes and emotionally charged content to failure were often praised by their participants [21], hinting that beyond the idea of failure being a useful tool for player engagement by helping maintain a state of flow (or breaking it) or teaching players about game mechanics, there is also be space for players to enjoy failure as an emotional experience with a heavier focus on its narrative function.

Letting video games players speak in their own voice sheds light on areas of interest not yet investigated by prior research, or perhaps going against assumptions that people working with games (either game designers making them or game researchers studying them) may have. That is not to say that player input will uncover everything there is to know about failure or that player voices must be the sole authoritative voices on the matter, but their inputs are crucial to understanding how games affect them, or how they perceive games to affect them. This lived perspective is particularly crucial to account for when attempting to understand when and how failure becomes a *desirable* feature in games, an addition to the player experience, rather than a distraction or an element detrimental to their experience. This angle of positive, desirable experiences of failure speaks to game design and successful implementations of failure, wherein failure contributes to the overall experience of a game, as well as games research investigating the positive aspects of play, even in the experiences that, at first glance, we seek to avoid.

Work remains to be done to understand how players conceptualise failure as a positive element of play, and into the multiplicity of perspectives that

may thus be uncovered. Therefore, this study focused on how video games players conceptualise positive, desirable experiences of failure. The research questions addressed in this study were as follows:

- RQ 1: How do players perceive failure as a positive or desirable aspect of games?
- RQ 2: What qualities, if any, do they associate with their experiences of failure?
- RQ 3: What kind of experiences, within and outside the game, do they associate with such experiences?

Rather than constructing a definitive theory or model of failure, this study identified themes and patterns that lay a foundation to understanding how players interpret the presence of failure in games, and what benefits they say they derive from experiencing it in a wide range of games and contexts. The study consisted of an open survey published on social media (Reddit and Twitter), and reflexive thematic analysis (RTA) was conducted to analyse the data. After collecting and cleaning up 244 usable responses from participants, the analysis resulted in three overarching themes depicting player perceptions of the benefits of failure in video games: failure as a learning experience, failure as a social experience, and failure as an affective experience.

4.2 Methods

4.2.1 Qualitative survey - design and distribution

In order to find out more about video game players' perceptions and definitions of what constitutes positive experiences of failure, an anonymous online survey was designed. Because the project aimed at drawing an initial landscape of player perceptions of failure, an open-ended anonymized survey would help aim for a wide pool of participants, and effectively gather a variety of opinions and experiences, while retaining a key focus on the detail of the participants' lived experiences thanks to the open-ended nature of the survey.

This project was positioned to be deliberately open-ended, and to allow participants to follow their own definitions and understanding of what constitutes failure in video games; as such, there is a degree of freedom of interpretation of the terms used in the questions (ex: 'failure' or 'positive experiences of failure'). This research project was an exploratory one, where the focus was the participants' own lived experiences and conceptualisation of failure, without restricting their answers by the researcher's own personal idea of what failure is in games: by conducting a survey (thus removing the possibility of the researcher intervening) and not giving strict definitions for the terms used, participants were encouraged to include all and any experiences they thought to be relevant in their answers.

The survey consisted of a series of open-ended questions asking participants to share: 1. a memorable experience of failure in a video game, 2. how failure contributes to their experience of a game, and 3. What, in their

opinion, are the positive qualities of failure in video games. To complement this open-ended, qualitative data, participants were also asked a few optional demographics questions in order to gain a better understanding of the kind of players making up the pool of participants: their age range, gender identity, how long they have been playing video games, how often they play video games, what games they have recently played, and what their favourite games are. The open-ended questions asked were as follows:

- Please tell us about a memorable experience you had failing at a video game. What game were you playing? What about the event made you identify it as a failure? What about it made it particularly special or memorable for you?
- What do you think failure brings to a video game, if anything?
- Do you think it is possible to have a positive experience of failure in a video game? Why/why not?
- Can you name a video game where failure was a positive part of your experience? Why?
- Lastly, what do you think is the effect of failure on the game's story, if any? (ex: in a narrative-driven game, when one of your choices leads to negative consequences)

The survey was written in English and published on a web-based platform, Qualtrics, and shared on social media. The survey was posted on Twitter (now X), using the hashtags #Games and #VideoGames in order to reach active player communities, and #AcademicTwitter, #GamesResearch, #HCI and

#ComputerScience in order to reach colleagues in academia with similar research areas who may in turn share the survey in their own networks, including friends, colleagues, and students who may have an interest in video games. As this initial round of posting would likely primarily reach my immediate and expanded circle of contacts, the survey's reach was expanded by posting on Reddit, in order to reach more non-academic active player communities. It was posted on the subreddit /r/truegaming, a major games-centric subreddit where moderators allow surveys to be posted after being reviewed by a moderator, and on /r/SampleSize, which focuses specifically on surveys and allows redditors to share theirs in hopes of garnering participants. Finally, as these platforms had the potential to return a disproportionately large number of male participants, the survey was posted on the Facebook group 'Women in Games' in hopes of boosting participation from female-identifying and other gender identities and minorities in the demographics.

The survey and the research project received ethical approval from the Physical Sciences Ethics Committee at the University of York.

4.2.2 Participants

The target demographics were English speakers, native or otherwise, over the age 18 years old. In a bid to encourage diversity in the responses, the survey was designed to appeal to all levels of experience and literacy with video games, with no specified level of experience, genre preference or platform preference specified in the advertisement.

The survey was closed two weeks after its initial publication and after being re-shared a few times on social media. After cleaning up the data to

exclude responses that only included the participants' demographics information but no answer to the open-ended questions at all, the survey returned a total of 244 usable responses. According to the demographic data collected from the survey, responders included 152 male-identifying participants (62%), 70 female-identifying participants (29%), 10 participants identifying as non-binary (4%), 3 participants identifying as 'other' and one participant chose 'prefer not to say'. The remaining participants chose not to answer the optional gender question.

The vast majority of participants were on the younger side, with 127 of participants (52%) stating being aged 18-24, and another 89 participants (36.5%) stating being aged 25-34. The remaining participants were over the age of 35 or chose not to answer the question.

Similarly, the vast majority of participants were experienced video games players, with 207 of them (85% of participants) reporting that they have been playing video games for 10+ years. As for frequency of play, the vast majority of participants reported playing several times a week or every day, with 46.7% of them reporting the former, and 42.6% of them reporting the latter. 8.6% of participants played several times a month, and 1.6% reported playing only once a month - with one participant not disclosing how often they played.

Despite not excluding beginner players or very casual players in the design of the survey, the participants pool was expected to mostly include experienced players after making the decision to turn to Reddit for recruitment: Reddit is a forum for people to share their experiences and knowledge about their interests, and not every player takes the time to engage with such fo-

runs or chooses to engage with games outside of their personal play time. It is therefore to be expected that participants recruited from Reddit, who would take time out of their day to engage with the community and answer the survey, would be particularly passionate players who may have had a long-vested interest in video games. Their experience with games and in articulating their ideas and opinions were a resource to tap into, rather than a limitation to the research.

In order to further contextualise the data and get a clearer picture of the type of players who answered the survey, as well as a way to ease participants into thinking about games before moving on to the open-ended questions, participants were asked to share the titles of their favourite games, as well as their most recently played games. Those individual titles were coded during the analysis process, and registered a total of 770 individual titles and franchises. Amongst the most cited titles were the *Elder Scroll* series (1994-2020), in particular *Skyrim*, *Minecraft* (2011), *Animal Crossing: New Horizons* (2020) and the *Dark Souls* franchise (2009-2020). Those titles confirm that the pool of participants is mostly composed of PC and console players, with mobile-only players being an absent demographic in this study. This is due to the platforms chosen for the recruitment process: primarily mobile players may evolve in different communities than players playing exclusively or predominantly on PC and console, with mobile gaming having different connotations than other communities usually associated with gaming. It should also be noted that mobile-only players would constitute a different demographic entirely, that falls out of scope from this project: mobile games create intricate connections between the mechanics of failure

and monetisation, making it a very complex phenomenon that does not necessarily find its equivalent in most PC or console games. Thus, the focus of this study remained on PC and console players.

The presence of *Animal Crossing* at such a prominent place in the data might be of contextual interest: the survey was published within the first few months of the COVID-19 pandemic, at the height of many countries' lockdowns, and both press and research have suggested *Animal Crossing*'s success to be at least in part tied to players' need for gentler, more community-centered games in those difficult times [135] [109] [169].

4.2.3 Reflexive thematic analysis

HCI research has found that qualitative methods are particularly well-suited to explore the nuances and layers of people's experiences of a given phenomenon on interactive technology [30]. For this particular research project, given the nature of the research questions and the nature of the data collected, a Reflexive Thematic Analysis approach was the most appropriate method. Thematic Analysis (or TA) is 'a method for identifying themes and patterns of meaning across a dataset in relation to a research question' [22]. It is a method that allows the researcher to investigate a qualitative dataset in great detail, and to extract the information relevant to the research question, shape this information into themes and patterns, and lastly, to critically engage with the dataset to create meaning in relation to the research question.

There are various ways to engage with thematic analysis [24]: for this particular project, the focus was narrowed on reflexive thematic analysis

(or RTA). According to creators of the method, Braun and Clarke, themes do not emerge in RTA: instead, they are created through the concordance of the data and the informed reflection of the researcher through the lens of their own knowledge, expertise, and/or experience of a subject [22] [24]. For instance, an autistic researcher doing RTA for a research project on the experience of autistic people of a certain phenomenon, would be able to use their own lived experience as a resource to inform and enrich their analysis of the dataset. I, as the lead researcher behind this project, am also a video game player: the games I typically play and am familiar with, my experience and games literacy, all inform my own understanding of what failure in video games may look like, and what its benefits may be - as does my expertise as a games researcher specialising in this area. RTA acknowledges this bias, and values it as an additional tool of reflection and a resource for the researcher to draw from.

After collecting and cleaning the data, the first step was a first stage of data familiarisation, meaning reading through the entire dataset, making notes and memos about the dataset, in order to be immersed in the data and get an initial sense of the participants' responses, and the kind of information that was collected. The next step was a first pass of complete coding [142] [24] in NVivo 12, meaning that the entire dataset was coded, without excluding any content. This involved reading through all the responses, and assessing each answer to the survey's open-ended questions, before coding them based on how the participants talked about their experiences of failure. Because the data was examined to highlight the experiences of the participants, and through the lens of RTA and video games studies, both semantic codes

(descriptive codes that reflect exactly what the participant says - Saldana calls this ‘in-vivo’ coding [142]) and latent codes (more interpretative codes, where the prior knowledge of the researcher feeds into the creation of a code, as opposed to the participants’ words only - for instance a code created from a participant’s thoughts combined with a theory the researcher is familiar with related to the participant’s experience) were used [22]. A second pass of coding was performed to hone in on specific instances of failure (if participants identified failures specifically tied to puzzles, boss fights, narrative choices, etc) and determine the qualities participants associated with such failure. Finally, a third pass of complete coding was done to refine and test the final codes against the dataset. I did the three passes of coding, and their supervisor reviewed the codes after each pass, providing feedback as they were progressively refined, rephrased, and grouped together to create the themes that became the results of this research project.

4.3 Results

The coding and analysis process resulted in the construction of three major themes describing the participants’ experiences and opinions of desirable experiences of failure. The first of these themes relates experiences when players perceived failure as a learning experience; the second one relates experiences when players perceived failure as a social experience; and the third relates experiences when players perceived failure as an affective experience. This section will break down each of these main themes as well as the two to three sub-themes that further capture the nuances of these experiences.

Learning	Social	Affective
<p><i>Learning about the game:</i> describes instances where players learnt something about the game. This includes the rules and limitations of the game, game mechanics, their own performance, lore-related information, etc.</p>	<p><i>Bonding through failure:</i> describes instances where players report failure as a bonding experience, wherein the presence of others affected their perception of failure and reaction to it. This includes the fun of failing with friends, alleviating the gravity of failure by turning it into a collective experience, finding support in communities, and bonding with characters inside the game (NPCs).</p>	<p><i>Processing emotional experiences:</i> describes instances where players describe failure as an emotional process, wherein they experience strong emotions, both positive and negative, and identify failure as a trigger to appraise, process, and embrace those emotional reactions.</p>
<p><i>Tapping into real-life issues:</i> describes instances where players report failure as relating to real-life topics. This includes the development of skills transferable outside the game, and reflections around topics mentioned in the game and existing outside of it.</p>	<p><i>Working together:</i> describes instances where players had to work with others to overcome failure, tapping into and cultivating valuable social skills such as conflict de-escalation, teamwork, compromising, managing group dynamics, etc.</p>	<p><i>Appreciating the game:</i> describes instances where players identify failure as a trigger for a process of reflection around the game, wherein they gained new perspectives on the game, re-appraised their experience of it and its various aspects (mechanics, story, etc); and reported appreciating the new depths and layers of meaning that failure added to their initial experience.</p>
<p><i>Acting upon oneself:</i> describes instances where players report failure as the trigger for self-reflection and self-awareness.</p>	<p>//</p>	<p>//</p>

Table 4.1: Player experiences of failure: Categories and themes

While each of these themes stands on its own and describes a specific set of experiences, it should be noted that those three types of desirable experiences of failure are not, in practice, entirely separate, and can easily overlap and complement one another during specific gameplay instances. Based on the participants' descriptions of such instances, these experiences can happen simultaneously, and enrich the experience by building on one another or leading from one to another. For instance, the player can experience an instance of failure as a learning moment that taught them something about the game's mechanics, as well as an affective moment if this instance triggered an emotional response. This chapter will explore each of these three themes in depth, and provide examples to demonstrate their permeability.

4.3.1 When players perceived failure as a learning experience

Echoing the literature previously outlined, for some participants, failure was primarily framed as a learning experience, where failure is a key component of a wider learning loop. It should be noted that this does not demonstrate or prove that learning experiences in games cannot exist without containing some form of failure, or that failure is only relevant in the context of a learning experience. This demonstrates that for some players, failure is perceived as a key part of their learning experience. This outlook on failure is fairly common in video game culture, and constitutes a generally accepted conceptualisation of failure's function within video games, that many players will be familiar with, including some of the participants:

“Failure is a part of learning so is essential and fundamental to any video

game.” (P30).

“Failure elevates video games from just another form of media to a hobby. You can’t fail to watch a movie. You can’t fail to listen to music. Just like sports, you can fail in video games. This introduces elements of skill development and learning and makes them more engaging than other forms of media.” (P51).

In other words, this understanding of the purpose of failure in games may hinge on cultural perceptions and inherited conventions (for example, players having internalised the long-standing die-and-retry model of gameplay), as much as it may hinge on failure actually being a key factor in learning processes. Some participants reflected on this perceived inevitability of failure and challenge, hinting at a possible multiplicity of experiences and levels of tolerance to failure, even as a learning tool, within a non-homogenous community:

“ [...] I think most of the articles and Youtube videos I’ve seen are much more into challenge than I am. Most of the time when I’m playing video games, I want to feel like I’m accomplishing something or having a power fantasy or just experiment. [...] Failing in games usually feels like I’m being told I’m not allowed to play the game because I’m not good enough, and I’m not good enough because I haven’t played the game.” (P233)

Bearing this caveat in mind, those self-reported experiences of failure as learning can be further divided into three sub-themes: learning about the game, tapping into real-life issues, and self-development.

Learning about the game

If games are described as systems as per Salen Tekinbas and Zimmerman [156], then failure was perceived by some participants as an opportunity afforded to them to learn about the way this system operates, its rules, its limitations, how they position themselves within it, and what they are allowed to do or not do in the game. Performance is an example where failure can be perceived as a way for the player to get feedback on how they are doing: failure, or their ability to avoid it, gives players valuable information on whether or not they correctly understand and assess the rules of the game, the resources at their disposal, and the actions they need to undertake to progress through the game. An instance of failure then reflects a possible inadequacy on the player's part, a shortcoming in applying a skill or in comprehending the innate rules of the game dictating the appropriate strategies to follow in order to progress to the next level, the next map, etc. Only once they have addressed and corrected this shortcoming, can they succeed and advance. As one participant expressed it, the existence of failure can signal to the player that imperfect play is acceptable, and that there is room for improvement:

“Failure in casual and competitive play is always a learning experience. Games are not meant to be played perfect the very first time. Every time you fail, lose, game over, die, etc is a chance for you to learn and not get beaten or caught in failure the next time” (P38).

Another participant explained that failing repeatedly to beat the first boss of *Dark Souls III* forced them to take the time to learn to be more flexible in their approach to combat:

“Being stuck on the first boss of Dark souls 3 forced me to learn a different fighting style because my original approach of trying to dodge perfectly wasn’t working. [...] Helped me learn the patterns faster against all enemies leading to an extremely fun run through the rest of the game.” (P186).

While performance is a reflection of how adequately the player is doing based on what the game expects them to do, there is a wealth of other information the player can obtain through failure, that is separate from whether the player interacts correctly or incorrectly with the system. Through failure, players can also obtain information about the system itself, such as its rules (ex: does the player character die and respawn after losing all its health?), its limitations (ex: can the player jump far enough to reach a certain platform?), and its contents (ex: is there story content that can only be unlocked if the player makes a wrong choice?). This information, delivered by the system itself, is information the player can absorb, and later act upon where appropriate, before eventually receiving feedback on how well they have acted upon this information.

The learning loops failure can be a part of are not always limited to player performance: in certain instances, failure can be how the game communicates to the player information that they would otherwise not have been aware of. A participant cited *Limbo* as an example of a game that illustrates this idea:

“Or in games like Limbo, which are not obvious, which do not explain what should be done. You need to try, fail, and then [sic] visualize the new mechanics of the game and understand how it works to succeed in the next attempt.” (P41).

As this participant explained, *Limbo* is a clear example of a game making

use of failure to deliver information to the player. *Limbo* is a sidescrolling adventure game, where the player controls a little boy navigating a hostile environment filled with traps to avoid and puzzles to solve before they can progress any further. The level design, as well as the art direction for the environment and game objects do very little to differentiate the harmful traps the player may run into from harmless decorative elements in the environment. Likewise, the game does not have a tutorial to explain to the player what they should watch out for, and the user interface (UI) is deliberately minimalistic so as to give away as little as possible - immersing the player in a danger-filled, uncertain environment where everything is a potential threat. The only way for the player to determine with certainty whether or not something is a trap, is to walk into it: if the object is a trap, it will behave accordingly, and more often than not, kill the player on the spot. This seemingly ruthless design decision is softened up by the very quick respawn, letting the player pick up where they left off almost instantly, at a save point usually situated just before the trap, allowing for a reduced and minimal interruption of gameplay. These first tries give the player a chance to understand how an obstacle behaves, develop a familiarity of what they should expect, and adjust accordingly. Following these principles, *Limbo* uses failure in a ‘fool me once, shame on you, fool me twice, shame on me’ way.



Figure 4.1: In this section of *Limbo*, the player will struggle to evaluate how any of the elements in the scene will behave. There is no UI or dialogue to indicate whether a. The rope holding the crate will hold if the player jumps on it, b. The trapped silhouette inside the crate is alive or dead, hostile or passive, and c. The crow will attack, fly away, or is only meant to add to the eerie atmosphere.

According to participants, in other games, failure can be designed specifically to emphasise the game's potential for discovery and exploration. One of the participants interprets the presence of failure in games as follows:

"So, most of the time, a failure doesn't mean "Ok, it's no fun time for you now" but "It's an opportunity for you to experienced a side of the game you would not experienced either way" or "That's some good narrative material that come at a price for you, but ultimately, it's worth it"." (P8).

In other words, while failure may bring the player to a momentary halt, it is also an opportunity for them to pause and consider what else they can do, and what else they can see in the game, perhaps as an alternative route while they try and find a solution to the obstacle they face, or perhaps in an attempt at discovering something they might have missed out on, that will help them overcome the obstacle. In a game like *Dark Souls*, the player may fail, and go away instead of re-attempting the fight immediately, instead

exploring the area to find a weapon upgrade or any other item or information that may help them come back to the fight better prepared.

In more narrative-driven games, making a wrong choice, or failing at performing an action, may not lead to the player-character dying, but instead unlock alternative narrative branches that would not have been accessible had the player succeeded [91] and encourage the player to explore:

“Disco Elysium (text-based adventure game) - Failing a dialogue check may lead you to explore better ways to complete the game; there are multiple solutions to every problem (such as a backdoor around talking to an unsavory character to get to a certain destination in the game).” (P121).

In the RPG *Disco Elysium*, the player plays as an amnesiac detective tasked with solving a murder case while navigating the throes of their own deteriorating mental state, illustrated by inner monologues shaping both the skills and actions of the detective, and the rich narrative of the in-game world embodied in the many characters and items interactions available to the player. The player must perform die rolls in order to determine the success or failure of their actions - taking direct inspiration from the game systems in tabletop roleplaying games such as *Dungeons and Dragons*, the story unfolds differently depending on whether the player succeeds or fails.



Figure 4.2: In this section, the player attempts to open a closed door. Upon failing their die check, they find out that the door is not just locked, but ‘jammed shut’ - meaning that they may have squandered all chances at opening it and will have to look for another way in.

As this participant pointed out, in *Disco Elysium* (and any game adopting a similar structure of emergent narrative), failing an action or making the wrong choice leads the player to investigate other solutions in order to solve a puzzle and progress further into the story.

Another participant also brought up *Disco Elysium* to exemplify this flexibility of play brought upon by the presence of a ‘soft’ failure that does not result in a game over:

“Instead, like the majority of failures in Disco Elysium, have the failure open up a different path of the story. For example, in Disco, I failed a check to run away from paying my hotel tab as I had no money and no other way to get money. I thought I was screwed, without a place to stay, and now possibly about to need to restart because the hotel owner saw me try to run. Instead, I crashed and fell and essentially threatened legal action against the hotel if they didn’t erase my debts. The hotel owner hated me now and I made a fool of myself in front of some people, so I would have to find alternative ways

of getting certain information in the future... But I didn't need to restart or reload! I loved this wild weird alternative solution. It was a failure that didn't hinder the narrative, but changed it enough that I remembered that I did mess up there." (P159).

In this example too, failure did not force the player to restart their game or reload to a previous save - instead, the system of the game is such that it enabled them to recover from the failure, and opened up new challenges and opportunities of play stemming from the consequences of this failed check (ie: having to find new ways of obtaining information from NPCs who reacted negatively to the failed check).

Tapping into real-life issues

Beyond what they can learn about the game, participants reported perceived benefits to failure that enabled them to learn beyond the game. Namely, participants reported associating failure to learning experiences wherein they learn about and reflect on skills and concepts that carry outside the game world. In this particular case, games can serve as spaces for thought experiments and philosophical simulations that players can relate to real-world topics, skills, and situations. Doing so may or may not be part of the developer's intended player experience, but failure, and what players learn through and from it, carries a weight even once the game has been shut down and the controller put down.

According to participants, this particular learning experience can entail philosophical reflection, wherein players get to reflect on the real world, current world events, societal developments, etc, turning games into virtual envi-

ronments perceived as fostering critical thinking or even empathy. One of the participants highlighted how the narrative and choice-driven game *Detroit: Become Human*, through its choice-based structure and consequences-driven narrative, made them think about the idea of failure and the consequences of failure outside of the game too:

“Games such as Detroit Being Human [sic] provides players with several endings, some that could be considered failing, but since it depends on your choices throughout the game, it is quite similar to life choices. Those types are positive in my opinion, not only the game has replayability, you start to think of your choices beyond the game” (P26).

In *Detroit: Become Human*, the player alternates between three playable characters, all androids living in a futuristic society where androids are built to live and work under human rule, until some of them begin to gain consciousness and awareness. Throughout the game, the player is confronted with choices, big or small, and narrative branches. The endings that the player will get for all three characters relies on the culmination of all their choices at key points in the narrative: who survived, who was affected by their prior choices, how NPCs perceive their prior actions and decisions. For example, towards the end of the game, the player plays as Markus, an android who has gained sentience and is now leading the android rebellion against human tyranny. In a final face-off against police and military forces, the player can choose between one four options: to kneel, sit, raise their hands, or raise their fist. Whatever decision they make will trigger a response from the armed forces, as well as from the rebellious forces behind Markus: to surrender to the military, to stage a peaceful protest, or to engage in a fight,

will determine subsequent action options, their consequences, and how the game ends for Markus.



Figure 4.3: The player's choices during Markus' last stand

While some of these options will result in Markus and the revolutionary forces' demise, some may choose not to interpret this ending as a failure on their part: the game does give the players the option to die for their convictions, and does not signal this outcome as a game over state. It is only one possible outcome out of many - leaving it up to the player to decide whether this counts as failure, as success, or if Markus and his comrades were doomed from the start. In fact, the revolution may still succeed even if Markus is killed - and the revolution may fail even if Markus lives.

As the participant pointed out, this game design gives the game replayability (as some players will want to replay the same scene and make different choices to experience all the possible outcomes), and may encourage players to contemplate what counts as failure, and what consequences their own choices may have in their everyday lives.

Likewise, another participant pointed out that because video games are a

form of entertainment that does not have consequences on real life, they are a safe space to fail in, and build up skills or resilience or face assumptions in a way that poses no perceived risk to the player:

“Sometimes those lessons from failing in a video game can even teach things that are relevant in real life: developing strategic thought, challenging assumptions, or even teaching real life skills. What’s more, I think failure in a video game can be potentially more useful, since it is a ‘safe’ form of failure, with no real-life adverse consequences” (P209).

As suggested by participants, games offer the possibility of asking questions and exploring themes that people would not necessarily be confronted with in real-life, or under normal circumstances. Narrative-driven games with choice-based systems are a potent example of games-as-thought-experiments [170], wherein the player directly engages with the story and themes of the game, and is given the opportunity to decide how to handle decisions they would not have to make in real life: for instance, life-and-death situations where the player’s decision may mean a character’s death, or sacrificing their moral code for the greater good, or otherwise facing consequences for choices that will not always lead to their desired outcome. Likewise, a player playing *World of Warcraft* will not be limited to learning skills or information that only apply to the game (items or game mechanics for instance), but also learns to engage with broader skills and wider contexts: they develop a familiarity with the MMORPG genre, and develop skills such as strategy, teamwork and adaptability in an environment perceived as low-stakes, low-risks, and safe to fail in, removing a barrier to learning transferable skills they can make use of in other games, or in real life [72] [73].

Relatedly, another participant explicitly linked in-game experiences of failure with real-life experiences of failure:

“I despise negative consequences, so there’s a lot of hand-wringing when we’re faced with a choice. The negative consequence of losing in-game money/credits that we need to build a private army, for example, really pisses me off. It reminds me of losing money in real life because of irresponsible behavior (gambling, for example) or stupid purchases, so it is especially galling.” (P104)

Whilst a negative experience in this instance, it suggests that players can make explicit connections between what happens to them in a game and what they experience in real life. How players will handle these connections may vary significantly from one player to another, but suggests there is a consideration there that game designers may or may not choose to use in their own designs, when deciding how they are going to present and frame experiences of failure to players - emulating experiences of failure that are very close to real life is one design choice, while de-dramatising failure or making it less consequential, is another, amongst many other possibilities.

Self-development

Relatedly and furthermore, failure was not only perceived as a catalyst for learning experiences surrounding the game or transferable skills and philosophical reflection: participants directly related these learning experiences to their personal development, associating failure with a positive process of personal growth. This subtheme is less about what players can learn, and more about how it affects them on a deeply personal level, helping them reflect or act upon how they interact with and navigate in the world, and

who they perceive themselves to be as individuals.

One participant highlighted this multiplicity of experiences, which will vary depending on the game, the situation, or the player themselves:

“Failure at the best of times can provide a learning experience. In some cases failure in video games can teach lessons that promote personal growth, and in others it may just give you better understanding of a game’s mechanics” (P100).

In other situations, failure was identified as a way for players to be confronted with unpleasant emotions (frustration, etc), and have the opportunity to test and reinforce positive qualities such as patience, resilience, and sportsmanship - as demonstrated by this participant who deliberately uses games to try and teach their son a series of positive personal values, that will ultimately help their son live a healthier life in a community:

“[...] I try to be a good sport, largely because I often play with my 9-year-old son. Learning how to be a good sport/teammate is something that I actively think about using video games to teach him with. It makes life so much easier later if you don’t go through it trying to take shortcuts, taking advantage of your allies, accusing everyone else of cheating, etc” (P112).

This parent identified and used video games as a low-stakes, low-risk space to teach their son how to apprehend, appraise, and confront negative experiences such as the frustration of failure and loss, in healthier and more balanced ways. They hoped that providing this space for their son to experience failure with them, and learning strategies to cope with it, would translate into their son’s behaviour outside of games too, both when playing games and in other life scenarios.

Likewise, another participant identified games as a space for them to confront and experiment with the indecisiveness they struggle with in everyday life:

“It tends to make me feel like I should consider more than one angle towards choices. As a very indecisive person, I tend to chose [sic] the easiest route and that often leads to trouble in video games. So it’s both a skill I can develop on [sic] video games and real life.” (P239).

This particular participant referred to their experiences in *Minecraft* and *Call of Duty*. *Minecraft* is what is colloquially known as a sandbox game, where players are extremely free to do whatever they want, and the game’s system supports this creativity: most objectives in the game are player-driven, and the way for players to attain their objectives is entirely up to them: if they fail at achieving a goal they have set for themselves, there is very little stopping them from taking an entirely different approach to it (for example by crafting entirely different items and resources, crafting being at the heart of *Minecraft*’s gameplay). In *Call of Duty*, players get objectives set by the game, but have a range of different weapons at their disposal, as well as an open level design providing them with different vantage points, hiding spots, and other environmental elements they can take advantage of, providing players with more than one option to complete an objective. Some of these options, as P239 pointed out, may seem easier or lower-risks than others, only to turn out to be less productive or effective than anticipated - thus encouraging players to consider higher risk, higher rewards strategies.

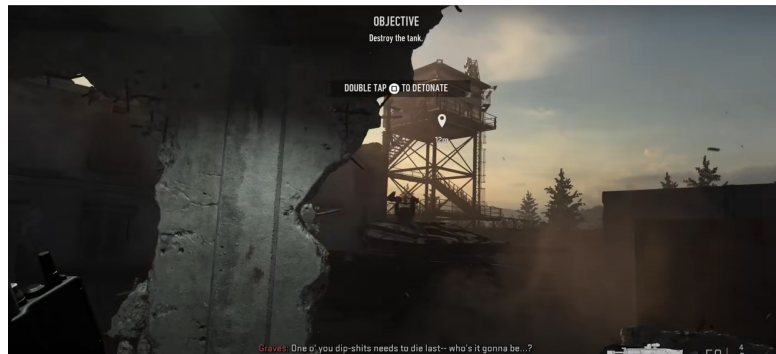


Figure 4.4: In this campaign in *Call of Duty: Modern Warfare 2*, the player is tasked with destroying a tank. They first throw a detonator at the tank through the window of a ground floor room, but fail to destroy it and notice the tank barrelling towards them.



Figure 4.5: Changing tactics, they abandon the relative safety of walls to take to higher grounds and attempt to destroy the tank from the rooftop, where they are more exposed, but may have better chances of success.

In certain games, what seems like the easiest or most straight-forward route may indeed not be the route intended by the game designers: a level may be designed to get players to learn a new skill, or apply it in a more difficult setting, or a boss fight may be a skill check, forcing the player to master a certain skill before they can progress further into the game. In other situations, game designers may be trying to encourage players to take risks. A stealth section in *Assassin's Creed* might be, on paper, easier if the

player sticks to hiding in bushes and trying to avoid being noticed by guards, but they may end up in a pinch because too many guards remain just before they reach their objective, making it impossible to complete the section. On the other hand, challenging themselves to go above ground, assassinate a few guards, and try out riskier strategies with a broader skill set, may have the best pay-off by making things considerably easier as the player progresses through the section. It is, however, a risk that players must decide to take for themselves, and not a risk that all players are willing to take due to their own personality or gaming preferences. This point may be particularly noteworthy for narrative-oriented games, where a sense of morality or self-judgement may come into play, and where players may seek to be their most moral selves - or explore what this could mean:

“I tend to avoid bad endings in video games due to my disappointingly bjj sense of morality (Can’t leave the slaves locked in a cage after I stop their oppressors, Right?) This I’d say is a big failure with video games, as most of the time you have to straight up not care enough about the game (As exploration is generally tied to getting the good ending) or actually want the bad ending. I’m the type of person that actively avoids making bad choices or losing whenever possible, even going to such lengths as to say, in my head, that the story I want to happen would require a character to not die instead of sticking to whatever the game gives me. After all, those are mistakes on my side or due to bad luck, mistakes that can be fixed to reach ”perfection”... Why should I not strive for that when it’s ever so close?” (P95)

This participant mentioned *Metro Exodus* as one such game where players may feel the constant pressure to make the right call and avoid bad decisions

at all costs. Indeed, in *Metro Exodus*, a morality system exists and has repercussions on the game: for example, during a particular section of the game, the player has the option to kill or just knock out some enemies. If they kill them, one of their companions, Duke, is murdered in retaliation. If they spare them, Duke lives.



Figure 4.6: In the first screenshot, the player failed to uphold their morality score, resulting in Duke staying behind and dying in the Volga assault.



Figure 4.7: In the second screenshot, the player succeeded in upholding their morality score, and Duke successfully escapes with the player. For some players, this tension between success, failure, morality, and good and bad endings, can be a source of pressure to negotiate, but also push them to carefully reflect on those notions, and how they uphold them in their own gameplay.

The variety of opinions and experiences presented here points to players not being a uniform entity: different players will feel very differently about the same experiences, and this diversity is worth acknowledging.

As previously pointed out, games are systems where various elements interact together to deliver the designers' intended experience. Participants

highlighted that challenge and the threat of failure contribute to their perceived learning experiences, but that they are not the only ones - the contents of the game, the story, team dynamics etc, all play a part in the process. However, failure was consistently pointed out as a perceived trigger for such experiences.

4.3.2 When players perceived failure as a social experience

When asked about memorable experiences of failure, some participants reported experiences wherein failure is shared with others, ranging from teammates, to friends and siblings sitting on the couch, to NPCs within the game's world. The presence of others, real or fictional, online or in real life, turns failure into a collective, shared experience, creating opportunities for meaningful bonding moments, or turning the sting of failure into something fun, enjoyable, or lighter and easier to stomach than it would have been otherwise.

Bonding through failure

Participants reported instances of failure as significant and memorable due to the presence of other people - be it other players, spectators, teammates, friends, family, partners, or in-game NPCs. In this configuration, failure becomes a phenomenon of note because it entails, and gives birth to, a social experience. This social experience can be a negative one (due to other players' toxic behaviours, for instance) or a positive one - because of the angle of this research, focusing on positive experiences associated with failure, the latter is the primary focus, and the survey enabled those positive experiences and

the factors informing them to be highlighted. Those positive experiences, as reported by participants, are deemed positive in the moment of failure thanks to some form of social interaction alleviating the frustration and other negative effects of failure, or in retrospect, with participants looking back on these experiences - the game, the stakes, and the context in which failure occurred, all help shape the reported experiences discussed here.

One such instance of failure turning into a positive experience by virtue of being a shared experience, is when the presence of another person helps de-dramatise what would otherwise turn failure into a more negative experience. One participant explained how playing with their partner ensures that failure turns into a fun or funny experience, wherein one person's failure becomes the other's entertainment, and vice versa when they switch places:

“Failure provides an opportunity to eventually triumph, and it also provides an opportunity to laugh at our idiocy, impatience, confusion, bad aim, etc. My husband and I can admonish the other for failing, and it doesn't affect the marriage in any way :) If anything, failing and ultimately succeeding together is great for our bond.” (P104)

In this situation, the emphasis or value of the play experience in the moment of failure is not performance or a sense of accomplishment or lack thereof, but the opportunity to laugh at one's mistakes and share a playful moment with another party - in spite of, or perhaps because of, the *schadenfreude* incurred. This example mirrors streaming communities and the popularity of games such as *Getting Over It With Bennett Foddy* on streaming platforms: failure can be a ridiculous, funny, and entertaining spectacle for both the player and the spectators. Games such as *Fall Guys*,

Humans Fall Flat, or *Surgeon Simulator*, all lean into the comedy of failure and spectatorship, making for highly streamable content.

Where failure remains a potentially frustrating or otherwise negative experience, a sense of community support can help alleviate those negative effects, and turn a player's failure into an opportunity for learning, specifically learning from another player, drawing on their experience and finding relief in the support of other players. In competitive spaces, peer support and solidarity can be part of the experience, and failure thus becomes a reason for socialisation and connection, as pointed out by this participant:

"A couple of things come to mind, in fighting games if you go to a local tournament and get beaten by someone better than you, if you approach them and ask if they were to pick up on any of your habits that you can fix in most cases they'll be happy to help" (P241).

As previously mentioned, collective experiences in gaming communities can also turn sour, especially when teammates do not perform as expected, or are otherwise perceived as failing to meet their teammates' expectations. It is important to highlight those cases as well to avoid undermining the more toxic behaviours that can be traced back to experiences of failure, where failure and peer pressure become memorable in a much less positive way: accounting for these negative experiences is key to acknowledging the boundaries between positive collective experiences of failure, and negative ones - desirable and undesirable ones:

"I tried to play [League of Legends] recently, I was completely new at it and tried for the first time with other players after practicing against bots for a while. There was one particular player in my team who would say bad

things to me about everything I did even after telling him it was my first time. After that I did not play the game again, it wasn't enjoyable at that point" (P181).

Players and their teammates' approach to failure, the importance they give it, and how they frame it within the context of their collective gaming experience, can change the experience that they derive from an instance of failure. In the examples above, failure can result from, and in, social interactions that become detrimental to the overall experience of a game, especially when the game revolves around the multiplayer experience, putting the social aspect of it at the centre and forefront of the player experience. The people the player plays with, and who they interact with before, during, and after play, and for what purpose, are key considerations players have to contend with when faced with experiences of failure.

Some participants explicitly emphasised failure as a trigger for social experiences, creating an opportunity for players to come together and foster a sense of community - there is strength in numbers, and one player's resources may help another overcome a similar obstacle they have had to overcome:

"Not a specific game, but in RPG's for example being stuck somewhere or not being able to beat a difficult enemy can create conversation and even lead people to joining a community of other people to discuss strategies" (P211).

Even when a game is designed to be a single-player experience, access to the Internet and social media ensures that even when a player is stuck in a repeated loop of failures and is unable to overcome an obstacle on their own, it is easier for them to access resources made by other players. Failure can give them the push they need to explore these entirely community-created

resources and repositories of knowledge (walkthroughs, theorycrafting in forums, gamefaqs..), and engage with the game in a different, more connected way:

“Also playing Sekiro, the inability to navigate the game smoothly, push me to consult online guides and videos on how to play it opening up for me a new community and form of entertainment that I didn’t yet experience.” (P23).

It should be noted that bonding experiences are not limited to other players, or to real people at all. Players get attached to the characters evolving inside the game, accompanying them on their journey, arguably especially so when the narrative of the game builds up towards an emotional attachment between the player and the characters they encounter on their journey. Games such as *The Walking Dead*, *The Last of Us*, or *This War of Mine* tie the fates of other characters to the player’s decision, allow them to grow alongside the player, and may seek to instil a sense of grief and sadness when one of those characters dies due to a mistake or a loss on part of the player, thus fostering a sense of responsibility for the well-being and safety of these characters:

“The story becomes deeper. The relationships with certain characters influence decision making. A choice that got one character killed while saving the second may lead to me continuing to choose person 2 over others moving forward because now I have a ‘bond’ with them” (P29).

Lastly, allowing the player character to fail and live with the consequences of their actions in games that do account for the narrative development of failure, can provide players with a feeling of relatedness, and make their

avatar and the main character of a game feel more human - instead of brushing off their missed attempts at a fight or a difficult platforming level and pretending the character themselves is infallible, watching their character fail, and get back up on their feet, can help players relate more strongly to a less heroic, but more human and nuanced character:

“It actually peaks [sic] my interest when the story continues after a failure. It makes the game feel more realistic (heroes don’t always win in real life either) and actually motivates me to keep playing in order to overcome my previous failure.” (P88).

“I think in games where failure is handled well and doesn’t ruin the game (which is rare), it really enhances the story because it allows the characters to make mistakes and have flaws. That means I can relate to them more, and the game feels more realistic and less like I’m trying to play a “perfect person” who does everything right. In games where any failure cuts off access to parts of the game or to the story, the effect is to make the player replay that segment in order to get the “good” outcome. I much prefer organic storytelling where failure is something you can fix over time, but I know not everyone likes that.” (P178).

Working together

More specific to the context of multiplayer games, whether competitive or purely cooperative, collaboration and communication between players are key components to a successful play experience. However, many factors can influence the quality of this experience, and when examining experiences of failure, how individuals conceptualise, accept or reject, and react

to experiences of failure, can be a difficult question for players to navigate. Participants highlighted the difficulty of navigating other players' reactions to failure, which can be highly unpredictable, especially when playing with complete strangers - thus putting their social skills to the test, or prompting players to learn the necessary social skills to better handle such situations:

“In team games it presents interesting confrontation scenarios - usually players who were doing well individually will complain or call out specific people that were not doing well. It trains individuals to become skilled in conflict de-escalation, conflict escalation, or conflict avoidance over time” (P56).

Other people's reactions to failure are out of the player's control, at times frustratingly so; but participants did not necessarily see this reality as an unsolvable problem:

“Sometimes, it seems impossible to convince other players not to give up. But I wish I could learn to do that, so in future I could use it to my advantage” (P9).

These insights highlight the necessity perceived by some players to deploy and hone better communication skills, and better adaptation and resilience skills, to help them better navigate tense situations where emotions may run high and peer pressure may otherwise derail their experience. This ability to overcome a frustrating situation as a team, or to use the group's dynamic to laugh and defuse the situation, can also give rise to satisfying experiences where failure is minimised and the emphasis is placed on adjusting a collective strategy and mindset.

“Playing resident evil 5 demo for the first time; I was doing okay until

the executioner majini came out, and I was just not ready for that type of power. I ran around (in the game) screaming (real life) and was completely useless to my teammate (who had previously played the demo, but not warned me about the bossfight). I died over and over again until I finally grew a pair and helped kill him. It definitely felt like a failure because I kept dying, barely even putting a dent in the boss. It was special/ memorable because of how surprised I was, but more so because of how humorous my friend and I found the whole situation.” (P112)

This is one such example of failure being both solved by teamwork (the participant ended up helping their teammate after repeatedly dying) and by the players de-dramatising the toll that failure may otherwise have taken on a single player, or on a player with a less understanding teammate (their friend seems to have taken the situation quite well and not held a grudge for the participant’s repeated failures). On the opposite end of the spectrum, another participant described a less positive experience:

“The consequences sometimes can mean someone harassing you and being toxic. I’ve been lucky to avoid playing with those types of people. I can often feel pressure not to mess up which does give me anxiety” (P14).

In this scenario, the participant described feeling the weight of peer pressure, the pressure to perform rather than the freedom of being able to fail and failure itself being a fun and entertaining experience alleviated by the presence of understanding or helpful teammates.

In these instances, the transformative effects of failure do not happen individually: they happen to a group, because of the affordances granted by the group’s dynamics. Where teammates, friends, onlookers etc adopt an

open attitude to failure, the experience of any one player can be dramatically altered.

4.3.3 When players perceive failure as an affective experience

It is worth noting that in this section, the term ‘affective’ was decided on after investigating the distinction between ‘affect’ and ‘emotion’. In psychology literature, ‘affect’ encompasses a wide range of experiences, ranging from our unconscious perception (including sensory perception) of the world around us to the conscious and deliberate formulation of those affects, which then become emotions and feelings [124] [140] [149]. In other words, in the literature, ‘emotions are expressions of affect’ [124]. Using the term ‘affective experiences’ rather than ‘emotional experiences’ ensures the inclusion of a wider variety of experiences, without having to precisely classify them when the data collected does not focus on providing material to make this distinction.

The literature defines affective qualities as “the ability to cause a change in core affect” [140]. In other words, in this section, the focus lays on participants’ perceptions of failure as having the potential to cause a change in the way the game affects them, how they perceive the game, or their own place within it. Those perceived affective qualities of experiences of failure form a central feature of the gaming experience, and specifically of experiences of failure and loss. Participants highlighted that failure can act as a catalyst for two valuable, positive, and interconnected processes: emotional experiences, and a renewed appreciation for the game itself.

Processing emotional experiences

Failure can trigger a very wide range of emotions, dictated by the game's narrative, the circumstances in which failure happens, the player's own dispositions, etc, ranging from anger, sadness and frustration to pride or satisfaction once the player has been able to come back and overcome a previous failure. Traditionally, failure is associated with negative emotions and negative affects: failure can make players feel discouraged, can be a contributing factor to them quitting the game, or can be an annoying interruption of gameplay. However, participants pointed out that emotional reactions to failure are not always a negative thing, depending on how the game frames failure:

"It's not always a positive experience e.g. RDR2 where death breaks immersion but in many games, it can be. In Long Dark, if you die it carries a very emotional and impactful experience that isn't found in a lot of games. The failure is part of the experience of playing that game." (P13).

This participant referred to *Red Dead Redemption 2*, a Western-based adventure game in which the player plays as Arthur Morgan, an outlaw navigating life as the Wild West slowly dies out in the United States, and *The Long Dark*, wherein the player plays the survivor of a plane crash and must survive in the Canadian wilderness. *Red Dead Redemption 2* offers a linear narrative and tells a mostly pre-determined story that the player has to follow in order to complete the game: if the player dies during a shootout, they respawn at a previous checkpoint and lose some progress. Failure and the death that follows bring the narrative flow to an abrupt stop, and force the player to return to the point of failure and replay the same sections they already have. On the other hand, in *The Long Dark*, if the player plays on

Survival mode, there is no linear progression for the player to follow, and no end goal in sight besides: surviving for as long as possible. In *The Long Dark*, success boils down to avoiding failure and death, one day after another, and to hold out the longest until cold, wild animals, hunger etc eventually catch up to the player, sometimes after many, many days of survival. Once the player succumbs to the long dark, they do not respawn: death is permanent, and after seeing a summary of their statistics in a post-game screen, the player's only choice is to restart from the beginning - making it, for some players, a very high-stakes and harrowing experience where failure carries an important emotional weight.

For other participants, failure could be twofold in the weight it carries. Negative emotions may subside and give way to positive emotions as soon as the initial failure is overcome: in this scenario, the pain and frustration of failure is a worthy trade-off, for the enhanced joy of overcoming an obstacle that previously got in the way of the player:

“I love dark souls for the failure. The extremely hard bosses that are an absolute joy to fight. The sheer frustration of not being able to kill them, but knowing when you finally do- the feeling is UTTERLY AMAZING! I will never forget the first time I fought each boss in DS3!” (P66).

The key highlight participants pointed to is that in these situations, failure, more than a punctual experience of a certain emotion or a stepping stone towards enhanced feeling of success, can trigger a much more complex process of emotional appraisal, prompting to shift their attention from the game itself, and onto themselves and their emotional state. Players take note of the emotions they are experiencing, wonder why they are experiencing them,

whether or not these emotions are helping them progress through the game or enjoy it, and may decide to adjust their behaviour accordingly. In these case, participants identified failure, specifically, as an element of play that fosters self-reflection, rekindles motivation, or makes them aware that they might need a break from the game:

“It can make the player think deep about how much the game matters to them, about what exactly is making the feeling of frustration and failure arise, and, ironically, it can lead to a potential transformation, depending on the willingness of the player to eliminate the so-called ‘toxic’ behavior that can be triggered by failure” (P117).

Likewise, the emotions themselves, even if evaluated as negative, create powerful experiences. Just as we enjoy watching tragedies and crying or being scared when we watch movies, games play into similar emotional processes that constitute highly valuable, enjoyable experiences for the players, for their own sake:

“In a narrative game in which I am making decisions, I always want to make the right decision. [...] When I fail and end up hurting someone in the game, I am touched deeply. Those are defining moments.” (P55).

“I think that the pathos that comes from facing a setback, losing a party member, losing a campaign or mission, etc. is enhanced when that failure isn’t inevitable or scripted. Even if the emotions are sadness or frustration, in the end, they are much more fulfilling. [...] I mentioned Crusader Kings II, above, but I think that X-COM is another game where the possibility of failure and permanent consequences adds a lot of emotional and intellectual depth to the gameplay” (P73).

In the latter insight, the participant highlighted the importance of the player having agency over the events of the game, and feeling responsible for the failure that triggered the emotional response - *Crusader Kings II* and *X-COM* are both games intentionally and carefully designed to create an impactful emergent narratives, wherein the player is encouraged to care about the world in which they play, through distinct NPCs with their own personalities and aspirations, and where player's decisions have deep repercussions upon the game's world, lending more emotional weight to the failures they can witness and experience the consequences of.

A renewed appreciation for the game

Lastly, participants reported perceiving failure as one of the major game events or processes shaping their experience and understanding of a game. Some participants reported instances where failure made them walk away with a newfound and deepened appreciation for the game itself, after experiencing failure steered them into exploring sections of the game they would otherwise not have necessarily sought out, or experimenting with mechanics that may have come less instinctively to them and their usual way of playing games, as this participant points recounts. *Dark Souls* has the player respawn at a previous point, and makes them return to the location of their death by themselves if they want to retrieve the resources they lost upon death, left at the point where it happened:

“If I had to choose I would say it would be any of the Dark Souls games, despite each death sending me back to the last save point and stripping me of all my in-game currency, I found myself enjoying the trek back to where

I died. I would often slow down and look at things in more depth, study my surroundings, plan my next move, and generally enjoy the game more” (P127).

Beyond enhancing their learning experience, failure directed their attention to unseen game mechanics, game elements, and broadened the scope of what they understood to be their options in the game. If one strategy does not work, they must look for an alternative, thus becoming more aware of the layers of gameplay and game design they had until that point overlooked. One appreciative participant emphasised this process and how such experiences made them think about the game developers themselves:

“Failure often brings about a determination to do better and to try again. It also makes me wonder what people thought while making game difficulty or challenges. What inspired them for this?” (P24).

This phenomenon can be reminiscent of the concept of ‘breaking the 4th wall’ popularised in discussions around cinema and television: the player finds themselves taken out of the game, from the outside looking in, developing an awareness and appreciation of the building blocks of the game.

For these participants, failure is not necessarily perceived as an inevitable punishment inflicted on players to signal to them that they are not performing well enough, or not playing up to the developers’ expected standards. Instead, failure encourages players to reframe their approach to a game, their thinking around how a specific title may work, and contributes to establishing a dialogue between the player and the game. Some participants specifically highlighted the potential of failure for drawing them out of their comfort zone and value this framing of failure as an opportunity, rather than

a punishment:

“I love thinking one thing will work and then being proven that I was wrong. . . it reshapes my understanding and opens up a new train of thought about a subject or situation” (P199).

“It gives you a reason to explore and level up before defeating a boss, which can lead you to finding new things that otherwise you wouldn’t have looked for” (P234).

It should be noted that not all players nurture such positive attitudes towards failure, and research actually suggests otherwise, depending on the player’s state of mind, and how they typically approach a challenge [4] [53]. However, these results do not argue that all players perceive failure as an opportunity and a layered experience - rather, they point to the possibility of promoting and encouraging such experiences, by making deliberate design decisions to support the delivery of such experiences.

4.4 Discussion

(content warning: this section includes mentions of suicidal ideations in the game *Life Is Strange*).

So far, this work into player perceptions of failure has identified three areas of interest for both the games industry and future research: failure for learning (within the game, beyond the game, and within the player themselves), failure as a social experience (bonding with others people and NPCs, working with other players), and failure as an affective experience (processing emotional experiences, appreciating the game). These themes constitute the first part of answering this thesis’ first research question:

RQ1: What constitutes a positive, desirable experience of failure in video games?

This study partly answers this question by exploring what a positive experience of failure means for video games players.

As some of the examples drawn from participants' inputs demonstrated or hinted at, these themes are not strictly separate from one another, and in fact often overlap with one another: arguably, their interconnectedness and their complementarity can create powerful gaming experiences, wherein several of these perceived benefits of failure enhance one another and enrich the overall experience for the player. One participant provides an example of such an experience, wherein all three aspects (learning, social, affective) overlap in a single experience, drawing from a scene in the game *Life Is Strange*:

“If you poked around the right places, you have the ‘knowledge’ to avert the situation. But if you can’t, the failure is not due to the fact that you didn’t react fast enough, it’s just that you were part of the scenario yourself as the player. Maybe you are not supposed to know what to do. [...] Kate’s suicide can be prevented by going through her stuff, learning about her family, what she thinks of the people around her [...] If you don’t know her enough, or said something very wrong, she proves her point: ‘nobody cares about her’” (P207).

In *Life Is Strange*, the player plays as Max, a young highschool student aspiring to become a photographer and discovering she has the power to rewind time and change certain events before they can occur. Here, the participant is talking about one of Max's classmates, Kate Marsh, an isolated

and bullied student who eventually reveals her suicidal intentions. The arc culminates when the player and Max find themselves on the rooftop, Kate standing on the edge, and have to go through a series of dialogue choices to talk her out of her suicide attempt. Prior to finding themselves on the rooftop with Kate, the player has the opportunity to explore her room and interact with various items to find out more information about her - although it should be noted that doing so is not required in order to progress in the game, meaning that some players, perhaps less inclined towards exploration and details, may choose not to engage with this character arc, seemingly unrelated to the main story of the game. During the critical conversation with Kate on the rooftop, the player is faced with a series of dialogue options - all of which pertain to information that the player could have found when searching her room, or actions the player may have previously taken.



Figure 4.8: The player's choices as Max attempts to de-escalate the situation

For instance, in this sequence, Kate argues that nobody cares about her. The player can retort that somebody does, and choose between Kate's mother, father, sisters or brothers. If the player has searched through Kate's

room, they will have found a postcard sent to her by her father, and will likely remember this detail and be able to reassure Kate. On the other hand, picking a wrong option will comfort Kate in her despair (picking ‘your brothers’ will trigger her into telling Max that she doesn’t know her at all, as she only has sisters - reinforcing her narrative that not even someone who calls her a friend truly cares about her).

In this scene, failure (here identified as the player failing to convince Kate not to jump, resulting in Kate’s subsequent death, one of the two possible outcomes of the scene) can be described as a learning, social, and affective experience. Failing to save Kate teaches the player how crucial exploration is in the game, and how much every bit of information can matter, even when they don’t seem related to the main story or its main characters - it also teaches the player more about Kate herself, unveiling the information that the player has missed out on. Kate is an NPC that the player, by the time this scene occurs, will have spent some time with - the gameplay here consists only in dialogue choices, calling upon the player’s social skills, and their attachment to the character. Failing to save Kate can also be experienced as a failure at a social interaction. Finally, the scene is very tense, treads upon very sensitive grounds and explicitly puts the player in an emotionally distressing situation, and drives home the idea that the player’s actions and choices can have much more dramatic consequences in the game world than they may have expected.

It should be highlighted that the implicit message this scene may convey around suicide, mental health, and who bears responsibility when such tragedies happen (the scene puts the onus solely on Max and the player)

is something that makes sense gameplay-wise, but could be interpreted as overly simplifying the reality of depression and suicide. Nevertheless, it does offer a pertinent illustration of how failure can affect various aspects of the player's experience simultaneously, and in a complementary manner, rather than entirely separately.

The three categories of perceived benefits of failure in video games highlight the many possible functions of failure, and how they interplay, their framing within a game, and player disposition and personal interpretation may influence the player's overall experience of a game. From this perspective, failure can be used as a game design tool that may help designers create more meaningful gameplay experiences, highlight deeper layers of interpretation and understanding between player and game, or change a player's approach to video games altogether.

4.4.1 Connection with other work

These results identify three areas in which failure is perceived by players as making meaningful contributions to their gameplay experience, and hint at failure as an experience being a complex process, and a highly personal and multifaceted experience. It is not exclusively tied to player performance, nor is it a singular event the presence of which is required to make a game a game. In the cases explored throughout this work, failure is most notably a mechanism or a dynamic that constantly pushes players to shift their understanding of how the game works, what a game is about, and how they situate themselves within it.

In order to best capture the variety and nuances of these experiences, I

conducted a qualitative survey on attitudes towards failure from video game players, using a series of open-ended questions so as to give participants the freedom to express their thoughts and understanding without limiting them by the literature or my own experiences and ideas on failure in games. This study contributes to empirical research on player experiences of failure, and builds up on the works of Juul [94] [91] [92] and Anderson [8] [7] [6] specifically. Where Juul's research derives from his personal experience and reflections and from investigating player experiences of games designed specifically for the purpose of his research, and Anderson looked specifically at *Cuphead* to gain a remarkably in-depth understanding of how players experience failure in this title, my research builds on and complements these insights by broadening the landscape to other titles, and by asking players to define what they, themselves, identify as failure - specifically, as positive and desirable experiences of failure.

Looking back at the literature around video games, it is now possible to identify several areas of research where looking deeper into the specifics of failure may further enrich our understanding of how games work, and how players experience them.

That some participants identified failure as the catalyst for changes of behaviours, or change to their approach to a game, their strategy, or their understanding of a game's story, echoes existing literature on the persuasive [19] [18] and transformative [43] [62] power of video games - in other words, video games can be vectors for ideas, conversations, and messages, and vectors for change within the people who play it, an area of particular interest for researchers and designers in the field of serious games, games for

change, and politically-oriented games.

Likewise, failure could be described as a rhetorical tool in Bogost's conception of video games as computational systems of procedural rhetoric, wherein the computational system itself constitutes an argument [18]: the rules of the system communicate a specific idea to the player, as the system is not created out of a vacuum, but reflects certain values and ideas through the rules that regiment it. For instance, a game where the player fails if they don't kill off the boss communicates a very different story from a game where the player is allowed to spare the boss in question, and affords the player a very different position within this game's world.

Some games, such as *Getting Over It With Bennett Foddy* deliberately ramp up difficulty and make failure particularly punishing for player - scholars Wilson and Sicart would call such an approach abusive game design, and argue that using or abusing difficulty, challenge, and fail states, can be a deliberate approach for game designers wishing to offer a different kind of gameplay experience - one that deliberately taunts the player and highlights the absurdity of engaging with such experiences [166].

Finally, Whitby, while not focusing specifically on failure or fail states in their research, has explicitly highlighted how the interplay between game systems, narrative, and consequences of player choices and player actions can foster perspective-challenging moments in play [163] - directly echoing the thoughts of some of the participants who did identify failure as a key component of such moments.

4.4.2 Applications for the video games industry

Understanding players' perspectives on specific experiences during play also supports game developers, providing industry with player insights across a variety of genres and levels of expertise. Specifically, understanding what players perceive as positive effects of failure in video games provides industry with broadened design spaces to tap into when designing their own games, looking beyond their own experiences and assumptions as game designers. Game designers, academics, and video game players, all possess varying levels of expertise, and may prioritise different things when thinking about games, and game studios rarely, if ever, have the resources and opportunity to conduct research beyond the user research necessary for the development of their specific titles. The results of this research can serve as a pool of information for game designers to enrich their understanding of the advantages of failure in games, what players may look for or focus on when confronted with failure in the games they will make, and re-frame how they may want to approach this design challenge in their own practice.

4.4.3 Limitations

It should be noted that the pool of participants who took part in this study were, according to the collected demographic data, mostly experienced video games players, of a younger age range, who play across a very wide variety of genres and platforms, with mobile games being largely in the minority. Participants paint a landscape of more experienced players who have been familiar with video games for a very long time, often for most of their lives. They engage with video games on a very regular basis, have a very extensive

knowledge and literacy of video games, and are accustomed to discussing and articulating in-depth opinions on video games.

Such a pool of participants was entirely expected when recruitment was largely conducted on Twitter and especially Reddit: passionate players who would be happy to dedicate their time and efforts to fill out an open-ended survey about video games would most likely be the same people who dedicate time and energy to discussing their passion on online forum and engaging with video games beyond the games themselves, seeking to expand their engagement in various communities, discussions, and practices. This experience, articulation, and passion were valuable resources for this in-depth, exploratory study into player perceptions of failure in games.

4.4.4 Opportunities

As previously stated, the participants who took part in this research project were for the most part very experienced and engaged players with a focus on console and PC experience. Future research focusing explicitly on a population less familiar with video games or more beginner-oriented might yield valuable insights into the differences and similarities in the experiences of both types of players: do more experienced players perceive failure differently than more novice players? Does video game literacy help build a form of resilience to it and a more nuanced understanding of it? Do beginners have less tolerance for failure, or completely different understandings of the purposes and benefits of having failure in a game?

This study also painted a general landscape of possible benefits of failure without looking into any one genre or gameplay styles - it looked at general

perceptions of failure, rather than at specific game mechanics, genres, or titles. Future research could opt to further and expand this research by looking into much more specific pools of games: how players perceive experiences of failure in narrative-driven games, in games without game over screens where the only possibility is to fail forward, roguelike games and their permanent deaths, etc. Likewise, there may be significant differences or nuances between single player and multiplayer experiences, which this study has not sought to separate.

Furthermore, besides looking at specific genres or titles, future research might focus on player preferences and literacy, and how player perceptions of failure may change based on what games they are used to playing, which games they enjoy most, and which games they feel most comfortable in.

Finally, returning to the idea of failure as a potential tool for transformative experiences, further research may help identify the circumstances in which such transformations may take place during and after a play experience - as well as help determine whether failure truly plays a part in such processes, or if players only perceive it as such, and why.

4.5 Conclusion

This exploratory study into player perceptions of the benefits of failure sheds light into the complex phenomenon that is failure in video games, affecting a wide range of the play experience, and entailing many different meanings for players, based on the game they play, the context in which they play, as well as their tastes in games, their literacy with the medium, etc. It is a nuanced, complex, and highly personal experience, informed by a variety of factors

both within the game system and outside of it - both within the developers' and players' control and outside of it. Failure itself can be defined very differently by different players, with some of them identifying hard-coded failure as little more than a stepping stone in a learning process, and others identifying as failure in-game events that do not necessarily lead to a game over state.

Because of this complexity and diversity, Juul's definition of failure as the player's inability to fulfil their goals, whether set by the game or themselves, seems the most potent to describe it.

Crucially, participants perceived failure not only as a one-way conduit for them to be communicated feedback about their performance, but as a phenomenon and experience that has the potential of turning their experience of a game around, by recontextualising their understanding of the game system, and of their own position within this system. Failure, when appropriately framed and implemented, does not necessarily interrupt the flow of the experience (or purposefully does so), but instead shifts it, feeding into an active dynamic of constant re-appraisal between the player and the system.

In other words, failure is perceived as a phenomenon that, at its most desirable, enriches the game experience by confronting players to something that does not go the way they planned, or wanted, and encourages them to engage more deeply with the game in order to overcome it, or at the very least, to make sense of it.

While these findings both echo existing literature and provide new potential avenues for exploration, both in research and game design, they only represent the perspective of video game players - the perspective of those who

play finished games and get to experience the game designers' vision once it has been completed. A more complete understanding of failure to further contextualise and expand on those findings, involves turning our gaze to the people who designed these experiences described by players.

Video games and the experiences they create are not born from a vacuum. Much like their counterparts in other media, such as music or film, they are created by teams of creatives working with a specific medium, with its own specificities, its own language, its own technical affordances and restrictions. The circumstances in which games are made, the cultural, social, and historical contexts surrounding their production, all inform the games that ultimately become available to players. By extension, the experiences of failure that players get to engage with when playing games are also the product of the contexts in which these experiences were created, underlying and informing production throughout. The way players experience failure in a game varies greatly from one game to another, but the experience at the level of the game was engineered by the studio or team behind the game.

Therefore, a thorough investigation into failure in games must account for other side of the experience, and include the perspective of the game designers who think about, conceptualise, and design experiences of failure in their games. Game studies do rely heavily on player experiences and perceptions, but, much like film studies have expanded into production studies to better understand how the films audience experience are developed and affects viewers, so too do game studies gain a much deeper insight into their own medium by including the voices of the industry into their research. Without understanding how or why failure is implemented in games, the picture

painted throughout this research would not be comprehensive and would be missing a critical perspective.

The next chapter shifts the perspective, and provides the second angle to answering this thesis' first research question (RQ1: What constitutes a positive, desirable experience of failure in video games?) by investigating how video game designers conceptualise and approach the design of failure in the process of developing their games, thus complementing and elevating the research by examining the perspective of the people who make the games that participants play and researchers study. Thanks to this particular point of view, we will not only understand what players understand desirable failure to be, but gain insight into how these experiences come to be in the first place - what decisions and considerations dictate their creation and implementation, and how game designers navigate the fine line between desired player experience and the practicalities of game design.

“The game doesn’t judge you”: game designers’ perspectives on implementing failure in video games.

5.1 Introduction

The previous chapter demonstrated the diversity of experiences associated with failure, and the desirable, positive effects failure can have on the player experience. This research has identified a rich array of contexts in which players have identified failure as a mechanic contributing to their experience of a game in enjoyable or meaningful ways, and has also demonstrated that failure can come in various shapes and forms. Video games have evolved to offer a wide diversity of gameplay mechanics, stories, and experiences to players, expanding to endless genres and catering to countless styles of play, ranging from hypercasual games where the player can only win, to deliberately extremely punishing games that taunt the player with supposedly impossible challenges, and every possible experience in-between. As video games change as an entertainment medium alongside the industry that produces them and its modes of production, so do the strategies and approaches that games designers use when approaching the mechanisms of failure, who

are faced with the challenge of defining how failure will work in their own games.

The aim of this chapter is to understand the game designers' perspectives on the question of failure, with the dual purpose of enriching our understanding of failure and its specificities in video games.

By adopting the point of view of the other side of the design barrier, it addresses the challenges and questions game designers face when designing around the idea of failure. Specifically, it addresses the challenges game designers face when designing *meaningful* experiences of failure: mechanics and dynamics wherein failure serves the overall design of the game, elevates it by turning failure into an experience that is purposefully designed and integrated into the game and its various components. Rather than being a default, inevitable state opposing win states, meaningful failure is designed, shaped, and integrated into the game's world and the desired player experience. The purposeful, *meaningful design* of failure, is meant to lead to the *desirable experiences* of failure discussed in the previous chapter. Most importantly, the idea of 'meaningful' and 'purposeful' are notions that were specifically brought about by participants during their interviews. A such, to best reflect this intention, I adopted those terms into the terms I use to refer to those particular decisions around failure.

Existing approaches to failure tend to pay attention to failure as, on the one hand, a mechanic in a computational system, and on the other hand, its possible effects on the player's experience of a game. In order to understand player experiences of failure and the systems that enable them, it is crucial to also include the voices and perspectives we can find in industry. We can

capture the opinions and design approaches and strategies taken by veteran game designers, which in turn constitute invaluable tools to better contextualise and understand the games and game mechanics we study. Having a better understanding of game designers' intentions behind certain mechanics and design decisions, and the contexts that informed these decisions, allow for a more comprehensive understanding of failure in games.

A Theory of Fun For Game Design [101], for instance, breaks down the game design process based on Koster's own experience in the industry, written to introduce the art of game design in an accessible format for aspiring or confirmed game designers. Whilst mostly based on his own experiences and preferences as both a game designer and a games player, the book offers valuable insights into game design thinking, how game designers may understand games, what their priorities are and what problems they may run into from one project to another. Chris Crawford's *On Game Design* [41] offers a comprehensive history of games and video games, discussions of what play is. He explores a variety of topics such as challenge, conflict, interactivity, storytelling, as well as a number of games and game ideas of his own, decidedly adopting his personal perspective as a designer (which unfortunately includes less pertinent opinions on the way women allegedly play games compared to men) [41]. Game designers have also developed game design tools that are now also circulated in academic research. For instance, Jesse Schell's *Book of Lenses* [145] breaks down a number of aspects and considerations of game design in the form of a deck of cards, on which the user will find prompts and questions related to game design to ask themselves when developing their own game. Those 'lenses' have inspired games researchers to

adopt a similar approach and a similar format for their own research-based design frameworks, for instance as with Deterding and his Lens of Intrinsic Skills Atoms, a ‘gameful design method’ [52] inspired by game design and by Schell’s lenses format.

One of the seminal textbooks on game design, Salen and Zimmerman’s *Rules of Play* [156], offers a very comprehensive breakdown of games as systems of rules, play experiences, and cultural products, wherein the authors draw on a number of examples of existing games and literature produced by game designers, and commissioned professional game designers to write essays and design games, and offer insight into game design thinking rather than pure academic perspective, thus helping ground the book and its ideas in the realities of the games industry and its practical concerns. For example, in their section on games as systems of conflict, Salen and Zimmerman draw from DeKoven in order to explore the idea of competition. DeKoven, as paraphrased by Salen and Zimmerman, argues that the very idea of competition can hinder players’ enjoyment of a game - that the competition itself ‘[eclipses] everything else the game has to offer’ for the player [156]. Players who win will want to play the game again, while players who lose will be less likely to, regardless of what other meaningful experiences the game may offer. While Salen and Zimmerman disagree with this statement, arguing that competition can be meaningful in and of itself, they do use it as a jumping board to highlight a higher level problem: the delicate negotiation of design decisions that go into creating meaningful competitive experiences within any given game and its broader context. Similarly, they commissioned game designer Reiner Knizia to write a reflective essay on the design of the

board game *Lord of the Rings*, offering insights into the challenges Knizia faced during the design process, the scripting of the game system, playtesting, and further iterations [156]. Relevant to the idea of failure, Knizia in this essay offers a first person account of how cooperation between players was paramount to the core pillars of the game, and how by throwing highly difficult challenges at players, the game would encourage them to band together - thus reflecting the teamwork, sense of community, and emotional connections between adventurers displayed by Hobbits and the Fellowship of the Ring in the books themselves. To not band together, would inevitably lead players to their doom. As this example demonstrates, letting game designers recount their experience with the design process of their games allows for the in-depth investigation of explicit examples, grounding their reflection in concrete, existing design practices and instances, rather than maintaining a very high-level of reflection exclusively.

In other words, industry perspectives constitute an invaluable resource for games researchers to investigate various questions pertaining to game design. Following this reasoning, for this next study, I turned to industry, and specifically, to an interview-based data collection method in order to capture a variety of lived experiences and detailed insights into the design processes behind the games selected for scrutiny in this particular chapter. I conducted an interview study with 13 game designers from the independent games industry, who have been credited in the design of video games that made an innovative or otherwise notable use of failure. I narrowed down the research focus to the three following questions:

- RQ1: How did these video game designers conceptualise failure in their

design approach to the games discussed during the interviews?

- RQ2: What issues surrounding the design and implementation of failure did these game designers identify through their work?
- RQ3: What solutions have they implemented in their work?

The following section outlines in more detail the method followed to garner these expert opinions and specifically investigate the question of failure in game design.

5.2 Methods

Complementing the work on player perception with insights from game industry veterans can give a more in depth insight into the design and implementation of failure and fail states in games. In order to capture the specificity of this data, and explore the details of game design decisions and considerations, I decided to examine specific games and run a series of semi-structured interviews: focusing on specific titles and turning to an interview format allowed us to investigate the granular elements that informed specific game design decisions, allowing for a very close examination of the game design process and considerations followed by participants. Applying reflexive thematic analysis, I then identified themes and patterns of meaning across the dataset [22].

5.2.1 Study design

Considering the nature of this research project and its intent to focus on specific games and the design decisions that were made in their development,

I first narrowed down the pool of possible games I was interested in discussing for this chapter. As multiplayer games may add another layer of dynamics and meaning to failure by way of the presence of teamwork and competition between players, something that is absent from single-player games (specific context of e-sport competitions or speedrunning notwithstanding), I chose to focus on single-player games.

I selected games where the mechanics of failure are not solely restricted to a die and retry model. My research into player experiences or failure and into the literature having already pointed to a range of variety and nuances in fail states, I wished to account for this diversity. I also decided to emphasise games where failure can play an explicit role in both gameplay and narrative, in order to tap into ideas and experiences that current research doesn't not currently comprehensively cover.

The study was designed to be non-anonymous, for two purposes: first, in order for both researcher and participant to discuss the game and the participant's role in its design without being restricted by possible identifiable information, and second, in order to highlight the participants' contributions to the games discussed and give credit where credit is due. This approach gave me and the participants more freedom during the interview process - the present chapter includes a list of the names of all participants who contributed to this research.

As this study follows a semi-structured interview approach, I created an interview guide comprising a brief overview of the research project purposes, a brief discussion to go over the consent form with the participant and allow the participant to ask any question they have, and a list of questions to

guide the discussion. The interview itself begins with questions and discussions about the participant's experience of designing failure for a specific title chosen ahead of time, before moving onto broader considerations around failure in games. Below is the list of questions included in the interview guide; due to the semi-structured nature of the interviews, those questions sometimes changed over the course of the discussion with participants, or were complemented by further questions, where some ideas or thoughts warranted further probing and clarification:

Question 1: Please tell me about the possible failure states in your game. What do you, as a designer/writer/developer identify as a fail state in your game?

Question 2: What did you want your players to take away from their experiences of failure?

Question 3: As a designer/writer/developer, at what stage of the game's development did you start working on fail states and how to implement them? Could you talk me through the thought process behind them?

Question 4: After the release of the game, were there any surprises from players reacting to fail states in the game? Any reactions you were not expecting?

Additional possible questions, should the conversation allow for them:

(for writers and narrative designers) How did you cater for fail states in the narrative structure and story of the game?

(for all) A previous study I did showed at least three dimensions failure can take for players: a learning experience, a social experience, and/or an emotional experience. Very often, a mix of all. What do you think about

this, as a designer/writer/developer?

(for all) As a designer/writer/developer, is there anything about failure in video games that you think is not discussed or addressed enough?

The interview guide was revised until the flow of the questions matched and answered the research questions. The project proposal then went through ethical approval, before moving on to recruitment.

5.2.2 Participants and recruitment

While designing the format of the study, I drafted a list of game titles pulled from my own research and experience, that would constitute a list of candidates for further investigation in this research project. The selected titles were all single-player games featuring more experimental and/or narrative-based experiences of failure, as previously outlined - my personal experience and knowledge in this area served as a valuable resource [22] [24] in identifying game titles that would be relevant to addressing the research questions and allow for an informative discussion. Three additional criteria for recruitment were established: the participant and the game they have worked on must come from a small to medium sized studio, so that participants would have a more comprehensive and inclusive overview of the whole project and its development (as opposed to much larger studios where employees might be more pigeon-holed into their area of specialty); participants must have personally worked on the game discussed; and lastly, participants must have worked on the game in a design or a narrative capacity (thus excluding employees working in areas like marketing, and artists).

After drafting a list of candidate games, I looked at each game's credits

to identify the game designers behind each game, and recouped this list with social media to identify possible participants who still work at the studio that produced the candidate game, thus creating a list of individual contacts to reach out to. In some cases, possible participants could be reached via their social media (mostly Twitter) or via the email address they publicly provided on their Twitter account or website/portfolio. In some cases, where it was impossible to identify or reach out directly to an individual game designer, I emailed the studio's general email or press department to present the research project and enquire about whether someone in the studio would fit the recruitment criteria and be interested in participating.

I conducted a total of 13 interviews with 13 individual participants. Out of these 13 participants, 11 were contacted and recruited directly by myself thanks to the method outlined above. Ben Kerslake was recommended by another participant currently working with him on a relevant game project, and Luna Javier was recruited through the Women in Games Facebook group, after I posted in the group in a bid to broaden the list of possible candidates to names I may not have been aware of.

Below is the list of participants, the games discussed during the interviews, their roles in the team/studio at the time of the games' development, and the format of their interviews.

Name	Games discussed	Role	Interview format
Team representative	Surgeon Simulator, I Am Bread (Bossa Studio), Orwell's Animal Farm (Nerial)	Anonymised	Video
Alexander Swords	Totem Teller (in development), Anytown (in development), All Walls Must Fall (inbetweengames)	Writer, narrative designer	Video
Ben Kerslake	Totem Teller (in development), Alice: Madness Returns (Spicy Horse Games)	Creative director	Video
Claire Morwood	Before I Forget (3-fold Games)	Developer	Video
Greg Kasavin	Hades, Pyre (Supergiant Games)	Creative director	Video
Joerg Friedrich	Through the Darkest of Times (Paintbucket)	Creative director	Video
Luna Javier	Run Run Super V, Dream Defense (Altitude Games)	Game designer	Video
Lucas Pope	Papers Please, Return of the Obra Dinn	Game designer, developer	Video
Marta Fijak	Frostpunk (11-bit Studio)	Senior game designer	Video
Olivia Wood	Fallen London, Sunless Sea, Sunless Skies (Failbetter Games)	Narrative designer, writer	Video
Jon Ingold	Overboard! (Inkle Studios)	Creative director	Email
Jordi de Paco	Gods Will Be Watching, The Red Strings Club (Deconstructeam)	Creative director, writer, game designer, developer	Email
Maddalena Grattarola	Bird of Passage (SpaceBackyard)	Game designer	Email

Table 5.1: Participants breakdown

5.2.3 Data collection

Recruitment and data collection were run jointly: participants were contacted, and interviews were arranged and conducted between June 2021 and November 2021.

Interviews were all conducted remotely: this decision was made to allow the geographical pool of participants to be as wide as possible (one of the participants was able to participate from Japan, another one from the United States) and for ease of access for both participants and myself, as well as for safety reasons, as the data collection took place during the COVID-19 pandemic with some public health safety measures and travel restrictions still in place in the UK. In addition to participating remotely, participants were offered to choose whether they wanted to take part in a video interview on Google Hangout, or to conduct the interview in written form over email or instant messaging. The latter option was offered to accommodate participants who may have too busy a schedule to book an hour for a video call but are still interested in sharing their insights; this option also turned out to be favoured by non-English native speakers who felt more comfortable expressing themselves in written form, where they have more time and space to adequately formulate their thoughts in English. A total of 10 interviews were conducted on video calls, and a total of 3 were conducted in written form, over email.

After agreeing to participate in the study, participants were sent a participant consent form to complete and return via email ahead of the interview (all of them did, and we took a few minutes at the start of each interview to ensure participants were still happy with their responses), as well as the list of

questions. The latter choice was made to allow participants to better anticipate the interview and put themselves in the right headspace, especially for participants discussing games they may have worked on several years prior and who may have needed more time to remember some details. Out of all participants, one requested their name to be kept anonymous and replaced by ‘team representative’, a choice born from their wish to emphasise that the knowledge shared in the interview is the result of the collective effort of their design team, not just their own personal insight. Likewise, Maddalena Grattarola, who participated via email, circulated their answers to the other members of Space Backyard before returning them to me.

Each recorded interview lasted for an average of 30 to 40 minutes, and the full data collection yielded a total of approximately 44 000 words collected in transcripts.

5.2.4 Data analysis

The recorded interviews were transcribed using a third party service in accordance with university policy on audio and video transcription to obtain initial transcripts, which I then combed through and corrected (correcting words that were not transcribed accurately, punctuation, pace, pauses etc) until the transcripts accurately transcribed the interviews. The data was then analysed using Reflexive Thematic Analysis (or RTA) following the procedure outlined by Braun and Clarke [22] [24]. Reflexive Thematic Analysis is a qualitative method, the purpose of which is to identify themes and patterns of meaning across a dataset. Reflexive Thematic Analysis also makes explicit use of the researcher’s expertise and perspective to inform the construction of

the interpretation of the data [23]. This reflexivity was already in play in the design of this study when I curated the list of candidate games that would be investigated over the course of this study. Furthermore, my expertise with the academic literature, and experience from past research, supports the interpretation of a rich dataset, and in establishing patterns and relationships between the data and the research questions.

Once transcribed, the dataset was coded and analysed with the qualitative analysis software MAXQDA. I was the only analyst involved in coding the data, in line with RTA procedures [22] [23] [24]. My supervisor provided feedback on the codes and themes generated throughout the analysis process, in an iterative manner. I initially went through a familiarisation process, by reading through the data multiple times, and methodically making notes and memos to begin informing the interpretation of the dataset. Notes and memos were both handwritten and annotated on MAXQDA.

RTA requires multiple passes of coding in order to ensure the codes and themes generated are robust and account for the necessary nuances of interpretation of the dataset. The first pass of coding focused on semantic content (content formulated in the words of the participants - also called *in vivo* [142]), generating codes very close to the participants' own words. The second pass of coding focused on latent content (looking at the implied meaning underlying semantic content - the reflexivity of RTA is particularly important at this stage, as this is where the researcher can begin connecting the information in the dataset to existing literature, other research, personal experience, etc). From these passes of coding, I constructed 922 individual codes: a very high number, that is explained by the focus on semantic content

in the first pass - in vivo coding can generate many ‘duplicates’ that are in fact the same idea expressed in slightly different words from one participant to another, or even within the same interview/unit of analysis.

To address this issue and proceed further in the analysis and begin creating themes and categories, I grouped such duplicates together, thus cleaning up the codes until little to no duplicates remained. I then did another pass to test the codes against the data (ensuring that the codes still accurately reflect the dataset), collated the cleaned up codes, and proceeded to the analysis stage to identify relationships between codes, and create potential themes.

Through this grouping process, I drafted a thematic map with an initial total of 11 potential themes, and 83 subthemes. This map was reviewed against the dataset, and iteratively edited and tested again, in order to eliminate weak candidate themes, reorganise candidate themes under different groupings, and create new themes and subthemes where existing themes failed to account for key aspects of the dataset.

A key concept in RTA is that of having a central organising concept [24]: a key idea constructed from the data analysis, around which the themes and subthemes that will constitute the analysis’ output are built. This central organising concept also dictates the narrative of the results and helps consolidate the analysis: in this case, the central organising concept came to be game design strategies, specifically the challenges faced by game designers when implementing failure in their games, and the solutions they found to address those challenges.

Accounting for the dataset and our central organising concept, this re-evaluation process was repeated until I and my supervisor agreed that the

themes and subthemes thus constructed appropriately represented the data, answered the research questions, and outlined a coherent narrative.

This RTA process resulted in two final overarching themes and six themes, outlined in the tab below.

High level considerations when designing failure: constraints and issues	Low level decisions when designing failure: solutions and innovations
The restrictive dogma of failure	Using narrative to frame failure into context
The impact of design vision and production conditions	Creating meaningful experience of failure
Going beyond failure	Communicating about failure with the player: clarity and purpose

Table 5.2: Themes and categories

5.3 Results

The following section breaks down the themes and sub-themes that were constructed from the analysis of the dataset. The two overarching themes highlight two levels of considerations in the process of designing experiences of failure: high-level and low-level considerations. High-level considerations when designing failure refers to the constraints and wider issues participants had to account for, and highlighted as key problems, when they first began to approach the idea of failure and fail states in their games, including audience perceptions, industry practice, or the space between fulfilling expectations, conventions and allowing for creativity. Low-level considerations when designing failure refers to the practical, design decisions participants made in

order to address, resolve, or otherwise highlight these issues.

5.3.1 High level considerations when designing failure: constraints and issues

The restrictive dogma of failure

The participants highlighted a persistent ‘dogma’ of failure in the games industry and in gaming culture at large, possibly inherited from the earlier arcade games culture - this heritage possibly informs our understanding of current games and the properties of what makes a game a game, despite the ongoing changes in the games industry and the evolution of games as a medium in general, thus in turn shaping audience expectations of what features a game should have. Participants are all experienced game designers and long-time gamers, who all have their own games literacy and baggage of experiences, and thus, their own expectations with gaming conventions around failure in games. These expectations informed their design decisions (whether they followed or defied them), and were also something they noticed in their audiences, particularly when examining the reception of their games. This was particularly true for participants who made non-traditional or non-conventional use of fail states.

Arguably, failure is a distinctive quality of games, among the rest of the entertainment industry. A user cannot fail at listening to music, watching a theatre performance, reading a book, or watching a film - albeit some of these media have made attempts at incorporating more interacting elements to their structures, such as choose-your-own-adventure books, interactive theatre, and interactive films such as Netflix’s *Bandersnatch*, a measurable

outcome possibly resulting in failure through the player's or user's own input is not typical of these media, and remains rather specific to games. However, failure being a distinctive mark of the medium of games, does not necessarily imply that it is an unavoidable, indispensable feature that must exist in every single game - a nuance that can be all too easy to overlook.

Participants reflected on the question of the necessity of failure in games at a general level, based on their experience both as players and as game designers. For instance, for game designer Luna Javier (Altitude Games): *"That's how we were taught and trained as a game designer, you know, without frustration, without challenge, then you don't have a game. Like, the difficulty, like, fighting against difficulty and conquering difficulty. That's where fun comes from."* This friction between game and player, the promise of success after beating the odds, the challenge and the promise of overcoming this challenge, is what, for some people, makes a game fun - with the inevitable pitfall that if there is the promise of success, the threat of failure must also exist to create the appropriate stakes for the player.

Interestingly, Greg Kasavin (Supergiant Games) mentioned 'traditional' fail states - experiences of failure most people would expect or picture when asked to talk about what failure looks like in a game: *"I think in the traditional... when we think of a video game kind of by default and we think of like, a Super Mario game, or something like that, they have levels, you know, you can die. You have... I think the, the modern technique is, you die and you go back to your last checkpoint and you try again, you try again until you finally overcome whatever section of gameplay was stumping you"*. Similarly, Jon Ingold (Inkle Studio) refers to 'normalised' experiences of fail-

ure, wherein it is *“normal to find oneself repeatedly playing through the same sequences as you try to overcome a particular challenge”*.

These ideas of ‘traditional’ and ‘normalised’ experiences of failure infer a sort of status quo, a default experience of failure that most players will have experienced in their gaming life. The film industry too, when proposing films about games, has appropriated the words ‘Game Over’ - for instance at the very conclusion of horror movie *Saw*, as killer Jigsaw puts an end to his game with those very words. Fortunately for video game players, this ‘traditional’ game over includes a chance of trying to beat the game again, either by restarting the game entirely, or by reloading to their last checkpoint. In other words, participants highlighted an internalised, constrictive model of failure made up of die and revive cycles, and made up of win and lose conditions - without those key elements, a game may not be a game at all. As Claire Morwood (3-Fold Games) remembered in her interview: *“There’s certain stereotypes and assumptions about what a game is and needs in order to be... One thing that I’ve heard a lot with some of the smaller games I’ve made and Before I Forget as well, is people being like, oh, it’s not really a game though, is it?”*.

The assumption that failure, and in particular ‘hard’ failure, which results in game over screens and respawns, is an inevitable and necessary part of video games, can be a harmful assumption for game design innovation and experimentation. While arcade games, for instance, may have been built around a die-and-retry model notably as an incentive for the player to put another coin in the slot and due to technical limitations, particularly in terms of memory space, games, as participants pointed out, have significantly

evolved since their inception, both on a technological and technical level, and in the range of experiences now available for players across the board. In fact, participants highlight that games have changed significantly as of late and traditional fail states may be unsuited to certain genres: *“Fail states are (in my opinion) a significant drawback when about immersion, should you not design it to be part of the ongoing narrative. I believe that the concept of Game Over is obsolete for modern game design, an inheritance of the arcade era, and it only makes sense if you are making arcade games”* (Jordi De Paco, Deconstructeam).

This disconnect between expectations around the presence of failure in games, and some game designers’ aspirations to experiment with it or propose alternative experiences, has created frictions in some of our participants’ experiences of making and presenting games that featured a different experience of failure, or no hard failure at all. Similarly to Morwood’s players stating that ‘it’s not really a game’, Maddalena Grattarola (SpaceBackyard) made an interesting experience when presenting *Bird of Passage*, which does not have traditional game over screens and no resets, but instead loops its narrative and dialogue options: *“Most players asked us whether the game featured an ending. This is again interesting to me: not only the repetition of dialogue lines is perceived as failure, but the complete absence of a clear fail state was perceived as the absence of an ending”*.

Grattarola mentions this experience as an instance where the absence of a clear fail state seems to disrupt the player’s understanding of the game, its structure, and what they expect to be able to do during gameplay.

Interestingly, I experienced a similar disruption when playing *Before I*

Forget, a walking simulator wherein the player plays as a woman, Sunita, who lives with dementia. The game includes a section during which Sunita says she needs to go to the bathroom: the player has been to the bathroom moments before, and should be able to easily find the room again. However, as the player looks through the house in search of the bathroom, they quickly realise that the layout of the house has changed and keeps changing and warping, mimicking the severely disorienting symptoms of dementia. During this section, I was expecting to be able to ‘complete’ this objective, and interpreted Sunita’s failure to reach the bathroom in time as my own failure to navigate the space properly. However, as Morwood confirmed in her interview, this instance is an instance of forced failure: the game is designed so that the player can never reach the bathroom in time. Upon hearing me share my experience with the game, Morwood explained: *“It’s really interesting because that’s a really common response we’ve had [...] So people would often be like ‘oh, could I have made it?’, like you said, and which we weren’t expecting, because, I guess we always knew that you couldn’t make it. So that was... and then I think it’s exactly what you’re saying that people expect. If there’s something that’s seen as, like, a challenge, it almost seems like you have to do the same thing over and over again. So in traditional games, you know, it’s like, ‘you’re not doing it right!’”*.



Figure 5.1: The beginning and end of the bathroom section in *Before I Forget*.

As participants have discussed here, the heritage of early games, and the sum experiences and literacy of both game designers and players, informs what we think we should expect from games. This in turns inform game design decisions, whether they follow these expectations in a bid to follow a sense of familiarity, or whether they go against them in order to create new experiences: one is not necessarily better than the other, but this awareness is an element participants have kept in mind while approaching failure and fail states in their game design processes.

The impact of design vision and production conditions

In light of these considerations around the place of failure within gaming culture and history, audiences expectations and conventions built up over

time, our participants also highlighted that the shape failure took in their games was also determined by the very specific contexts and demands their games were developed in - for instance studio requirements, audiences expectations for their specific studios or for the specific genre they would advertise the game as (as opposed to audiences expectations about failure and games in a much more general sense) or even monetisation. These questions and demands are manifold and span a number of considerations for both game designers and the studios employing them, and include concerns that go beyond ideas of ‘fun’ or ‘player engagement’, turning the question of failure into a complicated problem to solve.

Where academic literature has focused largely on failure as a learning tool, some participants very pragmatically highlighted the pivotal role that failure plays in the monetisation system of their game and the economic model of their studios. Mobile games constitute a clear example of how some developers articulate their monetisation strategy around player failure, and what the player can do in order to recover from that failure: mobile games tend to have very short play sessions, and jumping back into the game after failing a level or puzzle is, as Javier pointed out, where studios can *“usually attach a monetization point to the failure. So for example, you watch an ad to revive, or you use gems to revive, things like that”*.

Free-to-play games can employ the same tactic to sustain their economic model. Failbetter Games is the studio behind the web-based, free-to-play open world RPG interactive narrative game *Fallen London*. In *Fallen London*, the player plays as a newcomer to the underground, alternative Victorian city of Fallen London, and gets to explore the world and carve their char-

acter's place in this society by making a series of choices and actions, the success of which is determined by die rolls. The game mechanics themselves support the game's monetisation system by providing players with the option to spend money in order to recover more quickly from a failure: *"Players get a limited number of actions, and if they don't succeed all the time, they have to replay a branch, and that uses up an action and it sometimes motivates buying actions. It doesn't always, but it's one of the many kind of tools of monetization; not a big one, but it's just there"* (Olivia Wood, Failbetter Games).

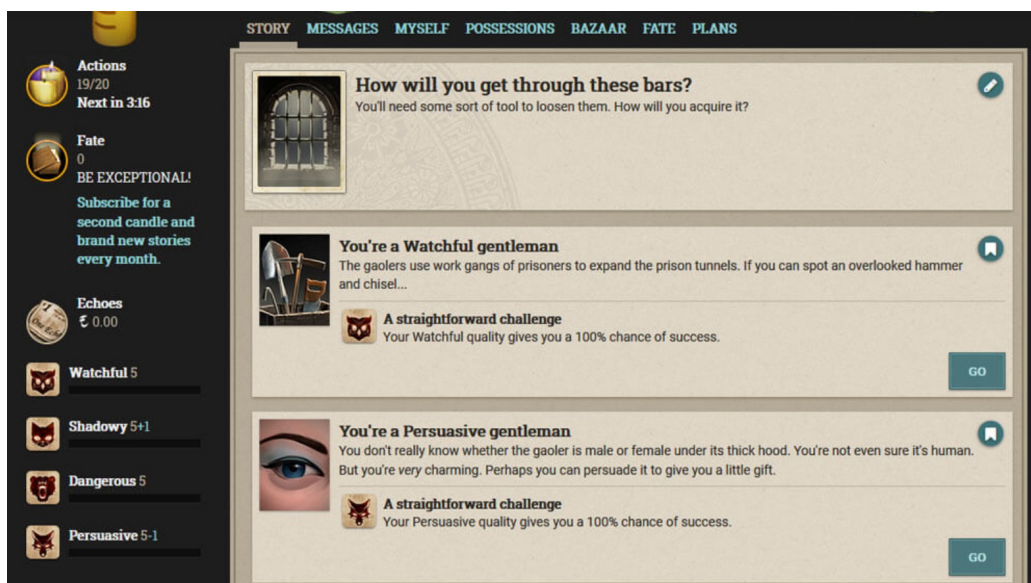


Figure 5.2: In the top left corner, the player can see how many actions they have left and how long until they replenish one action. In the center of the menu, they can see the actions available to them at this point in the storyline they are following, and how likely or unlikely they are to succeed if the action involves a skill check and a die roll.

Without forcing the player to spend money to recover from failure and get back into the game (the player can just wait until their actions reset after a few hours), a hard failure constitutes a natural point for the player to make

a decision: the game is interrupted and the player halted in their progress, and can opt to quicken their recovery or not.

For other participants however, failure and fail states do not have such a natural place within the systems they want to implement, or in their design intention. In some instances, the very existence of failure or its presence as the traditional die-and-retry model previously discussed, dramatically contradicted their design intentions, the story they wanted to tell, how they wanted to tell it, and what they wanted the experience for the player to be. This realisation or awareness pushed them to reframe their own understanding of how best to implement (or not to implement) various mechanics of failure. For instance, Inkle Studios specialises in heavily narrative-driven games, where experiencing the story first and foremost constitutes the primary experience for the player (as opposed to scoring highest on the leaderboard, for instance, or more performance-based games). Studio founder Jon Ingold pointed out that because of that focus, narrative games may be especially at risk of struggling with reconciling story and fail states: *“Failure in a narrative context is probably the most difficult problem of all, since the usual model of die-repeat is highly destructive to the player’s enjoyment of a narrative. [...] Our games tend to revolve around medium to long term consequences so the problem of failure is really serious: if you’ve been playing for an hour, and then die, how far back do you have to go to be able to continue safely? How much content will you have to repeat?”*.

For games such as the ones produced by Inkle Studios, the consequences of the die-and-retry model is that players have to replay or skip through the same narrative content over and over again, sometimes having to re-read

significant amounts of text in the process, which may be disruptive to the player's experience of the game. In this case, game designers may have to be creative in order to circumvent this issue - but as participants previously explained with the examples of *Bird of Passage* and *Before I Forget*, exploring different options when conveying failure to players can prove to be a difficult endeavour too.

Likewise, the genre a game is going to be set in can inform the design vision of a game, and the decisions that will be made regarding its design, including the design of failure. Certain genres revolve around specific mechanics or experiences, which can lead players to expect the guaranteed presence of those mechanics or experiences. Roguelike games, for instance, generally come with a set of expectations, which include high difficulty and permanent death [81], wherein the player will have to restart the game from the beginning if their character dies. Some players enjoy the very challenging aspect of Roguelikes and their high stakes, while other players may be intimidated or discouraged by this promise of near-guaranteed hardship. *Hades*, developed by Supergiant Games, belongs to the Roguelike genre, with the player playing as Zagreus, an immortal from the Underworld of the Greek mythology who seeks to escape it: the challenges along the way are numerous, failure is frequent, and every time Zagreus 'dies', he respawns in a chamber in the Underworld and may begin his ascension from the beginning again (albeit with some persistent upgrades to give him an advantage in his next run and a sense of progression in spite of failure). However, on top of being a Roguelike game, *Hades* is also heavily narratively-driven, with a very rich lore and countless narrative developments and options available to the player: this

emphasis on narrative, according to Greg Kasavin, was one of the ways the developers came up with to appeal to audiences who may otherwise not be interested in the more typical hardcore Roguelike games: *“And what can we do to, to make a game like this, be more open to more players? At the risk of not being like a ‘hardcore game’, as it were, whatever, like, we didn’t set out to make, you know, the most brutally difficult roguelike game. It was more the thing of, you know, hopefully players who enjoy games like this in general will be able to enjoy this one, but let’s also just make it more... just easier to get into for, for more types of players, who might be drawn to the world or whatever, and don’t necessarily see the brutal difficulty as something that is, like, an exciting... that’s not why they’re going to go and play this game necessarily”* (Kasavin).

For *Hades* then, one of the challenges was to find a way of attracting players who would usually be discouraging or turned-off by a game they would anticipate to have high stakes and a high failure rate - and catering to both types of players, by attempting to merge two playstyles that could otherwise come across as contradictory to one another (frequent failure and death VS narrative experience).

For some of the other participants, the question was not about how failure fits in the genre of their games, but how it fits in the message they were trying to convey, the themes of the games, and how failure may hinder or enable the delivery of those themes and messages. *Frostpunk* is a survival-themed city builder set in a catastrophic, post-apocalyptic ice age where the player manages the resources of humanity’s last bastion in order to ensure its survival against extremely harsh natural conditions. In *Frostpunk*, fail-

ure feeds into the player's learning loop, receiving negative feedback when making bad decisions (ex: population dying, morale decreasing, resources being insufficient for the city's needs), but it is also aligned with the game's themes, aesthetics, and narrative setting. As Senior Game Designer Marta Fijak explained: "in terms of a game that is based on extremely harsh conditions, it is also a means to show that, if your survival is ensured without a fail state, then you wouldn't feel the stakes, so, you know, you've got that prospect". In other words, *Frostpunk* could not be a game where players would not feel the constant threat of failure looming over their heads: it is a very atmospheric game, wherein the story constantly emphasised, through the visuals, NPC dialogues, in-game events etc, that humanity is on the brink of extinction, and that its survival hinges entirely on the player's decision-making skills. Without the possibility of player failure, this experience would not be appropriately conveyed.



Figure 5.3: In-game screenshot of *Frostpunk*, showing the harsh environment in which it takes place, and the various factors the player has to manage: resources and dropping temperatures at the top, population discontent and hope (the metrics for success and failure) at the bottom.

Another participant encountered the opposite conundrum, wherein the

threat of player failure dramatically distracted players from the messages and themes the game attempted to convey. *Through The Darkest of Times*, produced by Paintbucket Games, is a game where the player plays as the leader of a resistance group during the rise of Fascism in Germany all the way to the end of World War 2. The game alternates between different phases where the player has to manage the group's resources and manpower to organise resistance actions in Berlin, and text-based narration where the player is presented with various choices throughout various events affecting their character and their group.



Figure 5.4: The mission management screen, wherein the player decides which member of the group to send on each mission, with possible success and failure being determined by each character's stats and items that the player can give them to boost their chances of success.



Figure 5.5: One of the game's dialogue screen during a story phase, where the player has to make dialogue choices.

Given the sensitive nature of the topics explored in the game, and its educational aim, the developers had to carefully navigate the question of failure, how it usually works in resource-management games, and whether it would also work for their game - or completely misrepresent the themes at its core: *"That is [a question] that was among the hardest to solve in the game because we have been asking ourselves all the time, how do we want to implement this? Because it's a game, right? There needs to be some kind of failed state. And there needs to be something like a measurable result. And we were wondering how we can align this with the message of the game, or the content of the game in an appropriate manner. Because we wondered: if we say 'you play the game and you bring out your, your resistance group to 1936 and you helped a hundred people on the way, but then your group dissolves because the motivation is stolen, morale is down'. We'd be kind of, 'we give you the game over, telling you like, okay, you played it wrong and I'll play it again'. Can you say this? Like, does that mean you did resist the Nazis in the wrong way, and to now do it in a different way? That's the*

message we didn't want to send. And we were worried that the game would send this kind of message, if we installed a traditional game over" (Joerg Friedrich, Paintbucket Games).

In contrast to the aforementioned games, developed by studios with clear audience goals and clear priorities, Lucas Pope, who worked solo on the development of critically acclaimed *Papers Please*, deliberately opted for a more experimental approach, and let his design decisions also be informed by his own preferences as a player, when trying to decide what would let the player get the most out of the game without being unnecessarily restricted by the gameplay: *"As a designer, that just... I don't think in those terms, when I think about designing something. So, for Papers Please, I knew that as a player, I would want to try different things, and I didn't want to get kind of lost in a tree, a narrative tree, somewhere in some branch off to the side, and not be able to get back to where I started experimenting, basically. So I felt like I don't want a high penalty for failure. If you ran out of resources, I don't want to make you replay half the game, just because that's not what I'd want to do when I play the game, so I don't want to inflict that on the players either"*.

These situations exemplify that the implementation of failure, and the design decisions surrounding it, have far-reaching ramifications beyond the gameplay experience itself: they can affect a broad scope of concerns, such as a game's branding, target audiences, a studio's artistic vision and intentions, and monetisation systems, especially when those systems are woven into the gameplay loop.

Going beyond failure

The examples previously outlined demonstrate the participants' willingness to question the purpose and function of failure in their games, by examining its possible implications and ramifications on a case-by-case basis in order to address and resolve any conflict arising from the presence and form of failure in their wider game design. What's more, participants expressed a keen interest in broadening this work of reflection beyond the individual titles they were working on at the time, drawing lessons and conclusions from these experiences, or integrating these experiences into a career-long learning experience. When is failure a necessary game mechanic? Are there alternatives to the die-and-retry model worth exploring? Are there alternatives to explicit failure at all? How would this redefine how we conceptualise games? As Fijak reflected during the interview: *"In terms of general fail states in games, I find it fascinating, the role of it, and the necessity of it. This is something that - I'm currently even struggling with a new project, asking 'how needed is this?'".*

As previously mentioned, games have been evolving to cover a broad variety of gameplays and experiences, with some of them not featuring any form of failure at all - the emergence of hypercasual games, especially in the mobile space, is one such example complementing the walking simulators:: *"So for me, a lose condition is required for it to be a game. But now I'm playing these games where there, there are no lose conditions, it's just winning or nothing!"* (Javier).

Experiences of playing and designing such games broadened participants' understanding of what failure can do in games, and what games could be

without it: questioning the framing, function, presentation, and necessity of failure in games as a whole, leads to a reframing of how we conceptualise how games work, both as computer systems following gameplay loops where failure may be part of that loop, and as a form of entertainment that separates itself from film, literature etc in part due to the possibility of player failure. Games like *Through The Darkest of Times*, *Frostpunk*, *Before I Forget* and *Bird of Passage* all demonstrate the expressive power of failure for delivering effective themes, stories and messages - and the expressive power of having no failure at all. *“And I’m looking forward to video games that then might not be called games anymore, but I don’t care, that go more into a direction where, where it’s about this... yeah this dogma of ‘every game needs to have a measurable result [...] Of course, I don’t think these games need to go, but I think it’s just, I think there’s more that can be expressed through video games. And I think we should explore that space further”* (Friedrich).

Additionally, in an industry focused around entertainment, the negative connotations of failure may raise concerns among developers and create a sense of taboo, or a sense of failure being a part of games that is difficult to grapple with, difficult to experiment with, and that is inevitably part of a negative experience for the player: *“I think that the problem is, and what we struggled with, is that the word ‘failure’, by definition, has a negative meaning. And oftentimes when you use that, it discourages game design discussion, because it feels like failure is a sort of punishment, which it isn’t! It is literally a fundamental building block of any gaming, you know? And so, what we found is: it’s very difficult to talk about it because from a game design point of view, it almost feels like a sort of punishment”*.

Lastly, game designer and writer Alexander Sword noted that common practices in the games industry around failure and fail states may stem from a form of cultural hegemony pervading how we approach and conceptualise storytelling and conflict in games, thus dictating an alleged inevitability of failure in games. Storytelling is driven by conflict between opposing forces, meaning that one of those forces, for the story to be resolved, has to triumph over the other - Sword argues that this form of storytelling is not the only one that exists, and that games would benefit from taking inspiration from other forms of storytelling, and experimenting with how games could convey those alternative narrative structures: *“Part of the problem with that kind of advocating [for failure as a necessary part of games] is usually, it comes from conflict, by storytelling where there has to be two opposing forces, and one of them has to win. And so, the choice has to be either one wins or the other one wins. But there are so many cultures in the world who, yeah, don’t engage with that. They prefer some kind of aesthetic outcome, or just understanding that it should be more complicated than that”*.

5.3.2 Low level decisions when designing failure: solutions and innovations

The high-level considerations outlined above constitute factors participants had to account for in the development process of their games. In order to address these considerations, participants sought out creative solutions to resolve these emerging tensions around the opportunities and setbacks of failure in games. The solutions they found were very case-by-case specific, and tailored for the specificities and design goals of their games, reflecting

unique experiences only truly applicable to the specific titles they were applied to. However, commonalities and patterns in the approaches taken were identified as well as the trains of thought that justified them, thus mapping shared concerns, interests, and ideas when finding game design solutions to the experience of failure in their games.

Using narrative to frame failure into context

As previously outlined, for this study, I deliberately sought out game titles with a degree of focus on storytelling - as such, a shared denominator emerged between most participants: the necessity to reflect upon the role and the place of failure in narrative design and storytelling. Failure, according to participants, creates a puzzling narrative problem. On the one hand, the ‘dogma’ of failure previously discussed implies that failure is inevitable in games, and is part of the learning process players have to go through in order to master the mechanics of a game, and overcome the obstacles in their way. In many games that entail some form of narrative, however, this necessity of failure directly contradicts the heroic nature of many of the stories we find in video games: *“There’s a real design problem here - that most big games are in fictional genres where protagonists never fail . [...] These genres of heroic action have no room for failure in them; they’re always about wins and big wins”* (Ingold). In other words, mechanically, many games include a die and retry model, wherein the player fails, the character dies, and the character respawns at an earlier checkpoint. This failure and respawn, however, are rarely reflected in the story itself: failure is omnipresent as a mechanic, but entirely separated and erased from the narrative, resulting in conveniently

very inconsequential failure within the game world. The player can fail as many times as they need to: the game world will never reflect those failures, and the player will never have to account for the consequences of their failures beyond the possible inconvenience of having to repeat the same section until they get it right.

From a player experience point of view, this in and of itself does not necessarily constitute a problem: there are as many possible ways of implementing failure as there are games, and this strategy may be what game designers will deem best for their design vision and their desired player experience. Some of the participants, however, did try to address this dissonance, and tried out various strategies in order to reconnect mechanic and narrative, and to re-establish failure as an acceptable outcome for the player, on a mechanical level as well as a narrative level. Supergiant Games, for instance, leaned heavily into story continuity in *Hades*: setting the game in the Greek Underworld incorporates the thematics of death and failure at the very core of the game, complementing the Roguelike mechanics such as permanent death and re-tries cycles. Upon dying, Zagreus respawns, and can interact with various characters - most of which will dynamically comment on Zagreus' latest failure, fully integrating the player's journey into Zagreus' own story.



Figure 5.6: After the player dies and respawns, Hypnos offers a comment, the content varying depending on how the player has died, and how many times before.

By using NPC dialogues and story continuity, the designers of *Hades* wanted to make “*the player aware that they didn’t do anything wrong*” and to take “*the sting out of the sense of failure in this game, knowing that the sense of failure would be prevalent*” (Kasavin). In other words, integrating player failure into the character’s narrative is meant to let the player know that they are supposed to fail - that failure is part of the game’s experience as much as success is. Perhaps not failing at all in *Hades* would be failing to unlock some of the interesting character development and interactions that the game accounts for, if the player is willing to take risks and to fail.

Similarly, *Pyre*, another game from Supergiant Games, explores the theme of failure by having its mechanic very much present and difficult to avoid entirely, but reworking its narrative significance. In *Pyre*, the player leads a group of prisoners in an underworld that serves as a prison, picking up new companions along their journey, and putting their group through a series of trials (called Rites in the game) - if the player wins the Rite, one of their

companions is allowed to go free from this prison realm. If they fail, everyone remains trapped, and the journey continues onto the next Rite. Interestingly, the Rites are centered around non-violent gameplay, wherein characters play a game similar to basketball in order to determine the outcome. As a result, no character ever dies, thus removing the possibility of the die-and-reset model, or of losing a companion entirely due to one's mistakes.

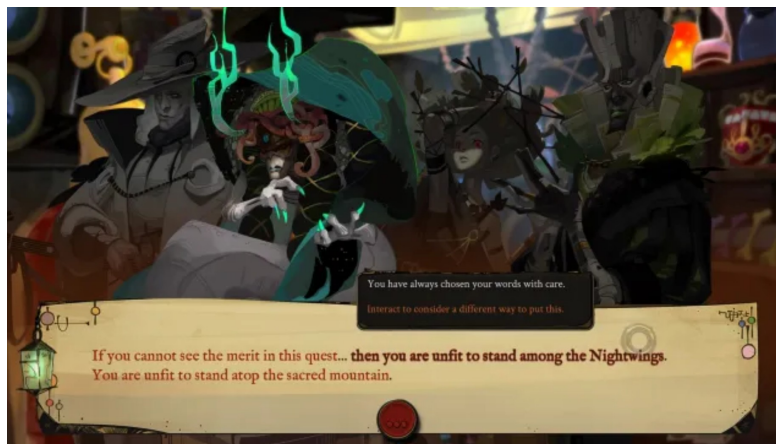


Figure 5.7: In *Pyre*, the player's dialogue choices have repercussions on all the characters and can alter a storyline - when losing a Rite several times in a row, navigating how to communicate with the group becomes a tricky exercise.

Like *Hades*, *Pyre* puts a heavy emphasis on story continuity, and the characters in the player's party will have lines of dialogue and dialogue options that will reflect on the recently failed Rite and their role in it: both the player and the characters have to live with the consequences of their failures. According to Kasavin, this approach was a way of exploring failure in a different way, and of creating new stakes for the player: *"And we wanted, we felt that that in a way makes the stakes even higher, because in, you know, in a lot of modern media where characters kind of kill each other to settle their differences, well, once you're dead, you don't have problems anymore"* (Kasavin).

While death or permanent character death might seem like the worst possible outcome on the surface, *Pyre* proposes that living with the weight of one's failure may actually be more impactful. By emphasising the role of narrative and narrative continuity, both *Pyre* and *Hades* put the player in a position to recover from failure - but they cannot avoid its consequences, or pretend it did not happen at all, or that the actions of their character don't affect the world they evolve in.

In a similar vein, some of the participants deliberately built the experience of failure in their game around the idea that integrating failure into the story can, in and of itself, be a highly rewarding experience. *Sunless Sea*, by Failbetter Games, is a resource management game, heavily text-based, wherein the player is the captain of a ship set in a Lovecraftian world. The player must manage their ship and crew to explore the Unterzee and progressively uncover the entire map. Various in-game events are sprung on the player on top of constantly decreasing resources and crew morale/sanity, and as in *Fallen London*, many of these events are resolved by the resources the player has at their disposal or by a die check. If the player does not have the resources to address a given problem, or fails a die check, dramatic consequences can ensue for the player, their character, and their crew. The catastrophic events that ensue (in line with the Lovecraftian themes and aesthetics of the game) can be very entertaining narrative content for the player: just how bad can things go in this world where monsters and madness are constantly looming over the player's shoulder? *"There are several different kinds of ways you can go mad, when your nightmares get too high. And they're just really powerful writing. And so there's an incentive for players*

to deliberately fail, and it might be annoying if they're going for really high ambition, they progressed all the way through and they've got loads of stuff and they lose half of it and they have to continue their legacy. But for a lot of people, it's something tempting to risk death. And I think that's also quite a useful thing that failure is. If failure is in itself kind of tempting, it makes the decisions in the game and the things you try a lot more interesting" (Wood).

Wood acknowledged that failure can still be a frustrating experience depending on what a given player's goals when playing are, but highlights that failure, in this context, is framed as something desirable - a narrative experience that is meant to be just as valuable as success, something that rewards the risk-taking players even when their strategy does not pay off.

For both Supergiant Games and Failbetter Games, accounting for failure meant acknowledging it both at a mechanical and narrative level. For other participants, on the other hand, the best way to account for failure was to discard it as a mechanic entirely, and to create a gameplay experience where the mechanic of failure would simply not exist. Whatever the player does, there is no hard failure, no system signalling to the player that they are not performing as they should, no necessity for a reset or for any type of mechanic that would force the player into a do-over. For these participants, doing so was a way of exploring the theme of failure within the story they were seeking to tell, and of finding alternative ways of letting the player experience 'failure'.

The Red Strings Club is a game by indie studio Deconstructeam, that came out after another one of their games, *Gods Will Be Watching*. Both games drastically differ from one another, in that *Gods Will Be Watching*

was, upon its release, a notoriously difficult game - reviews made the developers come up with the Mercy Update, which introduced difficulty modes, thus allowing players to choose the level of challenge they wanted to play with. In *The Red Strings Club*, on the other hand, “*there are no traditional fail states. You can only ‘fail forward’, most times it is not even about an outcome being worse than others; they’re just different. If the player does not perform optimally in a scene, some character will suffer, you won’t get to know some piece of information, or things will get a bit more complicated in the future*” (De Paco). *The Red Strings Club* blurs the boundaries between success and failure by erasing the difference of experience between them, and treating failure simply as a narrative alternative to what would possibly be otherwise described as success. Both are equally acceptable narrative outcomes, and the qualitative difference between them is rather unclear.

Similarly, *Bird of Passage* offers a gameplay with no hard failure, and without a clear fail state. The player travels from one taxi to another, in search of an elusive resolution - if this resolution escapes them, the player may simply find themselves erring from one taxi to another and encountering looping dialogues they have already encountered before. Having no traditional fail state in *Bird of Passage* was meant to encourage the player to focus on the emotional journey and experience the game has to offer, instead of focusing on mastering its mechanics: “*Bird of Passage was born as an homage to Japan and its taxi drivers. [...] We have never designed a fail state for this game, at any stage. The main character is a ghost, or a spirit, haunted by his own inability to piece his memories together and understand what happened to his body. The conflict is internal, the character is dead,*

the fail state (as commonly defined) has already happened even before the game starts, we are not interested in exploring that, we want the player to understand the main protagonist's story, and possibly to uncover something about themselves in the process" (Grattarola).

The games discussed in this section all made deliberate attempts to blend narrative with mechanics, either by making player failure a part of the story, or by erasing the mechanic of failure entirely, in order to resolve some of the frictions previously noted around the possibilities and setbacks that the presence of failure has to offer in games. It should be noted, however, that participants unanimously highlighted that making such decisions and implementing them during development was only possible because narrative designers were involved early in the process, often right from inception. Similar results would not have been achievable, had narrative designers been brought onto the projects at a much later stage, once the core gameplay loops and design pillars had already been decided. Kerslake exemplifies this thought with his own experience working in tandem with a narrative designer on *Totem Teller*: *"One of the advantages of being micro on Totem Teller is just that I can properly collaborate with the people that I'm working with. And I'm not, like, taking a thing that's already baked to them and saying 'just put icing on it'. It's like, I want them as involved as they care to be, in sort of influencing things and, and not just be like, you know, pigeonhole their work into the gaps between systems and stuff like that"* (Kerslake).

In other words, reconciliations between gameplay and narrative, and blending them together, is more effectively done from the very beginning of a production onwards - not as an afterthought or an addendum.

Creating meaningful experiences of failure

Beyond the concerns around reconciling the mechanics of failure and the theme of failure in storytelling with the gameplay itself, participants also reported, specifically, having the intention of creating meaningful experiences of failure for their players. While the term ‘meaningful’ is tricky to articulate in the context of academic research, it is the term some participants used, and that will therefore be used in this section: here, meaningful in their interviews meant ensuring that the presence of failure feels justified to the player, and/or that it adds another layer of meaning for the player to interpret. In other words, failure is present in the game for a reason the player can perceive, and is an element of the game that enhance the overall game experience - rather than being an element of gameplay that is there by default. ‘Thoughtful’ would be an alternative to the word ‘meaningful’ in this context.

For *Sword*, for instance, in *All Walls Must Fall*, failure was an opportunity to expand the player’s experience by ensuring the player did not experience their character’s death as being for nothing or unjustified: “*We could add context to it, that every time the player died, there was an opportunity to add some context and meaning to that failure*”, whereas in *Anytown*, the game design was intended to reconcile the themes of coming of age and failure, making failure topical and relevant to the intended experience of the story for the player: “*The failure should be represented in a player character story, not just in the player’s experience. And so, that way we’re using it as a way of basically spring boarding towards some kind of interrogation of fame or life lesson, or... it was something like that*” (Swords). In these cases, failure serves as a springboard for an introspective experience - something that is

meant to leave an impression on the player, possibly beyond their experience of the game itself.

However, finding a way to justify failure, or to articulate it within the gameplay, in a way that would guarantee the desired player experience, was no easy feat for some of our participants. *Through the Darkest of Times*, its sensitive themes, and educational goals, exemplify the difficulty of gamifying such topics as WW2 history, persecution and antisemitism. In a previous example drawn from the game, it was highlighted how the developers were concerned over fail states implicitly communicating the wrong message to the player (that there is a right or wrong way of resisting Fascism). Similarly, the developers were faced with the issue of win conditions and fail conditions getting in the way of the player being able to absorb the game's themes and messages. For this team of developers, exploring their options was when the possible disconnect between the presence of failure, and their design intent, really came to light: what kind of failure was appropriate for the game they were trying to make?

Friedrich sums up the evolution of failure in *Through the Darkest of Times* as follows: *"First we tried different things. For a while, we had actually classical goals in it. So basically the game told you, you must reach 100 supporters until July 1933, or you fail, and will not get into the next chapter. And that worked very well on the gameplay side [...] Yet, it had side effects that we didn't like, and that we felt like were inappropriate with the theme. For example, when people saw at a certain point that they couldn't reach the 100 supporters anymore, they would just give up and, and let it go. So they were playing the mechanics, basically, they were just looking at the number".*

In other words, by initially having the player progress through a pre-determined checklist of goals, and having them fail and reset if they failed to complete this list, the game implicitly encouraged the players to focus on the checklist itself: every item on the checklist could be replaced with anything, without it making a difference to the player's experience. Players would complete the list without paying attention to the narrative, to the options at their disposal to complete the chapter, to the systems in the game meant to represent the resistance, and would not have the freedom to enact resistance the way they want to, rather than how the game tells them to. These win and lose conditions would distract the players from the point of the game, and from its educational purpose.

Friedrich thus summarises the solution that players can now experience in the released game: *"[We] came up with this decreasing morale as a constant pressure. So rather than going for a goal, you would try to go to avoid reaching zero. So we had to fill up the meter, which was still playing the numbers, but it would be more appropriate with the theme. And it would basically force you to do resistance actions as well, because if you don't do that, eventually the game ends, but it's up to you, right. It's your choice, how you do it"*. In this iteration of the game, there is no win condition: rather, all the player has to do is avoid to meet the fail condition (reaching zero on the morale metre). This gave players the intended freedom to enact resistance in any way they wanted, to take risks or avoid risks wherever they feel is appropriate for their own playthrough, within the parameters they set for themselves, with priorities they can determine for themselves (do they prioritise their group members' survival, or are they ready to sacrifice

anyone to accomplish their missions? Does the group focus on high risk and high rewards missions, or is long-term survival through smaller actions more important?). By changing the win and lose conditions, Paintbucket transformed the experience for the players, to an experience that was more aligned with what they wanted the players to take away from it.



Figure 5.8: The green bar in the top left corner shows the current morale of the group. As long as the number remains above 0, the game continues.

Likewise, *Before I Forget* is a game with only one, very deliberate, forced fail state in the form of the scene where the player must find the bathroom, but will inevitably fail to do so in time. For the developers of the game, the themes and story of the game dictated an emphasis on creating empathy and identification between the player and their character, Sunita. They did so by putting the player in her shoes as an active participant in her story, including in ‘failure’: my and other players’ failure to initially identify whether the bathroom incident was their fault or not, just like Sunita would likely experience confusion about the incident, is aligned with the experience the developers were aiming for: “[it was] really important for people to have that kind of confusion and uncertainty in order to really put them in the shoes of

the character” (Morwood). In a game that otherwise does not include fail states or experiences of failure, this particular instance stands out as deliberate and purposeful - communicating a very particular experience that could perhaps not have been communicated as effectively otherwise.

In these examples, the presence of failure mechanically and narratively feeds into a reflexive process, adds an additional layer of meaning that informs the player’s overall understanding of the game, its intended design, and the themes it explores, the messages and lessons it is meant to deliver, some of which are meant to carry beyond the experience of the game itself.

Conversely, the complete absence of traditional fail states, or their subversion, can have a similar effect.

In *Pyre*, for instance, the non-violent gameplay of the Rites and the emphasis on character interactions between Rites, places the onus and focus of the game on the relationships the player builds with their party and the characters that make it up. From one Rite to the next, the player can spend time learning more about their companions, without having to worry about losing them permanently, and is offered the chance to bond with them even through failure. According to Kasavin, this *“has the effect where you can really get to know these characters”*, before offering, upon succeeding at a Rite, *“these climactic moments where you have that choice of who, you know, who can finally go free. And those were really important moments to us in development, but they were really hard to, to prototype because, you know, it was more than just creating a Rite where at the end of it, you know, you pick a character and they’re gone, or at the beginning, I guess you pick a character and they’re gone”*. Ironically, it is through success that the player has to

face the bittersweet ordeal of parting with a character they may have grown attached to, making it a difficult decision to make: is the player succeeding in freeing a companion, or are they ‘losing’ something by losing a character they may have wanted to keep for longer? The impossibility to lose a character until the player decides to part with them, was intended to make the experience all the more emotional and meaningful for the player.

Choice can be a powerful tool to grant the player agency over their gameplay experience. In this context, failure or the threat of failure can limit, guide, or threaten player agency, and enable players to entirely change the shape of their gameplay to adapt to new situations if they so choose.

In *Frostpunk*, for instance: “*You can finish the game with something that we call the golden path, and this is something, from our European-centric point of view, a ‘moral’ way to finish it*” (Fijak). In *Frostpunk*, the ‘golden path’ refers to when the player demonstrates excellent management of their resources and never ends up in a difficult enough situation that they need to sacrifice certain things in order to make up for their mistakes. Their resource management skills are good enough that they can survive this terrible winter without having to make hard moral choices. If a player is unable to remain on this golden path, however, and begins snowballing into a series of disasters, they have an option to enact quick fixes: a game mechanic called the Book of Law. The Book of Law is a series of policy choices the player can select and enact, to pass morally questionable laws (ex: sending children to restart a broken heat generator) that will make the gameplay easier and allow them to recover faster from a mistake. Players are allowed to make mistakes and to fail, and will have the opportunity to recover: but at a narrative level,

these opportunities always come at a very steep moral price: *“and if you are very good on the side of economics, you can do the golden path. If not, the here are the tools! But the tools are coming with a price”* (Fijak). The player can choose to sacrifice their morals in order to fix their own shortcomings, or they can refuse to compromise, and refuse to use the tool that would help them recover from their failure faster and easier. What’s more, even if a policy enacted through the Book of Law may address a shortage of coal or a broken generator, its nature usually comes at a steep human or psychological cost, which may feed into population discontent and other parameters in the game. In *Frostpunk*, through the mechanic of the Book of Laws (which only becomes a relevant mechanic if the player is already caught in a snowball of failures), failure is a very central part of the experience, on a mechanical, aesthetic, and moral level.

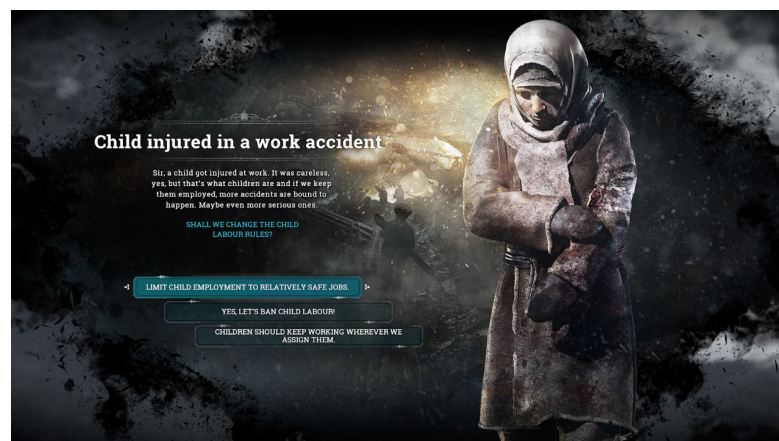


Figure 5.9: When faced with an event, the player can make decisions, which will come with consequences - increased resources and decreased hope, for instance.

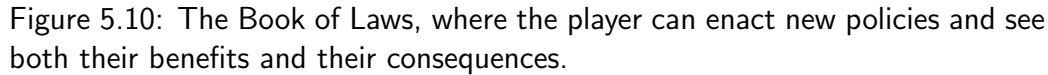


Figure 5.10: The Book of Laws, where the player can enact new policies and see both their benefits and their consequences.

Lastly, the absence of a clear fail state can also be a way of leaving the player to determine for themselves what counts and what does not count as failure; some in-game events are left completely up to the player's interpretation, turning them into implications, or suggestions of failure, that the player alone decides to interpret as such or not. The experience is then more internalised, and more player-dictated.

In *Return of the Obra Dinn*, the player investigates a series of mysterious deaths on a ship, the Obra Dinn. The player records their hypotheses in a journal, and once they deem that they have found out how every passenger died during the journey, they can trigger the end of the game.

Communicating about failure with the player: clarity and purpose.

Lastly, the question of how to communicate fail states, or more implicit experiences of failure, was also a key consideration for participants to address - if this communication is muddled in the game to player interaction, using narrative to contextualise failure or creating meaningful experiences of fail-



Figure 5.11: The player can navigate the Obra Dinn, find the dead bodies of its passengers, and rewind time in order to piece together the puzzle of all the characters' deaths in their logbook.

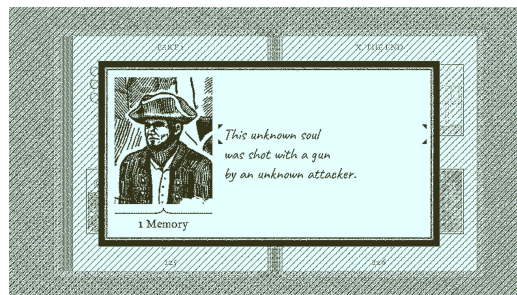


Figure 5.12: The player then uses their logbook to select the name of the passenger, how they think they died, and why.

ure will be unachievable, as these intentions and design choices will not be adequately conveyed to the player. In order for these experiences of failure to be valuable and meaningful, our participants highlighted that the player must know, at all times, when they fail, how they fail, and why they fail, and whether the responsibility of the failure lies with them: *“because I think part of where players struggle sometimes is whether they, the failure is on them or whether it’s actually part of the game design”* (Swords). And if something pertaining to failure is, on the contrary, held back from the player, the reasoning for that must be clear and aligned with the overall game experience too.

This clarity of purpose acts as a two-way street: clarifying the purpose of failure to the player in a game also allows game designers to clarify the

purpose of failure in the game to themselves, and ensure it truly aligns with their design intentions: *“I think the failure, I think, has to relate to something important in the game for it to be valuable as well. And the further away it is from the central premise of the game, I think, then there’s less value there. And it just ends up being more frustrating for the player as well. So, I usually use the high concept for me to test that, I literally go, you know, does the failure have anything to do with the high concept formula [author’s note: the high concept formula is, in Swords’ Forest Paths Method for narrative design, the central premise of the game, summarising the player’s journey through it]? Yes. Okay. The player’s going to see value there”* (Swords).

Aligning narrative, themes, and gameplay can clarify the function of failure in the game for all parties involved, and the explanation behind any given fail state or experience of failure, creates a dialogue between the game designer and the player, mediated by the game itself. For example, in *Frostpunk*, *“you can get caught up in a snowball of systems”* (Fijak). Failing to adequately monitor the city’s coal reserves, or failing to appropriately time the running hours of the heat generator, may start affecting another system in the game, without the player noticing the minute changes in the numbers and their consequences until the situation starts spiralling out of control. Failure is a consequence of player decisions involving a large number of factors and system that the player has to keep track of, creating a domino effect of failure, and making it very difficult for the player to pinpoint the exact original point of failure. Because this original point of failure is obscured to the player and drowned in a variety of other systems and failure, 11-bit Studio made an important point on determining when exactly the right moment

to communicate this failure is: *“The narration of the fail state itself evolved quite strongly, what we are communicating by the fail state, how it worked, but I think what was the biggest challenge, in terms of Frostpunk and fail states, was communicating the fail state, the right moment to communicate the fail state”* (Fijak). To address this problem and the possible resulting frustration on the side of the player, they opted for a snowball effect, leaning into making the failure more aggressive and quicker, while also offering *“the player more tools to be able to grasp out of that almost fail, but not fail state yet, state”* (Fijak). The situation turns dramatic, turns dramatic fast and hard, thus signalling to the player that something is truly going wrong in an apocalyptic game world where everything is already going wrong by definition - but the Book of Law previously mentioned is there to help the player escape this vicious cycle.

In *Papers Please*, the player plays as a border control officer, tasked with processing and checking the paperwork of NPCs looking to cross the border out of the fictional country of Arstotzka to ensure that travellers are in line with the country’s current regulations on immigration. They have to turn people away if their paperwork is out of date or if documents are missing, and may have to face NPCs begging for an exception to be made, bribing them, blackmailing them, etc. Lucas Pope dedicated to play on timing and clarity to ensure that the player would not miss out on important feedback on their performance: *“So if you make a mistake, you immediately get this printer sound, and this print-out appears that tells you what the mistake was, so you know, next time, to look out for that sort of thing. Um, but that ended up creating this sort of tick in the player where they wait - they make a*

judgement in the game, and then they wait a few seconds, very tense seconds, waiting for that printer sound to play, to tell them if they've made a mistake, or not, which ended up being really nice” (Pope).



Figure 5.13: The player needs to go through various official documents and stamp an approval or denial on the Entry Visa, depending on whether they think the applicant meets the entry requirements. The entry requirements change throughout the game, gaining in complexity over time.

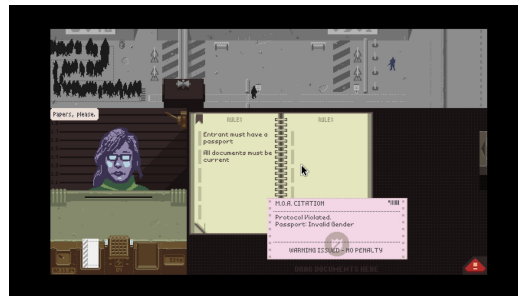


Figure 5.14: If the player lets someone in who doesn't fulfil the entry requirements, they immediately receive a MOA Citation, letting them know what their mistake was, and what penalty (if any) they receive for it.

This 'tick' creates a clash with the underlying narrative of the game, wherein someone slipping through border control would most likely not be found out for some time (what would be the point of a border checkpoint otherwise), if ever, Pope decided to sacrifice narrative coherence for the benefit of the overall experience for the player: *"because the relief you feel when you don't hear it is almost as strong as the kind of disappointment you feel when you do hear it"*. This immediate feedback regarding the player's successes or failures was meant to give players immediate clarity on their performance, and on their options should they need to adapt their gameplay, make different choices, or focus on different aspects of the game. And, while the immediacy of the timing does not fit the narrative itself, the timing of the tick and the sense of expectation that builds up after each person being processed feeds into the sense of suspense and tension that runs throughout the game.

In some instances, participants even said they expected and relied on players to actively engage with the idea of failure - specifically in understanding its role, its place within the gameplay, and how their own active engagement with the game shapes how failure will work within it. There is an implicit dialogue between player and designer, and those participants

hoped that the players' engagement with the games in question would be what would make these experiences of failure memorable.

A striking example of this reasoning comes from Bossa Studios, behind the games *Surgeon Simulator* and *I Am Bread*. In *Surgeon Simulator*, the player is a surgeon trying to perform surgery, with perfectly accurate game controls but a highly volatile and unpredictable game world with entirely unrealistic physics; likewise, *I Am Bread* has the player play as a slice of bread moving around with clumsy and inconvenient controls. Both games lean heavily in the comedy of catastrophic failure: a heart bouncing off a patient's chest to get stuck on top of a monitor creates very cartoony, ridiculous, and at times infuriating experiences of failure. Both games gained a lot of attention and traction online through streaming communities, who rallied around streamers to watch them fail repeatedly in humorous way. Doing so, however, was a gamble for the studio: *"because the game does deliver a joke with a straight face. You know, we never have a sound that goes 'HA-HAA', that kind of clown noise. We've never done that. And it was very risky. And we had big debates about this! Even in I Am Bread, we were thinking, should we put a face on the bread to make a funny face when something happens? And the idea was that, no, we have to trust our players to get it"* (Anonymous). In other words, Bossa Studio had to trust their player base to 'get the joke' and embrace the ridiculous failures of each game as a feature, rather than as an obstacle to success. Trusting that players would understand the design intent and embrace it supposes an active participation and engagement of players with the construction of meaning and the interpretation of what the game is about. This, in turns, implies that the game designers had to relinquish a

measure of control over to their audiences.

Lastly, some participants even embraced their communities to the point of relying on them to raise the difficulty in their games: trusting that their players are independent enough and communities are active enough to circumvent failure or find solutions to overcome it, Javier explains that in her studio, designers knew they could rely on their communities to come together to solve difficult puzzles, feed resources, guides, and solutions to one another, turning the Internet and online communication as an additional, out-of-game tool to their belt: *“You know, that the player, even if they were super stuck, would find a way, right? [...] And then the second reason why you could make, you could design those PC adventure games to be difficult, is because there was a huge community of gamers that made walk-throughs and had forums and would help each other out”*.

5.4 Discussion

5.4.1 Related work

This research has highlighted two levels at which participants approached the question of failure in their own works: a high level of considerations, encompassing several layers of constraints and concerns related to audiences, industry conventions, and creative opportunities and limitations (‘the restrictive dogma of failure’, ‘the impact of design vision and production conditions’, and ‘going beyond failure’) and a low level of considerations, encompassing the game design ideas and solutions they explored to address these higher level considerations (‘using narrative to frame failure into context’; ‘creating

meaningful experiences of failure’, and ‘communicating about failure with the player: clarity and purpose’). This study complements the player survey outlined in the previous chapter, and provides the second part to the findings answering this thesis’ first research question:

RQ1: What constitutes a positive, desirable experience of failure in video games?

By conducting empirical research on what players conceive as a positive experience of failure, and what game designers conceptualise as desirable experiences of failure, this research covers both sides of the question. These two chapters provide an in-depth insight of what we understand as positive experiences of failure for players, and how game designers may approach the idea of desirable failure states and mechanics in game design. Furthermore, this particular study, by investigating the point of view of game designers specifically, builds upon a growing body of work that explicitly focuses on the other side of the game experience - not the players, but the people who make the games they play. Specifically, the works of Denisova [49] and De Smale [46], respectively using interviews and production documents to unpack how game designers think, approach game design problems, and create those games, constitute a promising foray into looking at the designers’ perspective that has been lacking in games research - this study builds upon their foundation by adopting similar research methods to look specifically at the design of failure, and how video games designers approach this thorny problem, in turn informing why players experience it the way they do. This study also builds upon Aarseth [1]’s call for games academia to expand its outlook on what games research is, by taking a more holistic approach to

the medium we are concerned with, and broadening our perspectives to approaches that include the industry and practitioners whose games we claim to study.

Over the course of the interviews, participants demonstrated an approach to failure that involved a high degree of reflexivity and critical thinking, in a constant bid to articulate failure in their game design in ways that would be appropriate for their game, and align with their design vision and the intended experience for the player. All participants did, to a degree, express a desire to use failure as an expressive mechanic in the overall design of their game, even when, or especially when, the existence or absence of failure conflicted or created friction with other elements of the game design or the story of the game. Research [19] [62] [80] has already explored the expressive and persuasive potential of video games, wherein video games, as computer systems, can be engineered to communicate ideas not exclusively through dialogues and story, but also through their mechanics, and through the way different systems interact with one another to create specific experiences and meanings. In many cases, participants expressly sought to do just that: to take advantage of the specificities of failure in video games and understand how to best use it for the specific needs of their games. Several participants expressed an intent to create “eudaimonic” experiences for their players, referring to “experiences of deeper insight, meaning, and personal growth” [12] and a quest for meaningfulness [134]. While video games in general have been researched under this particular lens, failure itself has not yet undergone quite the same scrutiny. Participants highlighting failure, specifically, as a trigger and component of such experiences, points to

the possibility of further, more granular research into the specifics of failure as a mechanic for reflection and eudaimonic experiences. I should be highlighted, once more, that here, participants equated the term ‘meaningful’ with ‘purposeful’, whereas other researchers, depending on their epistemological approach, may assign a different definition to the word - a distinction that should be kept in mind for researchers seeking to explore this particular area of game studies.

Participants’ approaches and reflections were also found to echo principles of transformative game design [43] and serious games [108] [117], wherein design decisions are meant to prompt the player to explore, highlight, engage with, and reflect on certain themes and ideas, on a level that arguably goes beyond mere entertainment: reflection, education, awareness, perspective change, etc. Again, research has explored the potential for video games in these areas, but has yet to hone in on the particular role failure may play in these processes - participants’ contributions may offer starting points for researchers wishing to investigate these areas further.

By experimenting with failure, participants sought to inject some degree of ambiguity and uncertainty into the player’s experience of the games, thus supporting player reflexivity and reflection [71] [105]. *Before I Forget* and *Through the Darkest of Times* are arguably amongst the discussed games that leaned the most heavily into this idea, however, researchers should note that the degree to which players actually undergo long-lasting transformative processes as the result of playing such games is still a topic of academic investigation [120].

Through their experiences, participants reported having the opportunity

to question the place of failure in video games, which in turn enabled them to reflect on the nature of the stories commonly told in video games, and the systems commonly implemented; more specifically, to reflect on what these systems communicate in terms of narrative, conflict, and underlying power structures permeating the implied ideas communicated through a game. There is an important rhetorical difference between a game where an action hero whose failures never matter or are never remembered in the story, and a game that reminds both player and character that the game world is constantly effected and permanently changed by their actions, including their failure, such as in *Frostpunk* and its never-ending cycle of struggle and grind against the cold where every action the player takes may tip the balance for better or worse; or games taking a more contemplative stance towards a fail state that happened before the game even began, such as *Bird of Passage* and its looping dialogues in the limbo of the aftermath of the player character's death, or *Breath of Wild* reflecting a world the hero failed to save [102]. If the games industry did inherit its understanding of the place of failure in games from arcade games and their specific material and financial constraints, and their emphasis on conflict-based storytelling, the player-as-hero, and focus on productivity and victory, then, participants suggest, games have evolved enough that new games can afford to reflect on the cultural significance of such stories and messages. Games can also offer alternatives, new stories, new modes of failure and success. Participants sought to explore these ideas in their own practices, and are not the only ones, with the rise of hyper-casual games, the emergence of walking simulators, the label 'cosy games', etc. Reaching more into the disruptive potential of failure, queer theorists

and queer games have already begun to advocate for a disruption of the underlying capitalist and heteronormative tendencies commonly found in video games, with failure being one possible tool for such a disruption [137].

Likewise, as Swords reflected in his interview, based on his own research into Japanese storytelling and Australian First Nations storytelling, non-Western modes of storytelling may make different uses of ‘failure’, and offer alternative interpretations of what ‘failure’ means in stories, for the structure of the narrative and the characters alike, offering different narrative structures that have yet to be explored or adapted in game format.

Throughout the interviews, participants also raised questions that are currently topical in the games industry, but have seldom or indirectly been related to player experiences of failure specifically. These discussions did not result in integral themes in the reflexive thematic analysis, but were deemed them worthy of further discussion in this section. As previously discussed, *Hades* uses narrative continuity to ‘take the sting out of failure’ and broaden the game’s appeal to less ‘hardcore’ audiences, to attract players who may usually avoid or not be interested in the Roguelike genre, but may be interested in the game’s extensive lore and complex narrative experience. By blending the Roguelike genre with a very intricate narrative *Hades* attempts to justify the presence of failure and difficulty in the game’s world and mechanics, but also attempts to offer elements of gameplay that players who don’t typically play Roguelike games may find more palatable, thus offering an entry point for new players. *Hades* seeks to facilitate access to audiences that may otherwise have felt, because of implicit gaming conventions and culture, such as the reputation of Roguelike games and what to expect from

them, that *Hades* may not be for them.

Relatedly, accessibility is an important dimension of game design, with complex discussions surrounding studio and design practices to make games accessible for players with varying needs [103]. The question of difficulty, notably, has been at the heart of social media and industry discussions [127] [154] following the release of *Elden Ring*, a new game from the Soulsborne series (in the continuity of FromSoftware’s *Bloodborne* and *Dark Souls*) - a notoriously difficult series of games to complete, that has almost become its own genre, ‘Soulslike’. While this kind of difficulty is a selling point for some players and Soulslike games have a dedicated audience, difficulty has been a preoccupation for researchers investigating questions of accessibility for players with various physical or cognitive disabilities and game literacy [26]. Such discussions raise the question of the difference, similarity, or relationship between difficulty and failure, and the part fail states in difficult games may play in the experiences of players who, due to accessibility needs or by personal preferences, may find such games less approachable. Exemplifying this issue, Jordi De Paco recounts how the Mercy Update came to be in *Gods Will Be Watching*: “[*Gods Will Be Watching*] had an online statistics system to track player choices, and it’s because of that that we were able to discover that less than 10% of players got to the ending of the game. We are a studio that puts a lot of its focus on the ‘narrative experience’, that a majority of people didn’t witness the ending of a story means that we failed to communicate with the audience, even if they enjoyed the time spent in the game before quitting” (De Paco).

The Mercy Update, as previously outlined, includes a difficulty selection

menu and system allowing players to choose between the original, intended, very difficult design, or a mode removing most or all difficulty from the game for players wishing to focus on the story, or a puzzle mode removing the factor of chance from the challenges faced by the players. Once this update was added to the game, the team observed an improved game completion rate, which they interpreted as this update making the whole game experience more accessible to players who, for any reason, may previously have been excluded from it by the sheer difficulty and failure rate of it.

5.4.2 Limitations and opportunities

This research, designed to take an exploratory approach to the question of designing failure in video games, the obstacles faced by game designers undergoing this process, and the solutions they found to address these obstacles, opens up a number of avenues for future research and design practice. Because the research objective was to perform an in-depth examination of granular design problems and practices, I sampled a limited number of games, with a limited number of participants, all coming from small to medium-sized studios. This provided us with perspectives from generalists who, during development, had an in-depth overview of the overall design process from inception to completion. This deliberately focused approach did not aim at generalising our findings to the whole games industry across all genres and all studio models.

It should also be noted that the games selected for this study were selected because they were, for the most part, experimental to a degree with the way their design teams approached the idea of failure: they were selected because

they offered original or thought-provoking experiences of failure, which indicated that the design teams behind them would have valuable insight to share with researchers. Not all games or game designers will take such an experimental or creative stance on failure when designing their games, nor do they need to: as this research has indicated, failure need only be articulated around a game's design pillars and goals, and need not be a central feature of the game experience if it does not align with the designers' artistic vision. I hope that this research may also offer points of reflections for other designers interested in exploring these ideas for themselves.

5.5 Conclusion

Failure is but one mechanic that is part of a much wider system in any gameplay it features in. While research has been investigating how failure affects player experience, how it intersects with other aspects of gameplay (such as difficulty), and what processes it may feed into (such as learnability), there has been little to no research towards understanding how game designers approach this question, and how they integrate failure into their game design processes. Through this interview study, and by applying reflexive thematic analysis to the data, an in-depth insight was gained into the thought process followed by 13 industry professionals as they recalled their lived experiences of the decision-making process behind the fail states (or absence thereof) in games they worked on.

The results were constructed around two overarching themes and six sub-themes: high level considerations when designing failure: constraints and issues (the restrictive dogma of failure; the impact of design vision and produc-

tion conditions; going beyond failure) and low level decisions when designing failure: solutions and innovations (using narrative to frame failure into context; creating meaningful experiences of failure; communicating about failure with the player: clarity and purpose).

The participants are aware of the conventions and expectations they inherited from their own and their audiences' games literacy, as well as the practical constraints that come with working as part of a game studio, and the relative freedom of experimentation that comes with solo development. They identified clashes and contradictions between failure as a game mechanic in the gameplay, and their design vision, and worked to find solutions to resolve those apparent conflicts. This work provides an insight into various examples of game development and game design decisions pertaining specifically to failure, giving us an idea of the kind of design process that may inform the creation of experiences of failure described by player participants in the previous chapter. This study is a cornerstone meant to complement the perspectives were already obtained from players, by casting light on the design challenges specific to the implementation of failure in games.

Having gathered the multiple necessary perspectives to investigate the nuances and complexities of failure, the next step was to translate this knowledge base into actionable design - both for the purpose of investigating how to harness the design potential of failure, and to further investigate it as a design objective. This marked the turn from traditional, qualitative methods of research and into a more design-based approach, by approaching this question both as a researcher and as a designer.

Game (Not) Over: toolkit design

The two previous chapters, by way of an open-ended survey investigating video games players' perceptions of failure, and a series of interviews investigating game designers' experiences of designing failure, provide an in-depth exploration of the question of failure in video games. Coupled with existing research outlined in the literature review, this research paints a landscape of a range of possible experiences and approaches to failure, outlining some of its desirable characteristics and effects on the player experience, as well as design challenges and opportunities for game designers.

Successfully implementing failure in video games in a way that does not (unintentionally) disrupt the player experience, complements the gameplay by adding challenge or adding depth to the narrative, and most crucially aligns with the game designer's goals and vision without impeding it, poses a challenge for game developers, as the interviews I conducted highlighted. The goal of the present research is to investigate failure in games and how to support game designers in addressing the design problems associated with failure. As such, in addition to investigating the subject of failure, and why it can be a challenge for game developers, the next step was to explore what possible solutions could be developed in order to address or ease this challenge in the game design process.

The form such solutions can take is manifold, and there are no doubt many avenues researchers may investigate when seeking to disentangle similar design practice problems. In this particular case, because the problem at hand was a design problem, faced by designers, the chosen solution to explore was also a design-oriented one, in the form of a design toolkit.

This approach is well-established in the field of design. According to Frankel and Racine in their meticulous breakdown of the different fields of research and design, research into design possesses the particularity of being twofold: “the research activity related to design is exploratory, and is both a way of inquiring and a way of producing new knowledge (Cross 2007a, Downton 2003)” [67]. Similarly, Zimmerman and Forlizzi argue that “design researchers focus on how the application of design practice methods to new types of problems can produce knowledge” [172]. In other words, design is both a method of inquiry, and a method of producing outputs once the inquiry process is completed. This duality was the necessary component to carry on the next step of this research into failure in games, player experience, and game design. In exploring what solutions could be developed to address the challenges of implementing failure in video games, it was crucial to account for, critically and reflectively, the process of coming up with these possible solutions. The proposed solution would be one research output; the process of developing this solution and questioning it would be the other.

Thus, in order to develop a potential solution to the designerly problem of failure in games, I adopted a research-through-design approach, which Frankel and Racine define as an “action-reflection” approach, wherein “the emphasis is on the research objective of creating design knowledge, not the

project solution” [67]. In other words, while this design process did result in the production of a toolkit, the key takeaways outlined in this chapter are not a description of the toolkit itself, but the description of the design process from ideation to implementation. Toolkits have been used as vehicles for “externalization and communication during the design process” [32], with cards-based toolkits being a particularly pertinent format due to its tangibility and flexibility in the hands of the users [123]. How such a toolkit can be designed, what considerations must be addressed during the design process, how to create a toolkit that, crucially, lives within the context it is intended for (game designers seeking to implement experiences of failure into their games), were the focal point of the inquiry throughout the entire process.

This chapter focuses on the design of this toolkit. Using the research into failure conducted up until this stage as a knowledge base intended to be communicated to designers and help remove some of the barriers arising when designing failure in games, I explored possible ways of translating this knowledge base to a non-academic audiences, in a format that would be conducive in facilitating the design process for game designers seeking to implement experiences of failure in their games. This chapter outlines the research process of investigating existing design tools to identify their specificities, their strengths and weaknesses, and what could be useful in the design of a toolkit meant to specifically address the challenge of failure. It also outlines the subsequent ideation and prototyping process of several possible toolkits, and the final development of one particular design into a finalised product: a cards-based toolkit, aimed at intervening in the early stages of development,

to prompt brainstorming and ideation around the concept of failure while letting game designers retain their creative agency and appropriate the ideas presented in the toolkit for themselves, in whatever ways best fit their design intentions.

In addition to exploring one possible way of addressing the challenge of designing failure into video games, the design process detailed in this chapter aims at providing in-depth insight into the challenges, considerations, and possibilities afforded by the process of translating theoretical knowledge into a practical, applied format. This design project constitutes a contribution to research into game design due to the nature of the toolkit and the problem it seeks to solve, but also a methodological contribution by proposing a now tried and tested approach to designing research-informed toolkits for non-academic audiences and for design, and reviewing its advantages and drawbacks - a detailed and reflexive process Zimmerman and Forlizzi call “disciplined imagination” [172].

The research questions directing this process are as follows:

- RQ1: How can I turn my research into a game design toolkit that meaningfully represents and communicates the findings of the previous chapters, focusing on designing desirable experiences of failure in games?
- RQ2: How can I translate my academic findings into information that is legible and actionable for game designers outside of academia?
- RQ3: What challenges do I come across in this design process, and how do I overcome them?

As a design methodology, it shares similarities with other, related approaches that also emphasise the importance of a feedback loop and cycles of iteration, such as rapid prototyping [131], design thinking [159], human-centered design [100], HCI design [129] and even game design [171]. While following similar guiding principles, these methodologies may vary from one design studio to another, with every practitioner adapting the process' specificities to what may best suit their needs and processes (some design practitioners have indeed called for caution in adhering too rigidly to certain design processes, for example Design Thinking, at the risk of sacrificing the crucial context informing the design process [99] [59]).

Looking at these design approaches and processes and the common practices outlined in each of them, I identified the overlaps between each method and established my own process which would follow general iterative design principles and account for the specificities of this particular design project. The steps of this design process also constitute the structure of this chapter:

Inspiration → Framing → Ideation → Prototyping → Testing → Decision.

Following this structure, this chapter will detail:

1. The inspiration behind this toolkit, namely the knowledge base that informs it, both in terms of content and investigating the shape it would take.
2. The framing of the question or problem space the toolkit sought to solve.
3. The ideation process leading to several possible ideas that would be developed further into prototypes.

4. The prototyping process of those ideas.
5. The testing process of the aforementioned prototypes to better understand the advantages and disadvantages of each possible product.
6. The making of the final decision and development of the final design.

6.1 Designing Game (Not) Over

6.1.1 Inspiration

Simplifying and communicating existing research

The main source of inspiration and foundation for this design project is the existing research already conducted on failure in games. One of the goals of this project is to use academic research, and propose a way of turning it into an accessible, actionable resource for practising game designers. In order to do so, it is important to consider the existing available research on the subject and to make it legible for an audience that does not typically have access to research papers and outputs. Additionally, a key consideration to account for is the process of converting said research into a form of knowledge that is useful for their practice. Design toolkits are a common way of achieving this goal: their format is interactive, making them easy to integrate into a design project as their format and interactivity mimics the design process designers will already be familiar with. They are a format that align with how designers commonly work, and can help at various stages of product development, for example with idea generation or idea validation. Game design is no different: several already exist in the game design sphere, and

they support game designers by being integrated into the development cycle and design process. As such, a toolkit centred around the idea and design or failure would constitute a valuable way of approaching this particular design problem, by integrating the design of failure into the design process itself.

The design of this toolkit necessitates using my resources as a researcher to access, produce, and communicate this research to my intended audience. This available knowledge takes several forms.

For this specific toolkit, the knowledge base informing the content and design of the toolkit was the research I conducted in order to gain insight on players' and game developers' perceptions and ideas around failure, the result of which was outlined in the previous two chapters. Those results were the starting point to begin imagining what form the toolkit could take, as well as its core content - however, they needed to be translated into a more succinct, appropriate, and legible form.

Taking advantage of the format of existing research

The survey study regarding player perceptions of desirable aspects of failure in games, the interview study regarding the design of failure in games, were all thematic analyses - in other words, the research outputs for each of these research projects have consistently been in the form of themes. Themes summarise and synthesise the content and ideas developed through the research process: as such, they can constitute a valuable basis with which to work on a toolkit that aims at communicating research findings in a more succinct manner.

The literature review and existing research performed by other researchers

already informed the construction of the themes resulting from these studies: therefore, this knowledge is already embedded into the themes that can be used to form this foundational content. Furthermore, it was possible to return to the literature to continue informing the design and content of the toolkit, by highlighting elements of reflection that were out of the scope of these specific studies, but are still relevant to the future toolkit; or by helping develop and consolidate some ideas further.

With this in mind, the knowledge base informing the design and content possibilities for the future toolkit included three points of view: the point of view of researchers working in games research and HCI (literature review); the point of view of video games players (survey study), and the point of view of game developers (interview study).

Exploration into design: existing design toolkit

This perspective formed the knowledge base constituting the content of the toolkit. The next step was to investigate what shape the toolkit could take to communicate this research base; it was thus necessary to investigate existing design toolkits in the field of game design, and in design more generally, to get a sense of design inspirations and understand their strengths and weaknesses. This research work would in turn inform the scope and purpose of the toolkit, as well as the formats it could take through ideation and development.

This research work took the form of an in-depth investigation into existing design toolkits, with a specific focus on what their mission statement was, what their scope of intervention was intended to be, and what form or format they took to deliver this moment of intervention. Matthew Whitby's work

to design the CPMH toolkit [162] proved to be an invaluable resource in this endeavour. Whitby identified three overarching trends in the design of cards-based toolkits: unrestricted tools (word or image prompts meant to get the user to generate ideas and relate the prompt to their project), questioning tools (prompts meant to get the user to engage critically with the content of the tool), and descriptive tools (meant to provide the user with information about the toolkit's content) [162]. This typology of cards-based toolkits, delivered along the limitations of each type of toolkit (for instance, questioning toolkits are a great tool to engage users critically, but there needs to be a contingency in case the user is unable to answer a question or engage with the topic [162]), laid out the foundations for me to investigate and identify the toolkits that would be most relevant to this project.

The following tab offers an overview of some of the existing cards-based design toolkits (including but not limited to game design) thus identified, by focusing on ideation tools that offer relevant insight and inspiration for this project:

Description	APX Cards [3]	Deck of Lenses [145]	Designing with Intent Cards [111]	Exertion Cards [123]
	<p>22 cards divided into Access Patterns (can players take actions and access feedback from the game) and Challenges Patterns (can players overcome the challenges presented to them and consume the story?) to reflect on Accessible Player Experience</p>	<p>112 lenses/cards to help ask the right questions surrounding game design problems during the process of making a game. Cards are divided into five categories: designer, player, experience, process and game.</p>	<p>Focus on changing behaviour through design. 101 design pattern cards divided into 8 areas of research (interaction, ludic, perceptual, cognitive, machiavellian, security, architectural, errorproofing). Deliberately "fuzzy" delimitations, patterns in one category can easily overlap with another category. Loose taxonomy to 'encourage designers to think about behaviour change from different perspective'.</p>	<p>15 cards to support the design of exertion games (games that make use of the human body) and communicate the theoretical exertion framework developed by the same laboratory. The Exertion framework is divided into four lenses that became the design cards' categories: the Resending Body, the Moving Body, the Sensing Body, and the Relating Body.</p>
Intended scope	<p>Can be used throughout the design process, but a familiarity with the patterns will help users determine when every pattern is most useful to reflect on, and at which stage of development decisions around each pattern can or should be made.</p>	<p>Can be used during playtesting. Can intervene at any point during development, but some cards are best used early in the design process to generate ideas and discussions at a point where game mechanics and other key components of the core game and game loop can be changed.</p>	<p>Can be used at any point of the design process to come up with concepts to address a specific problem OR to reflect on existing ideas/products/concepts. Using it during the ideation or early prototyping stages helps identify issues and resolve them before the design is entirely set.</p>	<p>Unspecified, but feedback obtained by the creators and researchers highlight the cards' use to review existing ideas and generate new ones, suggesting the cards may be most useful early in development at ideation and prototyping/playtesting stages.</p>
Formal quality	<p>Short title capturing the core idea of the pattern + a design problem related to problems players may run into due to design choices + a design driver, exemplifying a situation where the player may run into the problem + a design solution explaining how to address the problem + related patterns guiding the user to other patterns that may help find solutions or identify related issues.</p>	<p>Short title capturing the core idea of the lense + an illustrative image + a couple of sentences explaining the title of the lense + a series of questions meant to help the user think about this particular idea.</p>	<p>Each category (also called "lens", for example Architectural Lens) has an introduction card. Each pattern/gambit (the cards falling under each category/lens) has a short title capturing the core idea of the pattern, a design question related to this pattern, and an example to illustrate the design problem associated with the pattern.</p>	<p>Short title capturing a design idea + design question related to the design idea that users can answer on a spectrum ("to what extent can players do X?" or "to what extent does the game do Y?") + a short title capturing the design solution to the question on a sliding bar representing the spectrum of possible responses (from + to -).</p>

Table 6.1: Review of existing, relevant cards-based toolkits for inspiration (A)

Grow-A-Game [15]	MethodKit Cards [121]	Mixed Reality Game Cards [161]	Playful Experiences (PLEX) Cards [113]	Triggers [118])
Decks of cards to design games centered around human values and societal challenges. Several editions are available based on the user's experience (apprentice, classic, expert). The decks include six card categories: Actions, Challenges, Games, Goals, Wildcards and Votes.	Various cards-based design toolkits with different foci (project, web development, personal development, workshop...) meant to facilitate design processes for each scenario. Designed to work in workshop setting.	93 ideation cards to design mixed reality games. Can be used to rapidly iterate ideas, or to explore one design in depth. Divided between elements, ie location, gameplay etc), Questions Cards (high level approach to identify boundaries and limitations) and Challenge Cards (common pitfalls).	22 cards to communicate the 22 categories of the Playful Experiences Framework to designers and researchers.	Decks of cards designed to facilitate and encourage a creative approach to brainstorming during design processes. A variety of decks focus on various topics (ex: social media strategy, graphic design, etc). "Triggers" are "What if..." questions that constitute the core of the toolkits.
For new design purposes, can best be used at the ideation stage, but can also be used to discuss or modify existing games. Sets out to encourage imagining games that reflect social and human values, and that incorporate them into the gameplay.	Intended to be used early in the design process, supporting the initial mapping of scope and purpose of a design project all the idea to and including ideation.	To be used in early design process and idea generation, either to generate basic ideas, or to develop an existing idea and explore unexpected possibilities.	Intended to be used for idea generation or modification.	Can be used at various stages or for various purposes depending on the chosen deck, but can be used for ideation or ongoing reflection in the design process.
Each card has an icon to identify which category the card belongs to + a short title capturing an idea + a short text to explain the idea in case users are not familiar with it.	A short title capturing a core idea + a short sentence or catchphrase explaining the idea + an icon.	Short title capturing a core idea + short description or questions depending on the type of card (opportunity, question or challenge).	Short one-word title capturing a core idea + short one-line description + illustrative images.	Headline question in 'What if...' format + longer explanation of the question with suggested leads to follow.

Table 6.2: Review of existing, relevant cards-based toolkits for inspiration (B)

These design and ideation toolkits can sit alongside the more general frameworks and methods used by game designers to develop their games, intervening at various points across development and various stages of each of these methods. The following tab offers an overview of some of these game design and game analysis frameworks that design toolkits can complement:

	Chris Crawford Game Design model [41]	MDA [85]	Forest Paths Method [155]	Espen Aarseth's Playing Research [1]
Description	<p>Step-by-step guidelines to create games, both analog and digital. Divides the design process into the following steps:</p> <ol style="list-style-type: none"> 1. choose a goal and topic, 2. research and preparation, 3. design phase, 4. pre-programming phase, 5. programming phase, 6. playtesting phase, 7. post-mortem. 	<p>Breaks down a game's structure into three dimensions that both game designer and player experience in mirroring ways. The player's experience of a game is broken down into "rules -i, system -j, fun", and their design counterparts "mechanics -j, dynamics -i, aesthetics". Designers start the design process with the rules/mechanics component and work their way through system/dynamics and fun/aesthetics, while players first experience the fun/aesthetics components before engaging with the system/dynamics and the rules/mechanics. Aesthetics can be further broken down into a taxonomy describing the kind of experience(s) players are expected to have from the game: sensation, fantasy, narrative, challenge, fellowship, discovery, expression, submission.</p>	<p>Draws from theatre and literature to break down the structure of games into core components for game designers to account for in their design. Designers summarise their game concept using the High-Concept Formula: "the player (protagonist) performs (activities) to manage (resources) and overcomes (obstacles) to achieve (goals)". Once the high-concept formula has been determined, designers break down their game idea into sequences (can be levels, narrative sections, etc) and applies the same formula to further break down what the player must do to succeed for each sequence. The basic high-concept formula includes five core components (Story, Activities, Resources, Obstacles and Goals) but designers are encouraged to personalise it by adding whatever components may help their game design process.</p>	<p>Breaks down a game into three overarching levels of analysis and associated topics: gameplay (sociological, ethnological, psychological...); game-rules (game design, business, law, computer science/AI...); game-world (art, aesthetics, history, cultural/media studies, economics...).</p>
Intended purpose / scope of use	<p>Describes the game design process in a general step-by-step structure for game designers. Note: this model was created in 1984 - games, in particular digital games and their production processes, have evolved considerably since then.</p>	<p>Can serve as foundational guidelines for design to approach the structure and components of their games as well as the intended experience, and as a lens for designers and researchers to analyse games.</p>	<p>Particularly oriented towards narrative games and narrative design.</p>	<p>Created by and for research and analysis purposes rather than design specifically.</p>

Table 6.3: Examples of game design frameworks for inspiration

Reviewing those design toolkits, it became apparent that all of them have an intended scope and purpose: in other words, they address a specific problem, and can intervene at different stages of the design process depending on the problem they are meant to address - none of these tools are designed to handle the entire design of a product. Some of them only serve a purpose at a specific stage of the design process to solve a specific question, for example to generate ideas before anything even solidifies into a concept or a prototype, while others can be used throughout the design process, but only to serve a specific purpose, for example testing proofs of concepts or to frame a playtest session.

This review includes a fairly broad account of examples of existing design toolkits, in order to get a more thorough understanding of existing practice and the possible options that would be relevant for further investigation in this project. The next stages in designing this toolkit helped refine this review into a selection of toolkits to investigate further and draw inspiration from: the first step was to define the purpose and scope of the toolkit, before returning to this review and determining which ones would be most relevant to draw inspiration from. This was a very iterative research and selection process, progressively refining the review and narrowing it down to a selected few options.

6.1.2 Defining the purpose and framing a question

As demonstrated by the review of existing design toolkits, and as recommended by the iterative design process, the first step was to define the scope and purpose of the toolkit. Defining these two points helped identify the

shape that the tool should take to best serve its intended purpose, and the shape that the ‘gameplay’ or interactions with the toolkit would take. Identifying its scope and purpose also helped determine the presentation and curation of the material that the toolkit is meant to convey. In order to do so, it was necessary to identify: **the toolkit’s intended audience → the problem space the toolkit addresses → the moment of intervention of the toolkit in the design process → the shape the design toolkit would take.**

Intended audience

At its core, the goal of the toolkit is to inform game design decisions, to support game developers seeking to create engaging experiences of failure and experiences of failure that align with their core pillars (the central ideas or concepts around which the game is designed, its foundations) and design intentions. The toolkit itself is thought of as a toolkit that will support the game design process, and offer the opportunity for deeper insight into the process of designing experiences of failure in games; therefore, its intended audience are **game designers and game developers**. It should be noted that the interview study partly informing the toolkit was conducted with primarily independent game designers and creatives from independent game studios, which led to the findings having a heavier emphasis on experimentation and storytelling than more commercial or more mainstream games may have. As such, the toolkit is more appropriate for use for **independent game development**, and for game designers interested in applying a more experimental approach than bigger studios that may have different priorities.

However, as the toolkit provides insight into the player experience of failure in game, anyone with an interest in this particular topic will be able to derive value from it, with their particular context only shaping how and why they might use the toolkit in the first place.

Problem space

The interview study identified high-level obstacles faced by game designers when looking for ways to address failure in their games: failure feeling like a dogmatic element of games that is difficult to discard while retaining player interest, the difficulties of fitting a satisfactory design of failure into an existing idea and with specific constraints, and the challenges of exploring innovative ideas around failure. These difficulties orient the purpose of the toolkit towards finding a way of getting game designers to think about how to tailor failure to the specific parameters and design of their game and identifying how, and when, failure strengthens their design.

The existing toolkits reviewed earlier in this chapter indicate that a toolkit format would indeed be appropriate for such an intervention, as toolkits can be designed to prompt specific and targeted discussion around, and reflection into, a designated topic - such as failure.

Following the guidance of iterative design processes, the design goals and intended purpose of the toolkit was summarised and framed as a one-sentence declaration of intent: **this design toolkit aims at helping game developers *explore themes and game mechanics* related to failure, *generate new design ideas* around the theme of failure, and *understand how their ideas for failure relate to their overall game***

design intentions, during the development of a game.

My intention to make the toolkit reflexive rather than didactic is echoes in Casais, Mugge and Desmet's research into card sets and symbolic meaning: for them, the purpose of their card set was not to tell designers how to tackle a design problem, but to provide a space for designers to dive deeper into the process. According to them, and closely echoing my own goals for this toolkit: "providing inspiration is one of the key aspects to trigger designers in their design process. A balanced amount of information should be provided to allow for a quick scan and intuitive selection of the data; also taking into account that designers might appreciate the opportunity to deepen a topic. Furthermore, giving room and freedom to the designer is indicated as crucial, letting designers restructure the information and prioritise it according to their needs and context." [33]

In other words, in terms of an actionable toolkit, users should be able to reflect on their design practice, generate new ideas where and if appropriate, and evaluate the relevance of the discussion and their ideas for their intended games.

Scope, or moment of intervention

During the process of interviewing game designers, one of the questions asked during the interviews was: "as a designer/writer/developer, at what stage of the game's development did you start working on fail states and how to implement them?". Across all interviews, a consensus emerged from participants that the best moment to ideate and make decisions about failure and the shape it should take in a given game, is early in the development process,

and that the successful ideas they had implemented in order to address some of the challenges they were facing, were thought up in those early stages so as to ensure a smooth integration in the overall gameplay. It should be highlighted that this recommendation stems from a small number of game designers rather than an industry-wide recommendation, but participants in the study did highlight that early in development was, in their experience, the moment when they had the most flexibility to make, test, and iterate on changes. The participants of this study were selected because failure was an important part of their design process, and was integral to the themes, or mechanics, or both, of their games - to be successful in implementing failure or lack thereof (be it at a gameplay level, narrative level, etc), such decisions had to be made so as to be integrated into the core gameplay as early as possible. Such considerations may not be the case for all games or all game designers, but they constituted a valuable starting point for the design of the toolkit and deciding on its scope.

Many game design practitioners do indeed recommend to decide on and set the core gameplay loop of a game first: what the player must do, and what actions they have to take in order to complete this goal. The core gameplay loop includes the core mechanics of the game, without which the game would not work: in Mario for instance, the core gameplay loop consists of the player being able to move and jump. Game design, like most design processes, is an iterative process, with the game designer starting by defining a core gameplay loop and a minimum viable product (namely, what is the strict minimum the game must include in order to provide the intended experience). The ‘main’ fail state of a game is often part of this minimum viable product: for instance

if the game has a game over state, and/or a respawn system, or no hard failure at all. Such considerations would be experimented with and decided early in development.

Following this reasoning, I determined that this design tool should be an intervention tool that comes into use at the beginning of the development process, when the team or individual developer are still deciding on the core gameplay loop, as well as other major mechanics and considerations (such as story and narrative). Situating the toolkit to intervene at this early stage would allow for experimentation with, and brainstorming of ideas, before the major systems are set in stone and can no longer be changed without becoming a hindrance to the rest of the development process, or at all without having to start over. The design and development process should be advanced enough that the developers have something to work with, at the very least some ideas to discuss on a design document or an early prototype, but not advanced enough that they cannot change anything without throwing out their whole design.

Tone and purpose: recommending, rather than prescribing

Because the toolkit is meant to intervene early in the development process, another key consideration was that it should not be prescriptive: in other words, it should not seek to offer ready-made, general solutions, telling developers exactly what to do in order to implement ‘desirable’ experiences of failure in their games. Developers are the primary experts in both their field and practice, and in the specific games they are developing with the help of the toolkit: in other words, the toolkit is not meant to supplant their

expertise, as a more prescriptive toolkit could, but to support it and tease it out during the design process. The toolkit had to let game designers retain their creative agency and encourage it. As such, the toolkit was intended to be informative and to prompt ideation and discussion: it should offer pointers for discussion, and prompts for ideation, reflection, and brainstorming, rather than definitive prescriptions on ‘how to do failure’. The toolkit should communicate research findings and information that game designers would otherwise not have an easy access to, but research has not yet solved the question of ‘how to design the perfect failure’ - rather, research shows that failure is a nebulous concept, that can take many forms across many genres and many games, and be interpreted very differently by many people. The toolkit had to reflect this position, and was designed to encourage its users to reflect on the nature of failure in their game, and piece together what shape failure should take specifically for the needs and intended experience of their game.

Likewise, the toolkit’s non-prescriptive approach accounts for the fact that every game is different: every game has a different intended experience for the player, different mechanics, different narratives, and a type of failure that works for one game, may not necessarily work as well for another. *Animal Crossing* would be a very different game if the player character could die - likewise, *Disco Elysium* would be an entirely different game without its complex, consequences-imbued narrative system. Looking at games from a similar genre, *Celeste* is a difficult but forgiving platformer with very quick retries and minimal setbacks, while *Getting Over It With Bennett Foddy* mercilessly lets the player fall all the way back to the beginning of the game after

three hours of gameplay and a single mistake on purpose. As such, claiming to be able to provide game designers with definitive ‘truths’ about failure in games and how to implement it, would be unrealistic, and counterproductive to creativity. Therefore, in the design of this toolkit, there was an emphasis on avoiding making definitive recommendations, to instead highlight certain topics or experiences worth investigation and paying attention to; because research has demonstrated that players and developers pay attention to these particular points of reflection, or have found them useful.

The goal was to design a toolkit that would put research in the service of the creative process, and create a space for research and design to meet during the design process. Research can offer ideas, suggestions, and leads for further reflection, but it was crucial, during the design of this toolkit, to highlight and reinforce the fact that the game designer using the toolkit is the expert who ultimately will make the decisions that will work best for their games. The toolkit was designed to facilitate and support that decision-making process.

6.1.3 Ideation (design patterns VS cards)

Having established an initial understanding of existing design toolkits to understand how they can successfully integrate with the game development process at different stages and in different ways, as well as defining the scope and purpose of the toolkit, the next step in the design thinking process was to move onto ideation, namely, to generate ideas anchored in those established foundations. The review of existing design toolkits was re-examined in order to isolate the ones that seemed, from their descriptions, like they

would adequately complement the intention behind the future toolkit. More specifically, the existing toolkits that were retained in this re-examination were toolkits that had a focus on ideation, discussion, and intervened early in the design process. They also offered a degree of flexibility in their use and interpretation, thus answering the necessity for game designers using the future toolkit to have a degree of agency over the discussions and ideas that would come up through the use of the toolkit. Moreover, re-examining the review of existing toolkits was instrumental in establishing which would be the better approach: to mod an existing toolkit (namely to take an existing format and re-purpose it to exclusively revolve around the topic of failure), to create a toolkit entirely from scratch without drawing any direct inspiration from existing toolkits, or to find an in-between solution.

Design patterns and lenses: using a narrative design framework to create a patterns library

As previously discussed, the research projects conducted to understand player experiences of failure and game designers' experiences in designing failure, were conducted using reflexive thematic analysis: as such, the research outputs for both studies were themes. A distinct advantage of the themes thus generated is that they, in their structure, are comparable and to an extent similar to design patterns and design lenses. Creating a patterns or lenses library thus became an avenue of investigation.

While originating in architecture, design patterns as a method for design have largely been adapted for HCI design, and have been commonly used in the design of digital interactions [147]. According to Seffah and Taleb in their

extensive review of the evolution of design patterns in HCI, design patterns largely fall under one of the following definitions: “a set of rules which can be used to make and generate things or parts of a thing”, “a general repeatable solution to a commonly occurring problem”, “a relation between a certain context, a problem, and a solution”, or “an invariant solution to address a recurrent design problem within a specific context”. In other words, “patterns give an invariant solution to a problem and are abstract enough to draw on the common elements that hold between all instances of the resulting solution” [147].

The first caveat worth noting here, is that in their original format, as proposed by architect Christopher Alexander and confirmed by Seffah and Taleb’s review, design patterns are prescriptive and do offer solutions to specific problems [5] [147]. In his own book on design patterns for urban architecture, in which he came up with the concept of design patterns, Alexander explicitly names common problems urban designers may face when designing for cities, and explicitly names examples of best practice to address each of these issues. For example, in his design pattern “Mini Buses”, he identifies a design space (“Public transportation must be able to take people from any point to any other point within the metropolitan area”), provides additional context by discussing existing instances of this problem and potential solutions, and offers an invariable solution to it (here, the solution is to establish “a system of small taxi-like buses [...] able to provide point-to-point service according to the passengers’ needs”). It should be noted, however, that Alexander also acknowledges that the solutions he proposes are still works in progress - further work can and needs to be done to find “the true invari-

ant” [5] that could invariably address the design problem it is intended to resolve.

As determined in the framing stage of the design process for the toolkit, the toolkit should not be prescriptive, nor seek to offer definitive answers to design problems that are reliant on a number of contextual factors. However, the format of the design patterns was still appropriate and similar to themes generated through research, in that both patterns and themes are made up of a title and a description capturing and summarising a key concept in a few words (a short title and a description), that can be related to other similar ideas/patterns/themes. They are short, descriptive, and explain a single phenomenon or a single aspect of a phenomenon of interest: therefore, a possible format for the toolkit to be shaped into, was a library of design patterns.

Furthermore, while the invariability of the solutions offered by patterns is open to discussion, patterns still offer ideas, and possible avenues for designers to explore. As such, it was still appropriate enough to draw inspiration from this model, without strictly sticking to the design patterns’ original purpose as described by Alexander. Such a freeform approach is not unheard of in design toolkits: the Deck of Lenses [145] and the Lens of Intrinsic Skill Atom [52] both reference design patterns, while taking a more flexible approach, which allows for such toolkits to account for the variety of ways in which games can be built and played - precisely what the toolkit designed here sets out to do.

Jesse Scholl’s Deck of Lenses is very similar to Alexander’s patterns in that it follows a title and description of a problem format; however, it differs

significantly in that instead of offering an invariant solution to address the proposed problem space, a lens offers questions. For example, the Deck of Lenses, a deck of cards in which every card represents a lens, includes a lens titled “The Lens of Curiosity”, and proposes the following problem space: “To use this lens, think about the player’s true motivations - not just the goals your game has set forth, but the reason the player wants to achieve those goals”. He then invites the user to ask themselves the following questions: “what questions does my game put into the player’s mind? What am I doing to make them care about these questions? What can I do to make them invent even more questions?”.

Deterding, on the other hand, looks at the concept of skill atoms [39], which he defines as “a feedback loop between user and system that is organized around a central challenge or skill”, and that consists of “goals, actions and objects, rules, feedback, emergent challenge, and motivation” [52]. In other words, skill atoms describe the entire gameplay loop for a single game mechanic or interaction. Like patterns and lenses, skill atoms isolate one particular aspect of a game, and break it down into dimensions to address. Deterding combines lenses and skill atoms to propose a model of gameful design, called the lens of intrinsic skill atom, which takes the components of a skill atom, and articulates them in a manner similar to the Deck of Lenses, with questions meant to prompt ideation.

Lastly, and to evidence the flexibility of patterns and lenses, one can refer to Chris Barney’s Pattern Language for Game Design [11], which “builds on the revolutionary work of architect Christopher Alexander to show students, teachers, and game development professionals how to derive best practices in

all aspects of game design”. Following Alexander’s example, Barney created a library of what he calls game design patterns, but that significantly differs from Alexander in that these patterns, like lenses and atoms, do not offer invariant solutions to the design problems they address. Each of Barney’s patterns includes a short title, a one-sentence explanation of the title, a description of the design problem, and a description of the pattern. Crucially, the pattern proposes solutions drawn from game examples, but also highlights the difficulties or caveats a design may face when implementing these solutions.

Another advantage of creating a design patterns library focused on failure in video games, was its potential for repurposing and reuse. Even if a design patterns library turned out not to be the right idea to pursue and iterate further, and to finalise into a product, it would still be possible to repurpose the written content of each pattern, for instance, as the content for cards in a cards-based toolkit.

While themes created during the process of reflexive thematic analysis are similar in nature to patterns, turning those themes into patterns for a design patterns library was not an entirely straightforward process and required careful reworking, rephrasing, and re-arranging, in order to not just repeat the themes, but reframe and expand them so that the newly created patterns would serve their design purpose. While those themes work as research outputs, as the result of reflexive thematic analysis, they were not created as patterns conducive to creative reflection and design processes.

The research on failure informing the content of the toolkit used different avenues of investigation, and offered different perspectives on the question,

thus offering a range of possibilities to frame, curate, and present this research in the toolkit itself. Doing so required re-thinking the results of my research and thinking about possible ways of re-framing to re-purpose it specifically for design. One such possibility was to maintain the division of the themes as they have been presented up until this stage: the players' perspectives on one hand, and the game developers' perspectives on the other, and to create a design patterns library divided into two sections to reflect these different perspectives. The other possibility was to rework the themes in order to reorganise them, unify both perspectives, and thus revisit the narrative of the toolkit: instead of offering a strict players versus developers division, this possibility would bring them together, and the patterns would, for the most part, reflect both perspectives instead of one or the other. Going through this process would also provide an opportunity to expand the existing themes informing the research, and to break them down into more detailed patterns, which would in turn generate a more detailed, comprehensive, and actionable account of the research the toolkit is communicating.

In order to take the two perspectives of players and designers and to bring them together, the themes were mapped onto an existing game design framework, which was used to further break down and expand the themes into patterns. This framework is called the Forest Paths Method.

The Forest Paths Method is a framework that is heavily focused on three dimensions of games: game design, narrative, and player experience [155]. The structure of the framework, which in its simplest form divides a game's structural skeleton into story, activities, resources, obstacles, and goals, also offers an appropriate structure on which to map out research results and take

themes and sub-themes to break them down further into specific mechanics, design pillars, and actionable prompts that would be rooted both in research (the content of the research reflected in the toolkit), and in industry-sourced design practices (this content fits within a practical framework). The toolkit designed throughout this chapter is meant to support game designers in designing their games, has an emphasis on the narrative role of failure due to some of the discussions and findings from prior research that highlighted this particular aspect of failure, and accounts for a balance of design and player experience perspectives. The Forest Paths Method was therefore suited for the purposes of mapping and expanding themes onto a game design framework: it has a heavy emphasis on narrative design and story, and focuses on designing a game by focusing on the intended player experience for every aspect of the game.

Mapping research results onto the Forest Paths Method framework was done through a detailed, iterative mind-mapping process. Using a virtual whiteboard for visualisation purposes and for ease of manipulation, all themes from the research informing the toolkit were written out onto post-its, while every dimension of the basic Forest Paths Method framework was laid out in columns. Then, every theme was added into every column it could, based on the theme itself and the aspect of gameplay as proposed by the Forest Paths Method, fit into. For example, the theme ‘learning about the game’ could, based on the research, fit into ‘story’, as the research has pointed out that failure can lead players down narrative paths they would not have otherwise experienced; likewise, the same theme could fit into ‘goals’, as having players fail to complete a goal defined by the game or themselves can give them

information about what they are doing right or wrong within the parameters of game.

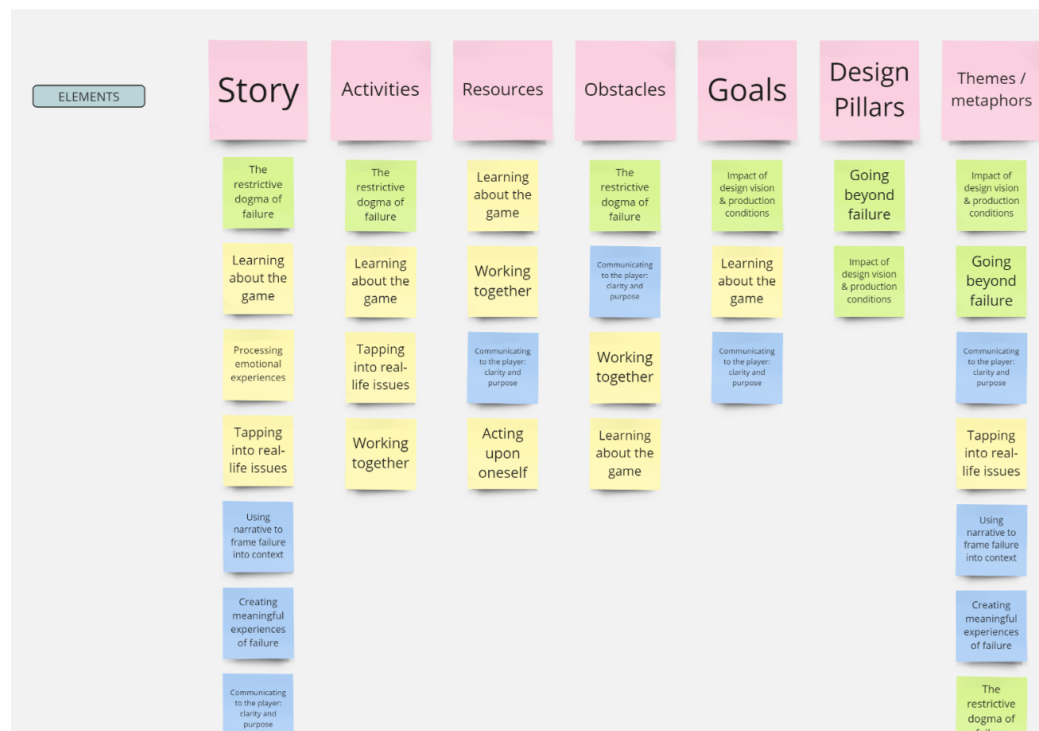


Figure 6.2: A screenshot of the Miro board used for the mapping process, at the initial stage of assigning each theme to every element of gameplay it would fit, as per the Forest Paths Method

Following this rigorous and iterative process between looking at the results of the research, breaking them down further to map them onto the Forest Path structure without leaving out important details or elements of game design, and going back to the data and results, ensured that every pattern actually reflects the research. This process was very iterative in nature, and required a lot of back and forth between my research and the newly formulated patterns. Doing so emphasised that translating research outputs into design patterns is not a straightforward process: research outputs (themes or codes) that resemble or seem to have an equivalent as design inputs (patterns or prompts) are not actually 1:1 equivalents. Returning to my research notes taken at the time of conducting reflexive thematic analysis also proved

fruitful in this revisitation: discarded themes and codes from the previous two RTAs were useful to go back to to fine tune some of the patterns or trace back a participant's contribution to confirm the relevance of the pattern. It is worth noting, for any researcher looking to design a similar toolkit based on their own research, that my research process documentation proved as useful as the research outputs themselves. Keeping detailed research records, diaries, or logs, will provide invaluable support and material when revisiting the research and designing any toolkit stemming from it.

This process resulted in a list of 33 failure-related design patterns, each consisting of a short title and a longer description. This list of patterns could be used as sourceable content for other toolkit ideas and prototypes, or be used as is, as a game design patterns library.

Cards-based toolkit: flexibility and structure.

Stepping away from design patterns, the review of existing design toolkits conducted during the inspiration stage of this design process provided inspiration for further ideation. After returning to this review, existing formats that corresponded to the toolkit's goals were identified, a list of these formats was drafted, and a series of ideas were produced, adapting these formats for a possible toolkit focusing on designing failure in video games, as well as proposing other ideas. The following section outlines the six design concepts ideated and prototyped during this stage of the design process.

Out of the six prototypes produced during this stage of the research, five were based on cards-based toolkit. This decision to focus on a cards-based format stemmed from a twofold reflection: firstly, the physical and visual

//	Inspiration	Format
1	Player survey study + designers interviews study in chapters 4 and 5: dual perspective of players and designers	Cards-based
2	Deck of Lenses / PLEX	Cards-based
3	MethodKit and Cards for Mixed Reality Game Design	Cards-based
4	Triggers	Cards-based
5	Grow-A-Game	Cards-based
6	Forest Paths Method	Framework

Table 6.4: Concept ideas before prototyping

form of a card is self-contained and can be used on its own or in association with other cards, making it particularly suited for a toolkit drawing from design patterns and thematic analysis research outcomes. Secondly, cards aligned with the toolkit’s intended goal of being flexible and allowing designers to fit it around their design intentions, goals, and strategies. As Carneiro points out: “When used in the context of a design process, cards are not prescriptive; rather they act as a support for inspiration, organization and communication of ideas.” [32]. Likewise, Casais et al define card sets as ideal tools “for communication and inspiration, both individually and in group settings” [33], and Deng, Antle and Neustaedter as “transfer vehicles” [48]. This toolkit was never meant to be prescriptive, but rather to serve as inspiration and a source of discussion - thus, a format that supports the design process rather than a format that dictates it, was the direction chosen here.

6.1.4 Prototyping

Following the design process, once the ideation stage was completed, a paper prototype was created for each idea formulated, with the goal of formalising and solidifying each design and identifying potential issues before moving onto the testing phase. The following section outlines the structure and prop-

erties of each prototype and the reasoning behind each decision, as well as any change that may have occurred during the development of the prototypes.

Design vs experience

This toolkit idea was born from the dual developers and players perspectives generated through prior research. In this design idea, the toolkit is made up of two decks of cards: one deck of cards comprising themes related to the player experience, and one deck of cards comprising themes related to design goals. This toolkit would aim at getting game designers to think about the relationship between player experience and game design goals in regards to failure specifically. The user would have to draw a card relating to the player's perspective, discuss and/or write down how they think it relates to their game and how it doesn't. Then, they would have to draw a card related to design goals, and ask themselves how this card relates to the player perspective card, whether the two are compatible in their game, whether or not it matters, etc.

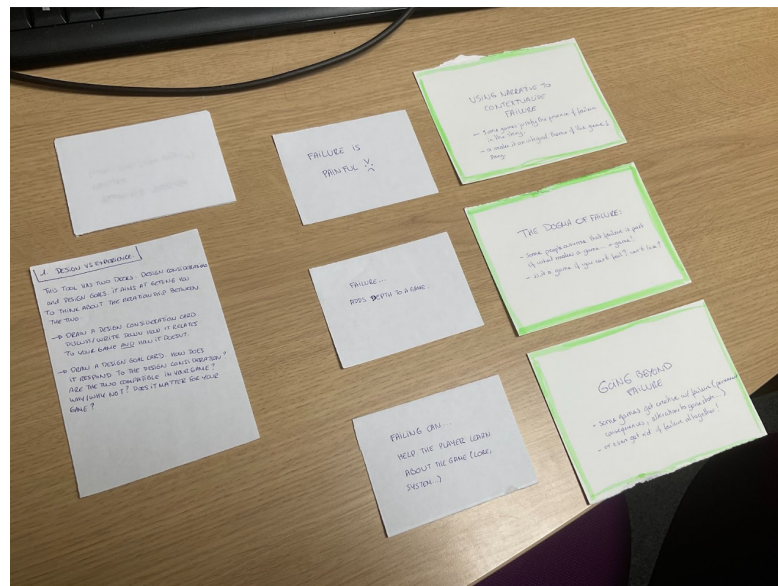


Figure 6.3: A paper prototype of the design vs experience toolkit concept, with the recommended rules outlined on a sheet of paper on the left, and example cards on the right. The cards with a green border represent design solutions; the borderless cards represent short descriptions of player experiences with failure.

Form	Content	Changes
Two decks of paper cards ; one 'player experience affirmations' deck: cards featuring one-sentence affirmations about failure in games ; one 'design solutions' deck: cards featuring a title summarising a design idea or concept, and a couple of bullet points detailing the idea further; a set of rules.	Player experience affirmations deck: the one-sentence affirmations about failure in games are the themes pulled from the study outlined in Chapter 4 ; Design solutions deck: the titles are the themes pulled from the study outlined in Chapter 5. The added bullet-pointed content very succinctly summarises the key takes from each theme.	In a first iteration of this prototype, the cards in the 'design solutions' deck only features a one-sentence proposition, like the player experience affirmations deck. However, while a one-sentence format was appropriate for short, effective affirmations meant to be discussed by users, the same format did not work as well for a deck of cards meant to propose possible design solutions or considerations, and did not communicate this side of the research adequately. A second iteration was made to add the bullet points and provide additional information to the user.

Table 6.5: Design vs Experience: concept ideas before prototyping

Deck of Lenses / PLEX

This toolkit idea was inspired by the Playful Experiences [113] framework and Jesse Schell’s Deck of Lenses [145] and is the closest to re-using the game design patterns library previously created. In this design idea, the toolkit is made up of a single deck of cards, with each card representing a theme or idea about failure in game, with a short title summarising it, and a text explanation expanding on the idea in question. This toolkit would aim at getting users to brainstorm ideas and reflections around the seed written on the card and their own game. The user would have to draw one card, and discuss the seed with their team or brainstorming partners, in relation to their game. If they decide the seed is irrelevant to their game, they also need to explain why, in order to justify discarding the card and moving on to the next one. Once the discussion on a seed has run its course, they can move on, and repeat this process for as long as they desire.

Form	Content	Changes
One deck of paper cards ; a set of rules	The content of the deck draws directly from the design patterns library created using the Forest Paths Method in the Ideation stage of the design process. The design patterns were ‘recycled’ to form the content of the cards, with a short explanatory title and a longer explanation below. The main difference between this toolkit and the design patterns library is the set of rules offering more structure for the user than a design patterns library does.	This prototype underwent very little change. Consideration was given to add guiding questions beneath the explanation text, but the decision was made to keep to the seed without further question, as the declared intent of this toolkit was to get users to freely discuss the idea on the card in whatever way they would prefer, without additional guidance.

Table 6.6: Deck of Lenses / PLEX inspired-toolkit: Concept ideas before prototyping

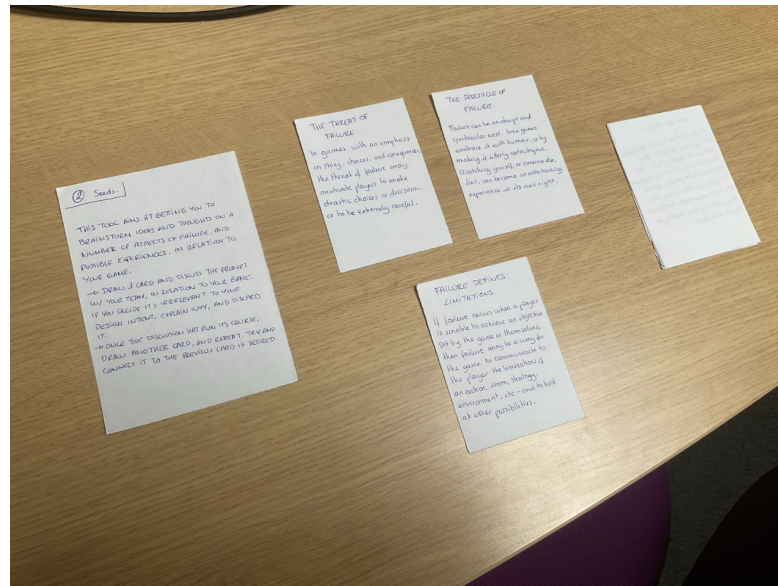


Figure 6.4: A paper prototype of the toolkit concept, with the recommended rules outlined on the left, and the prompts cards on the right.

Affirmation and dispute

This toolkit idea was inspired by the Method Kit [121] toolkits and the Cards for Mixed Reality Game Design [161]. In this design idea, the toolkit is made up of two decks of cards: one deck of cards comprising very short, deliberately snappy and reductive affirmations, and one deck of cards comprising questions aimed at getting the users to dispute and engage with the affirmations of the first deck of cards. This toolkit would be aimed at getting users to engage with very broad generalisations about failure and video games, and to examine when and how these generalisations relate or do not relate to their own games. The user would have to draw an affirmation card and read it aloud, then draw a dispute/question card, and try to address the question on the card in relation to the affirmation and their game. Whenever the user would feel they are ready to move on, they could either move on to another

affirmation card, or to another dispute/question card.

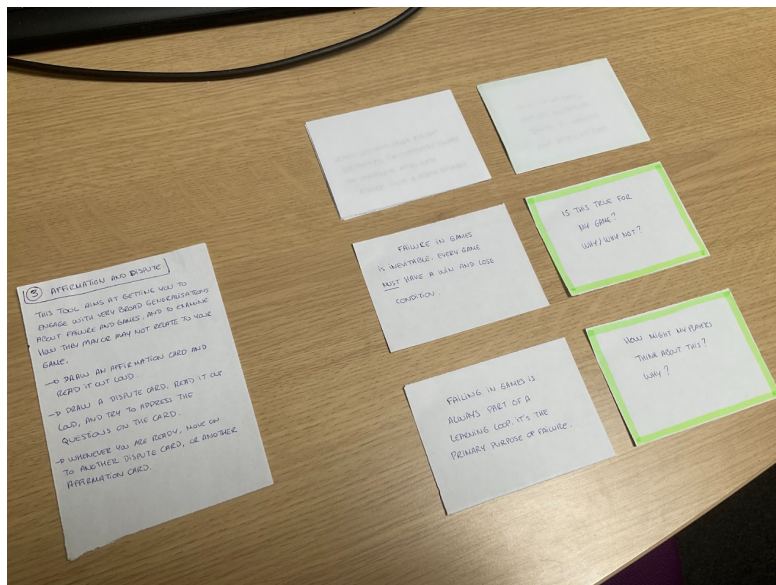


Figure 6.5: A paper prototype of the affirmation and dispute toolkit concept, with the recommended rules outlined on the left. The borderless cards represent affirmations about failure in games, the cards with a green border represent the 'dispute' cards.

Form	Content	Changes
Two decks of paper cards: one ‘affirmations’ deck’ (cards featuring one-sentence affirmations about failure in games), one ‘disputes’ deck (cards featuring a question for the user to address), a set of rules.	Affirmations deck: Each card display one to two sentences-long affirmations around failure in games. These affirmations were based on the game design patterns library created during the Ideation stage, shortening them and adopting a deliberately uncompromising tone as a way to provoke discussion and get users to engage in a more nuanced discussion than what the card alone offers. Disputes deck: Each card displays a question, designed to prompt the user to reflect on their game, their game design practice, or their games literacy. The questions were based off of questions the game designers from the study in Chapter 5 reported asking themselves during their design process.	This version of the toolkit underwent some changes in the phrasing of the affirmations: a first iteration of the toolkit had the affirmations written in a more neutral tone, whereas the second iteration employs a more assertive tone (‘must’, ‘always’, etc) so as to encourage users to dispute or bring more nuance to the discussion.

Table 6.7: Affirmation and dispute: concept ideas before prototyping

Triggers

This toolkit idea was inspired by the Triggers toolkit designed by Alejandro Masferrer [118]. In this design idea, the toolkit is made up of a single deck of cards. Every card asks the user a “What if. . .” question related to a specific theme or idea around failure in video games, phrased in a way that suggests a possible change to their current game design. This toolkit would be aimed at getting users to imagine how their game would, or would not, change if they modified the way failure works in their game. Users would be encouraged to have paper or other means of taking notes at hand, and to write down how failure currently works in their game. Then, they would draw a Trigger card, and imagine how their game would change with this modification, and to write down any new idea coming from this process, good or bad - and to reflect why these ideas would be one or the other.

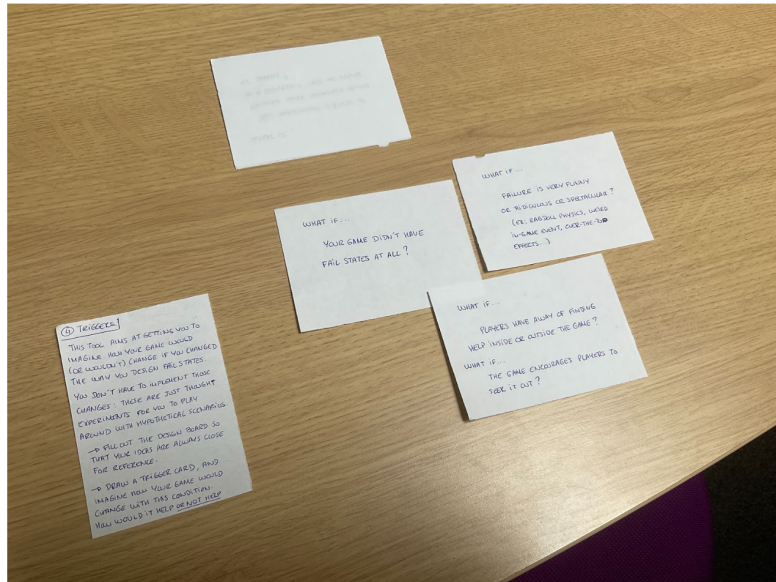


Figure 6.6: A paper prototype of the triggers toolkit concept, with the recommended rules on the left, and the trigger cards on the right.

Form	Content	Changes
One deck of paper cards, a set of rules.	The cards display prompts phrased out in a “What if...” format throughout. The prompts were drawn from the game design patterns library created during the Ideation stage, and rewritten to be short enough for a one-sentence “What if...” question.	This version of the toolkit underwent changes and iterations regarding the phrasing of the “What if...” questions, namely how long the questions should be before becoming confusing, and a few cards featuring two questions instead of just one, as a follow-up question felt necessary to extract the full value of the prompt.

Table 6.8: Triggers: concept ideas before prototyping

Grow-A-Game

This toolkit idea was inspired by the Grow-a-Game design toolkit [15]. In this design idea, the toolkit is made up of three different decks of cards: one deck related to intended, desired experiences of failure for the player, one deck related to examples of design choices, and one deck related to general assumptions or ideas around failure. The user would have to draw one card

from each deck, lay them side by side, and discuss how they may or may not relate to one another, and to their game. Once the discussion is exhausted, they can move on to another set of three cards. The aim of this toolkit would be to get users to engage with player experiences and design ideas, but also to critically reflect on the underlying implications associated with the explicit or implicit presence of failure in their games.

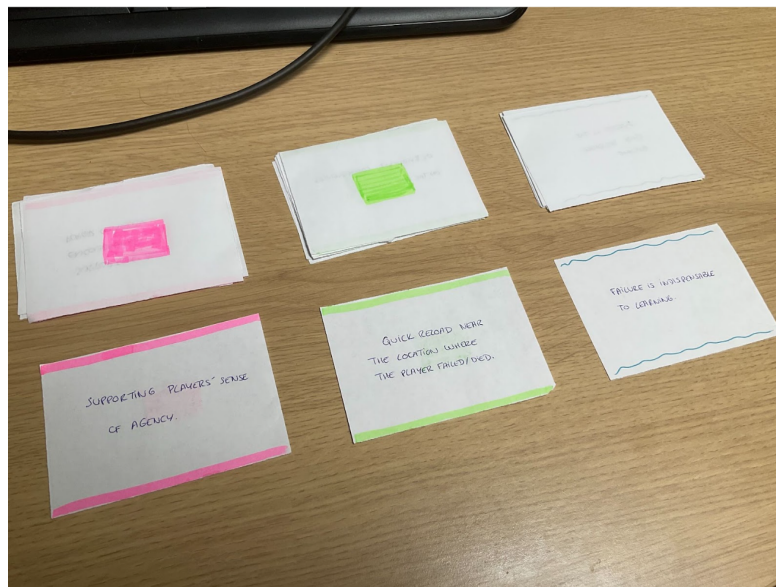


Figure 6.7: A paper prototype of the grow-a-game toolkit concept. The pink-bordered cards represent the player experience, the green-bordered cards represent the design choices, and the blue-bordered cards represent the possible implications of failure in games.

Form	Content	Changes
Three decks of paper cards: one ‘player experience’ deck (cards featuring one deck related to intended, desired experiences of failure for the player), one ‘design choices’ deck (cards featuring examples of design choices related to failure game designers might implement in a game), one ‘implications’ deck (cards featuring assumptions, reflections, and possible meanings around failure), a set of rules.	The content on each card regardless of type was drawn from the game design patterns library created during the Ideation stage, and re-written to fit into short one-sentence descriptions.	Each deck underwent a few editorial changes to ensure each idea was correctly communicated. The ‘design choices’ deck underwent the most changes, so as to propose concrete design options that were not necessarily reflected in the themes and patterns, but were instead pulled from specific examples in the data that were coded and turned into themes.

Table 6.9: Grow-a-Game: concept ideas before prototyping

Forest Paths Method

Lastly, stepping aside from a cards-based format, a final idea was formulated to return to the Forest Paths Method itself [155], mod, and adapt it to use it specifically and exclusively around the idea of failure. The users would have a design document provided to them, with the Forest Path matrix dividing a game’s elements into story, activities, resources, obstacles, and goals, and would be asked to fill out the matrix appropriately for their game, and later go through each of their answer while asking themselves ‘how does failure play into this aspect of my game?’. This design aims at getting users to reflectively engage with their own design, and to revisit the decisions they made around failure to gauge how well they do or do not reflect their desired player experience.

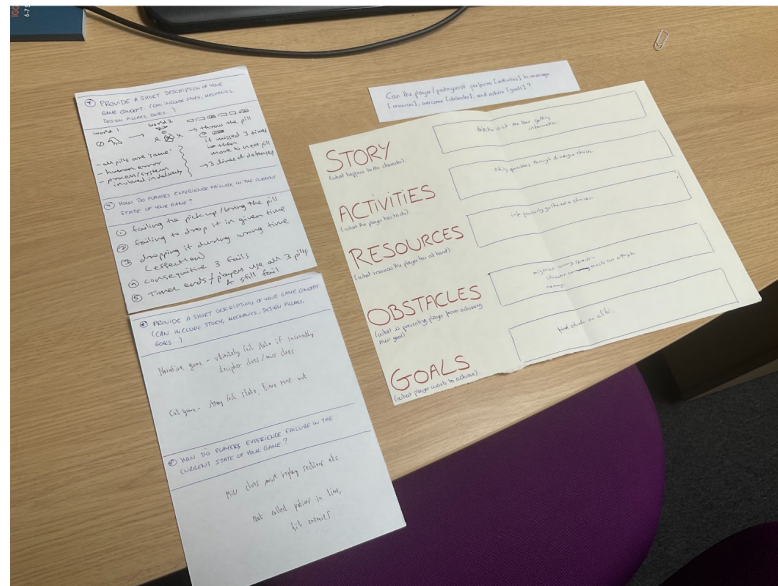


Figure 6.8: A paper prototype of the Forest Paths Method, along with a brief game design document outlining one of the testers' game ideas used when testing the prototypes.

Form	Content	Changes
<p>A paper board representing the basic matrix of the Forest Paths Method, with space left for the user to write down their thoughts and ideas ; a paper strip featuring the Forest Paths Method's player experience formula ; a document on which users have briefly described their game, and the current fail states present in their design or ideas.</p>	<p>The contents of the boards and their structure are complete reproductions of the Forest Paths Method. The rest of the content is generated by the users themselves during the activity.</p>	<p>As this prototype is a paper rendition of the Forest Paths Method, it was kept as it with no modification, with the aim of seeing if the method could be used as is to lead a discussion and to brainstorm ideas around failure in games.</p>

Table 6.10: Forest Paths Method: concept ideas before prototyping

6.1.5 Testing and iteration

Once all prototypes were created, an informal playtesting session was organised for a chance to watch first-time users unfamiliar with this design project and the prototypes try each potential toolkit, in line with the rapid prototyp-

ing and testing inherent to iterative design. Doing an informal playtesting session with participants recruited from my PhD cohort ensured that the sessions could happen in a short timeframe (as opposed to setting up a full playtest with more participants recruited outside of the lab), and also harnessed those colleagues' own expertise as designers and games experts to provide insightful and targeted feedback that could quickly be acted upon and iterated on. The goal here was not to accurately assess each prototype as though they were all to be developed further into final products, but rather, to identify which of these prototypes made the most sense to develop further with future iterations. As such, using rapid testing and iterations was the most appropriate way of efficiently identifying how first time users tended to interact with each toolkit, and which prototype would be most appropriate to develop further.

Two colleagues, one of them a professional game designer and the other a qualitative researcher with experience participating in game jams, agreed to test each prototype and provide feedback on each idea. They were provided with all six prototypes and each prototype's set of rules, and were asked to think of a game they had each previously worked on to discuss while using each prototype, and to explain how failure works in their games. They were then asked to go through each prototype, first reading the rule set, then trying to use the prototype together, before moving on to the next one after 15-20 minutes, or whenever they would feel ready to move on. Below is a summary of their feedback and observations on each prototype.

1. Design vs experience	The discussion flowed well between testers and both were able to discuss the assertions suggested by the card. Testers were able to draw clear connections between the cards and their own games. "I think it would be cool if..." discussions. Testers did not spontaneously connect the experience cards with the design cards, and only did so after re-reading the rules to remind themselves of them. Doing so was not intuitive. Liked the toolkit, but did not find it intuitive to use even after reading the rules set: only understood the process once they started doing it themselves.
2. Deck of Lenses / PLEX	Testers were reflective, and used the prompts as suggestions to test design possibilities against their existing concept: "this would/would not be a good idea". Noted that even if a prompt does not apply or does not work for their game, discussing it helps strengthen the argument for a particular design decision, both for themselves and for a potential audience. Testers came up with new ideas for their designs. Testers took different approaches based on their games and priorities: one of them tied the prompts and discussion to their game's goals and core pillars (as they design serious games), while the other reflected on their game within their broader genre (detective games).
3. Affirmation and dispute	Testers flagged it as their favourite prototype. Stated it "feels like a better version of 4" (note: prototype 4, based on Triggers). There were reflexive pauses while testers thought about how to combine the affirmation and the dispute card, but did not disrupt the experience. Prompted new ideas they could add to their games. Dispute cards were highlighted at encouraging more nuanced thinking and a more careful breakdown of the affirmation cards. One tester used the affirmations and disputes to break down failure in their game into smaller, more distinctive versions of failure (mechanic failure, narrative failure etc).
4. Triggers	Testers flagged it as their second favourite because of the questions format. Felt very intuitive to use, flexible, and fun. However, felt like the discussion could become generic pretty quickly, thus losing the novel idea generation aspect.
5. Grow-a-Game	Testers did not make connections between all three cards. Testers managed to engage with the toolkit and have meaningful discussions, reflecting on their game's core pillars, but by going through each card one by one, rather than combining all three ideas together. Testers pointed out that keeping track of three different play experiences/three cards on top of having to relate them to their game was too much of a cognitive load. In comparison, toolkits with only two types of cards were much easier to use, engage with, and connect their game ideas to.
6. Forest Paths Method	Testers found it difficult to engage with because of how many layers of interpretation they have to keep track of, all while remembering their game design, and focusing specifically on failure without drifting too much other elements of the game. The breakdown of the matrix felt useful for game design, but too specific for something like failure that is already very specific to start with - too easy to get lost in the small details and losing track of what to prioritise.

Table 6.11: Testers feedback

6.1.6 Decision

After going through the process of prototyping the various ideas outlined earlier and testing the prototypes with test users, two particular prototypes stood among the rest, both based on the testers' feedback and observations made during the playtests. Prototype 2, inspired by the Deck of Lenses and PLEX Cards, presented the advantage of offering informative and thought-provoking prompts for users to reflect on, and easily relate to their own games. However, in their current format, and much like the game design patterns library created during the ideation process, this prototype still lacked structure, and led to a free flowing discussion that was valuable, but may leave space for more targeted questions and discussions. Prototype 3, Affirmation and Dispute, on the other hand, stood out: while the affirmations felt too short and not self-explanatory enough compared to the Lenses, the disputes cards felt helpful in prompting discussion and orienting it, or in offering testers a way to rejuvenate the discussion once a topic of discussion was exhausted. The disputes also proved useful when testers were not sure how to start discussing one of the affirmations, making up for the lack of clarity or detail provided by the affirmations by giving users a clear starting point and a question to address in relation to the affirmation and their game.

Returning to the stated goals of the toolkit, namely to encourage game designers to engage with the theme of failure, reflect on their own practice and ideas, and generate new ideas during the development process of their game, prototypes 2 and 5 both showed during playtesting their potential to cover these areas. While testers did not express a particular preference for one or the other, reflecting on the intended use of the final toolkit was

the key factor in identifying those two ideas as the best suited to address this particular problem space. Further probing would perhaps have been possible to identify a clear preferred prototype to pursue it further, but in this particular instance, decision was made to go back to the drawing board and iterate further with a new idea combining two previous prototypes, because doing so would better harness the properties and mechanics that ensure the toolkit can deliver what it sets out to deliver.

Accounting for this reflection stemming from both the playtests and the design work and research done up until this stage, the final decision was to combine both prototypes 2 and 3 into a single toolkit, combining their respective strengths to best fulfil the toolkit's design goals.

//	Strengths	Weaknesses
Prototype 2: PLEX / Deck of Lenses	Clear and comprehensive summary of key ideas around failure. Informative and provides enough context for users to discuss the prompts/lenses. Very flexible to use, free discussion.	A long list of prompts and topics but discussion, but hit or miss as to whether users will be able to make the most out of it. Experienced designers or users otherwise used to such tools, and comfortable with brainstorming, may have an easier time than first-timers. Nothing to encourage users to expand on prompts that they are unsure about, or to at least attempt to think about it past surface level.
Prototype 3: Affirmation and dispute	Dispute cards were a good complement to the prompts. Dispute cards brought an extra layer to the prompts. The question format helped guide the discussion by raising concrete problems and aspects to consider.	Affirmation cards were too short and not self-explanatory or descriptive enough. Too much left to the user's interpretation in the affirmations.

Table 6.12: Feedback summary

As outlined in this summary tab, the strengths of the tool based on the PLEX cards and Deck of Lenses address the weaknesses of the tool based on the Affirmation and Dispute prototype; likewise, the strengths of the prototype based on the Affirmation and Dispute toolkit address the weaknesses of the prototype based on the PLEX cards and Deck of Lenses.

A new paper prototype was designed, comprising two decks of cards:

- The first deck of cards was made up of prompts, identical to prototype 2, with a short title summarising a specific idea around failure, and a text providing further context and explanation around the ideas in question.
- The second deck of cards was made up of questions, identical to the questions deck in prototype 3.
- A set of rules explaining to the user how to use the decks: first, they have to draw a card from the prompts deck, and read it aloud. Then, they have to draw a card from the questions deck, and answer that question in relation to the prompt.

The first iteration of this new toolkit kept the same content as the original prototypes that were merged together, in an attempt to test out a first version of this new toolkit with the content itself unchanged while switching its structure around by combining two elements of two different toolkits, as they were.

Following a new round of testing, the structure of the toolkit, divided between longer prompts and questions, appeared to better fulfil the toolkit's intended goals than previous prototypes, cementing this version of the toolkit

as the most pertinent idea to move forward with. The next iterations focused on the content itself, rephrasing prompts titles to better reflect their content in a very concise manner. The questions cards were also reworked to ensure that every question could potentially be asked for every prompt, and yield a discussion. My thesis supervisor, while familiar with the research, had not yet read the prompts, and was able to provide editorial feedback on the tone, phrasing, and structure of the cards.

The prototyping work also moved from paper prototypes to digital prototypes, in order to start designing a working prototype closer to the final product. The digital prototyping and design of the toolkit were done on Figma, starting with a simple design intended to visualise and decide on text placement and format.

This led to a new round of iteration, reworking and cutting down the content of the text on the cards in order to keep the cards legible, and only convey the key context and information to the users. In order to retain and reuse the information while providing additional support to the toolkit's users, the edited out content was instead turned into a helpbook, which was designed to contain the recommended rules for using the toolkit, and the full version of the prompts in order to provide additional information for users who may identify a prompt of particular interest, and want additional context and information. Finally, in order to further contextualise and illustrate some of the prompts, game examples were added at the bottom of the cards, pulled from the data of the research that informed the content of the toolkit.

Once the format and content of the digital prototypes reached a satisfactory level, the cards were re-designed for a more final, black and white

minimalistic and legible aesthetic.

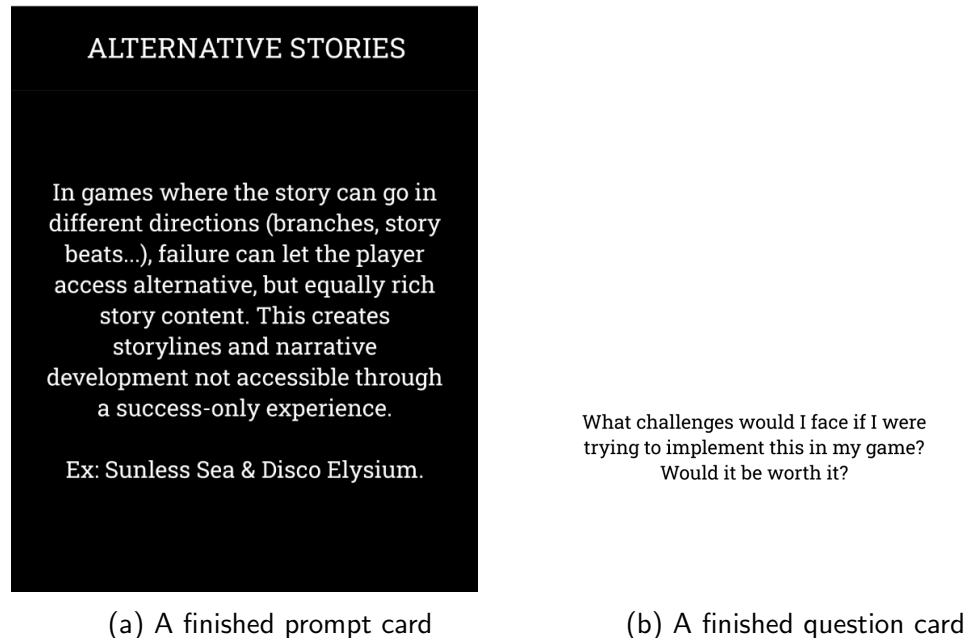


Figure 6.9: Examples of finished cards in the Game (Not) Over toolkit

6.2 Results

This design process resulted in a toolkit made up of 34 prompt cards (also called Fail cards) and 9 Question cards. All the cards can be found attached in the supplementary material in their final format, alongside the recommended rules for using the toolkit and the accompanying booklet breaking down the prompts in more detail.

Because the cards were designed in Figma, they were available in PDF and PNG format, which allowed for the production of two versions of the deck: a digital version, which can be downloaded and used however users see fit, and that can be uploaded into platforms such as playingcards.io to

be virtually playable, and a physical version, which was printed through the University of York's print shop for use in face-to-face workshops. Having a digital version of the toolkit was important for the development of future work that would include remote workshops using the toolkit, and the physical version was available for conferences and other in-person presentations.

6.3 Discussion

6.3.1 Research through design

In this chapter, I have sought to address this thesis' second research question:

RQ2: How can we reconcile player and designer perspectives to broaden our understanding of failure in video games?

Leading on from the two previous chapters, the design of this toolkit is a foray into a possible strategy and solution to the challenge of combining and reconciling both perspectives, in a way that is conducive to further reflection, debate, and discussion - and thus to further generation of knowledge and understanding.

The process of conducting this project has made it apparent that turning research, and in this case one's own research, into an actionable toolkit designed for non-academic audiences, is not a straightforward process: researchers interested in following a similar approach will have to bear in mind a number of considerations and caveat when approaching the design process. There is, at the core of this process, a fundamental difference between more traditional research, and research conducted through the design of an artifact. Nigel Cross explains this fundamental difference between a

scientific approach to answering questions, and the designerly approach to solving problems: “The scientists generally adopted a strategy of systematically exploring the possible combinations of blocks, in order to discover the fundamental rule which would allow a permissible combination. The architects were more inclined to propose a series of solutions, and to have these solutions eliminated, until they found an acceptable one” [42]. In other words, contrary to the more traditional research approaches discussed in the two previous chapters, this project adopted a different paradigm wherein research outcomes and learnings were embedded into the very process of making design decisions, justifying the solutions proposed, and eliminating those that did not best address the problem space at play. The contribution of this chapter was therefore the toolkit itself, but also the reflections born from adopting a designer’s point of view and approach, which allowed for an in-depth “reinterpreting and reframing” of the problem of failure in video games [173].

For this particular project, translating knowledge between two very different media highlighted that the specificities of each medium was a key factor to account for. Taking the research and published papers and writing down the findings onto a deck of cards without further transformative work on the content and format, would have resulted in a very different toolkit, and one that would not have fulfilled the design goals set out in the earlier sections of this chapter outlining the desired purpose of the toolkit. As a researcher turning to design to communicate research outputs, there were three key considerations to account for:

1. What type of research is being communicated?

2. How is it going to be communicated?
3. How will users be absorbing this content?

By answering these questions, a scope and format for the toolkit were determined. As outlined in this chapter, looking at the type of research the researcher seeks to translate to their audience is highly valuable in order to determine what format the toolkit should take. In this case, the research outputs that needed to be communicated to the audience were themes created through reflexive thematic analysis: the research and design process then determined that themes lent themselves very well to a patterns-like format, suitable for a cards game. Logler, Yoo, and Friedman reached a similar conclusion when contemplating how to use metaphors as a generative design tool, and how best to present them in a legible way to their intended audience: “Cards introduce information and sources of inspiration in compact, tangible, and easily recognizable forms. As a genre of design toolkits, cards serve as shared objects among diverse participants, allowing for playful and collaborative exploration of ideas” [112]. Faced with a similar challenge of having to convey abstract concepts (not dissimilar to research findings) to an audience seeking practical inspiration, they found that “Metaphor Cards invite exploration and ideation while solving some of the challenges inherent to metaphorical design thinking. Specifically, [...] the challenge of shifting participants’ experience of metaphor from descriptive to generative.” [112]. Likewise, through this meticulous design process, I found that a cards-based format, and the final design of the toolkit, were the most likely to best address the problem space of the design of failure and to best communicate the research findings and design prompts I needed to communicate to my audi-

ences. It is well worth noting that researchers looking to make a toolkit to communicate research outputs from grounded theory, or from quantitative research projects with more numerical results, may find that other approaches would be more appropriate and more suited to their needs and intentions.

In other words, by answering the first question:

- What type of research is being communicated? → the research is exclusively **qualitative** in nature, was performed using **reflexive thematic analysis**, and yielded **themes as research outputs**.

It was possible to answer the second question, or at least identify ideas to follow up on during the design process:

- How is it going to be communicated? → themes lend themselves quite well to a **patterns format**, which can themselves fit very well in **cards-based toolkit**, where the main material consists of **prompts for discussion and brainstorming**.

As for the third question, thinking about audiences and what the researcher wants their users to take away from their tool, also informs design decisions. Are the users meant to absorb the information delivered to them, memorise it, and retain it? Are they meant to engage with the information actively, once, or several times? Are they meant to discuss, debate, and critique it?

For this project, the goal was not only to communicate research findings to the user, but to provide them with a system that allows them to engage with the findings in question, to apply the findings to their own design practice, and to determine, for themselves, which parts of the research applies, does

not apply, helps or does not help their design endeavours. The purpose of the toolkit was not didactic: it was designed to trigger and support discussion, helping users unpack a specific topic, and using research findings as a channel for users to achieve this.

- How will users be absorbing this content? → **ideation, discussion, brainstorming.**

In other words, users would actively engage with the content, reflect on it in real time, and find explicit and concrete use cases where this content applies or does not apply for their own design practice, solidifying their understanding of failure as it pertains to their own games. This approach, and this toolkit, revisit and build upon other toolkits for game design. Specifically, AbleGamers' APX deck [3], Whitby's CPMH toolkit [162], and Wetzel, Rodden and Benford's ideation cards for mixed reality game design [161] were instrumental in unpacking and understanding the potential for toolkits as tools for game design, aligning specifically with the flexibility required for this particular project. Additionally, the Game (Not) Over toolkit was built upon research centered around critical game design, such as Flanagan and Nissenbaum's Values at Play [62] and Flanagan and Belman's Grow-a-Game [15]; as well as queer game design theories from Marcotte [115], and Ruberg [138] [137] calling for a critical questioning and upturning of game and play elements we tend to take for granted. The toolkit was designed with this position embedded in it: it is meant to encourage questioning and deconstruction, and offers one possible way of formalising this process (that, perhaps, another theorist or research will one day deconstruct too!).

6.3.2 Limitations and opportunities

The Game (Not) Over toolkit is but one proposition of how this research could have been translated into a toolkit. As demonstrated throughout the design process outlined in this chapter, a great many considerations went into shaping the format and content of the toolkit, and it is very likely that other formats would have worked just as well as design toolkits aimed at exploring the notion of failure in games. They would perhaps have done so slightly differently, highlighted a different side of the research, or involved users differently with the content it communicates. Different researchers with different priorities may have created entirely different versions of this toolkit, using the same research as their foundation. This creative freedom and flexibility demonstrates the variety of possibilities in designing toolkits and merging research with design: this project followed one specific, clear line of direction, with a clear purpose for the toolkit to address, which resulted in the current format the toolkit has been created as.

It should also be noted that this toolkit can arguably be considered a work in progress or unfinished: however, the nature of patterns-based research and qualitative research taps into this quality. It is a reflection of the ever-evolving state of research, and an acknowledgement of perpetually changing research and design practices. Toolkits such as the Game (Not) Over toolkit are easy to mod and to expand on as research and game design practices develop, and both researchers and practitioners should seek to take advantage of this feature.

For example, future work may focus on experimenting with a similar design approach, to create toolkits in different formats, relating to different

topics, and with different audiences or purposes. If one were to pursue work on the Game (Not) Over toolkit, more specific angles could be reflected with mods and additions: prompts and questions focusing on multiplayer experiences, or level design, choice-based games, to give but a few examples of possible perspectives.

In addition to researchers, users can develop the toolkit further themselves. As it is constituted only of prompts and questions cards, the toolkit is highly customizable, and it is entirely possible for game developers using the toolkits to add new cards based on their own experiences and preferences, should they identify anything that is not reflected in the toolkit, but that they feel is valuable to keep in mind for future development. The toolkit already includes a Wildcard prompt, on which users can write their own prompt, and they are entitled to adding more if they so wish. Users of the toolkit should be confident in their ownership of the toolkit and the brainstorming process it promotes: their expertise and their games are at the center of the intended experience, and the toolkit is meant to reflect this stance.

6.4 Conclusion

The next stage in the research for this specific toolkit was to see it in action, with the dual goal of testing it and seeing if it would do what it set out to do, fulfilling its intended scope and purpose, but also understanding how users engage with a toolkit of this nature.

Designing failure in situ - workshops study.

7.1 Introduction

Following the design of the Game (Not) Over toolkit, the next and final step of this research project was to conduct a study to observe game developers (the toolkit's intended audience) use the toolkit during a dedicated design exercise. Previous research in game design and idea generation is not foreign to workshop-based research [104] [106] [132]; but this project focused specifically on an idea generation workshop making use of the Game (Not) Over toolkit.

For this project, 12 participants were recruited, with varying degrees of experience as game designers (although it should be noted that none of them were complete beginners), ranging from students having recently completed a project as part of their degree, to industry veterans with over a decade of experience, either as independent developers, hobbyists, or with experience working in larger studios. Participants were asked to use the toolkit to brainstorm and discuss ideas for their chosen game, allowing them to critically engage with the idea of failure, generate insight for future development of their game, while providing the opportunity to observe how the toolkit works in situ, to evaluate it, and to generate research insight. The methods

section of this chapter includes a detailed breakdown of each participant's game discussed in each individual workshop, to provide context for the results and the discussion.

The goal of this final study is twofold: it is intended as an evaluation of the toolkit on one hand, testing its intended design against the participants' actual experience and gathering feedback, and as research into the game design process itself, using the toolkit to generate insight and knowledge around the use of such toolkits in design and development, and examining how interactions with the toolkit produce the results that they do. In other words, this work is the culmination of the three research projects outlined in previous chapters: it builds on the results of each study and on the toolkit design process, and puts them into application.

This research constitutes a contribution to knowledge around the design of failure in games, but primarily, it constitutes a methodological contribution. It aims to test a toolkit designed from and through research, with the industry members it is intended for, and to test its potential as a means of generating design ideas and insight, both for game developers, and game researchers. Having included game designers in the research process since the interview stage of the research, and having had them in mind as my intended audience for the toolkit, including them in the evaluation and application process was indispensable [27]. Specifically, by focusing on game design practice in situ, and using the toolkit in a dedicated design exercise, it is possible to generate very specialised discussion and knowledge, anchored in the experience and expertise of specialised participants, while also offering direct insight into their game design processes and approaches to a specific problem. In other

words, this approach allows for insight into how game designers may approach a design and brainstorming exercise accompanied by a dedicated toolkit, and insight into their thoughts around failure and game design in general. This approach was particularly crucial in capturing the ‘fuzzy’, “almost intuitive, visceral process” of designing [148].

This research is the product of collaborative work with members of the industry. The Game (Not) Over toolkit was designed primarily with non-academic audiences in mind, specifically for game designers and developers of all levels of experience, with a focus on generating ideas and discussion during the design and development of games for entertainment (as opposed to serious games or games for education, for instance). As such, it was necessary for our participants to be game developers - specifically game developers who had prior experience of game development, so as to avoid the caveat of having a participant design a game for the very first time while also juggling with the toolkit and trying to focus on the idea of failure. This does not necessarily imply that the toolkit would be unusable to more uninitiated developers, but for the purpose of testing the toolkit, a degree of experience and knowledge would allow participants to more easily navigate the design exercise, and tap into their prior experiences to inform their ideas and the discussion.

This project also constitutes a meeting point for academic expertise and industry expertise. The toolkit and the set up of the workshops designed to evaluate it make use of the double resource of the academic research that led up to the making of the toolkit, and the participants’ expertise. These two sources of expertise work in tandem to demonstrate how game developers can use and apply the research embedded in the toolkit, how they appropriate

the toolkit and its mechanics, and how the research complements (or does not complement) their experience and knowledge base. Likewise, the participants' interactions with the toolkit, and the insights participants provide based on their own expertise, can complement the insights provided by the toolkit. In other words, this project aimed to investigate how such toolkits can provide a platform for research and practice to meet, and complement one another.

7.2 Methods

In order to address the aforementioned research objectives, the research questions addressed are as follows:

- RQ1: How does the Game (Not) Over toolkit support game design, and probe specifically into the game design process around failure?
- RQ2: What insights into the design of failure does it generate in the moment of design?

The goal is to investigate participants' design reasoning and ideas in a moment of actual design (as opposed to post-mortem recall, sometimes months or years after project completion), entirely centred around failure, and evaluate how the toolkit works in situ - the ideas and discussions participants generate, the toolkit's limitations and benefits, and broader reflections around game design.

In order to answer these questions, a subset of additional questions helped guide the process:

- What do designers do with the toolkit during the activity? How do they engage with it throughout the workshop?
- How do designers make decisions about failure in the moment of design?
- How do designers engage and address ideas in the activity?
- What difficulties do participants encounter when using the toolkit?
- What benefits do participants take away from using the toolkit?

The first two sub-questions will help evaluate what the participants do with the toolkit against the expected use anticipated during the design of the toolkit. The three remaining sub-questions will constitute a more in-depth investigation of game designers' concerns and considerations during design, with the toolkit being used to specifically narrow the discussion down on designing for failure. The fourth and fifth questions specifically will investigate participants' feedback and thoughts on the toolkit itself and its possible uses for game designers.

7.2.1 Workshops design

Each workshop is divided into three phases. During the first part of the workshop (10 min), participants are introduced to the project, are asked if they would still like to take part in the study after going through their consent form, and are introduced to the Game (Not) Over toolkit. During the second part of the workshop (30-45 min), participants are invited to talk about a game they are currently working on and for which they would like to brainstorm ideas around failure specifically, and are then invited to use the

toolkit, to generate discussion and ideas for the game project in question. The third and final part of the workshop (20-30 min) consists of a debrief interview, where the participant and I discuss the activity that just took place, the participant's experience of using the toolkit, and the ideas they generated and discussed during the exercise.

Each workshop follows a speak aloud protocol, wherein participants are invited to think and reflect out loud during the activity, both in terms of their thoughts about failure in their games, and in terms of using the toolkit.

The workshops all took place remotely using three virtual tools:

- The workshops were hosted on Zoom, which allowed for video recording and screen sharing.
- The Game (Not) Over toolkit's digital version was uploaded on playingcards.io, a website that allows users to host virtual card games and customise the decks and rules to suit their needs. In this case, the toolkit's cards were uploaded as two different decks, that users could manipulate individual cards from (pull cards, flip them around, organise them on the board using drag and drop, and enlarge them to read the text).
- The accompanying helpbook containing the rules and the expanded prompts descriptions was provided to participants as a Google Docs link.

We conducted these workshops remotely to address and solve questions of accessibility and recruitment: having the workshops online allowed me to recruit participants without geographical constraints and meant participants

did not have to travel to the university campus in order to participate. Using Zoom as the hosting platform also helped facilitate video and audio recording, and ensured the research met data protection requirements: during the activity phase of the workshop, participants were able to share their screen while they used the toolkit, allowing me to observe and record their actions at the same time. The video footage of the participants using the toolkit later allowed for the transcription and annotation of the participants' actions and interactions with the toolkit, as a complement to the audio recording of the participants thinking aloud. Some participants also took advantage of the screen sharing function in Zoom to show some of their past works or works in progress when relevant to the discussion.

The post-activity debrief interview focused on asking participants about their experience of using the toolkit, and ideas that may have come up during the activity. The interview followed the following guide, although the interviews were semi-structured, meaning that the questions were slightly changed, or additional questions were asked, depending on how the discussion went, so allow for a more natural discussion and for the further investigation of unexpected points of discussion, clarification, etc:

1. Can you talk me through your design approach as you were doing this exercise?
2. Is there anything of note you observed as you were doing this exercise?
While using the tool, was there anything different to how you usually approach failure in games?
3. Was there any idea you discussed during the exercise that you found particularly challenging to tackle for your game?

- (a) What solutions and ideas did you come up with for this problem, if any?
- 4. Was there any idea you discussed during the exercise that you found particularly intriguing?
 - (a) How do you think you might go about addressing it further?
- 5. Is there anything else you would like to add before we wrap up?

To assist them during the activity, participants were given access to an accompanying helpbook, accessible on Google Docs, outlining the recommended rules for using the toolkit, and an expanded version of the prompts present on the cards, as outlined in the previous chapter. The helpbook is available in the Appendices of this thesis.

Once designed, the study protocol was tested during a pilot phase, which resulted in some adjustments in the timing of the three phases of the workshop, and adjustments in the interview guide. The study received ethics approval from the Physical Sciences Ethics Committee.

7.2.2 Pilot phase

The initial protocol was tested in a pilot study, using the same recruitment criteria and protocol as for when the actual study would be conducted: pilot participants had to have experience in game design, to be currently developing a game, and to participate in the workshop online using the same tools as the future participants (Zoom, playingcards.io, Google Docs).

Overall, the pilot phase showed that the existing protocol worked well and required minor adjustments, rather than a complete overhaul. The design

of the workshop served the intended purpose of the study, allowed for the collection of the required data, and helped answer the research questions in an appropriate manner.

The pilot phase helped give a better estimate of the appropriate duration, timing, and pacing of each phase of the workshop, and to get a sense of the time participants might spend on a single idea or a single card. It also helped clarify the recommended rules written out in the helpbook, leading to some rewriting to simplify and clarify the instructions, and identify points of friction where participants would be susceptible to ask questions, thus helping ease the onboarding process. This was particularly important, considering the three tools (Zoom, playingcards.io and the toolkit, and Google Docs) that participants are being introduced to and asked to use, sometimes without prior familiarity.

7.2.3 Data collection

Once the pilot phase was completed, participants were recruited. 12 participants were recruited to partake in individual online workshops during which they would be introduced to the toolkit, asked to participate in a design activity during which they would use the toolkit, and lastly partake in a short debrief interview. Each of the 12 workshop's video and audio footage was recorded. This footage constitutes the data collected for analysis. Recruitment took place over social media. An ad was posted on Twitter, LinkedIn, and gamedev.place (a Mastodon community dedicated to game development). The ad included a link that would take participants to a Google Form, allowing them to register their interest in the study, and allowing the

researcher to make a preliminary participants screening, eliminating candidates without the necessary experience or a suitable project to discuss. This process was repeated over the course of several months, until enough participants had been recruited and enough workshops completed.

Participants had varying degrees of experience as game designers, ranging from students having recently completed a project as part of their degree, to industry veterans with over a decade of experience, either as independent developers, hobbyists, or with experience working in larger studios. The focus here was also on digital games exclusively.

One of the recruitment criteria for this study was for participants to be working, at the time of the workshop, on a game project, at various degrees of completion, that they would be able to discuss during the workshops and use as the subject of their respective workshops. Participants were asked to use the toolkit to brainstorm and discuss ideas for their chosen game, allowing them to critically engage with the idea of failure, generate insight for future development of their game, while providing the opportunity to observe how the toolkit works in situ, to evaluate it, and to generate research insight.

All sessions subsequently held were conducted with solo participants. It was also decided to dedicate each session to a single developer/game, as opposed to getting groups of participants working on different games together. Workshops are inevitably limited by time and availability of the participants, and running 90min workshops with several games being discussed would have allowed for a broader breadth of game, but with a shallower focus, as there would be less time to dedicate to each individual project being discussed. Running individual sessions on individual projects allowed for the

whole 90min of each workshop to discuss a project in depth, and the participant to take their time reflecting and discussing the various ideas brought up during the activity.

There was some variety in the stage of development each project was at. Some participants were still very early in the ideation and prototyping stages, while others were close to release, or had already released an alpha version of their game and were looking to fine-tune their fail states before moving forward in the polishing of the game. This diversity gave way to interesting reflective discussions around failure, and around the toolkit itself and when it would be best used in development, helping solidify the purpose and design intent of the toolkit as an intervention toolkit best used early in development. A table with a brief summary of each game can be found in the results section of this chapter.

During the recorded workshops, none of the participants made use of the accompanying helpbook except to read the rules when instructed, or to re-read them during the activity. Whenever participants had questions about a prompt on a card, they would either resolve it by talking to themselves, or would ask the researcher directly. In order to avoid disrupting the flow of the brainstorming, I decided to, instead of asking participants to look at the helpbook if they have questions, answer their questions themselves by giving them the exact information or clarification they would have found in the helpbook.

Participants had no difficulty using Zoom or playingcards.io after being introduced to them, and were able to independently use the tools at their disposal. There was one instance where a participant's internet connection

seemingly prevented them from accessing playingcard.io: in this instance, the researcher shared their own screen for the participant to see the playingcard.io board, and the toolkit, and the participant was able to dictate to the researcher when to draw a new card, how to organise them, etc. Despite this arrangement, it is worth noting that with the researcher as a stand-in, the way the cards themselves were handled and organised may not have been completely true to how the participant themselves would have organised them.

Once data collection was completed and all recordings of the sessions were checked for video and audio quality, the recorded sessions were transcribed using an automatic audio transcription software, Dovetail, before the researcher went through each transcript to ensure the transcription's accuracy and correct any mistake. Since Dovetail only produces transcripts of audio data (here the participants' voices and mine), I also made notes about the video recordings, annotating the transcripts with descriptions of the participants' interactions with the toolkit (for example when a participant would draw a card, discard one, organise the cards on the board for future reference, etc). Screenshots were taken and added to the transcripts for better illustration of how participants organised their cards and thoughts during the brainstorming section of the workshop.

The data collection process was concluded after 12 individual workshops were run with 12 individual participants. Overall, the total duration of recorded video amounts to around 12 hours 45 minutes of transcribed content.

The sessions were recorded to a secure Google Drive provided by the

University of York, and all transcripts were anonymised.

7.2.4 Qualitative and inductive content analysis

Once the data was collected and cleaned for analysis, the transcripts were uploaded to MAXQDA 2022, a qualitative analysis software that would help streamline the coding process and was already used in the previous study. The chosen method for analysis was inductive content analysis. Content analysis is a method of analysis that has developed into a range of strands or traditions over the years, ranging from a quantitative approach to a very qualitative-oriented stance. The qualitative variant of content analysis can, in its application, closely resemble thematic analysis, in that it also consists in having the researcher familiarise themselves with the data, code it, and identify categories by grouping themes together. Content analysis, however, is more descriptive than thematic analysis, especially reflexive thematic analysis: content analysis is not suited to derive meaning and identify patterns of meaning across categories, but rather, is used to provide an accurate description of the data [146]. Content analysis suits the needs of this study, as the research questions focus on what participants do and say, and the picture it paints of the design process, rather than the underlying meaning behind it to form a theory of designing failure (for which reflexive thematic analysis would have been more suited).

Qualitative content analysis is a method of analysis that borrows from quantitative content analysis, but adapts it to a more qualitative approach, wherein more nuances of interpretation can be made by the research team as opposed to its purely quantitative counterpart [146]. Inductive content anal-

ysis, specifically, refers to qualitative content analysis where the analysis and categories generated stem from the data, following a bottom-up approach. It is the approach chosen for this project, as opposed to deductive content analysis, where the researcher already has a framework drawn from existing theory, and fits the data into this framework [57]: deductive content analysis implies a bottom-down approach, wherein the researcher anticipates their results based on a pre-existing framework, whereas in this project, I had no such preconceived notions. To best capture the intended data, adopting a bottom-up approach, or inductive content analysis approach, was more appropriate, as this would ensure no potential findings would be preemptively excluded. The dataset is the foundation upon which the analysis is built, and the research output, the categories, are derived from it.

Elo and Kyngas [57] provide the inductive content analysis framework that was used for this project. The first step is familiarisation: reading through the dataset and making notes and memos to get a first idea of the kind of codes and categories that may be generated through the analysis process, and gather initial thoughts. The second step is open coding, where all the relevant data is coded by the researcher, in order to start summarising the data. The codes thus generated are then put into coding sheets, before the researcher starts grouping them together to create categories based on the codes' relevance to one another and to the research questions. Lastly, categories are abstracted: in other words, they are further grouped together until the categories left each offer a distinct, high level description and summarisation of the data.

There are other approaches to doing qualitative content analysis. Mayring,

for instance, proposes a similar framework, except that his framework has the open coding process stop after covering around 30 percent of the dataset, and the researcher generate a first coding framework (namely a codebook, with code labels and definitions) that is then applied to the rest of the dataset [119]. If new codes and categories emerge despite the already existing coding framework, new codes and categories are added to the framework. This very iterative process stems from Mayring's original purpose of qualitative content analysis, which sought to apply qualitative analysis methods to very large qualitative datasets (hundreds of interviews). In this context of a very large qualitative dataset, such an iterative cycles with an incorporated testing process makes sense: instead of coding the entirety of those huge datasets (which would take tremendous amounts of time and resources), the researcher only codes a small fraction of the dataset, creates a first coding framework, and sees if their coding framework holds up to the rest of the dataset, editing the framework as they go. Elo and Kyngas' framework does not include this 30 percent testing rule [57], as it is applied to a much smaller dataset that renders such a testing cycle redundant - hence their framework being the one selected for this study, which has a dataset of 12 workshops and interviews.

Following Elo and Kyngas' framework, the analysis process started with the familiarisation stage. The familiarisation stage helped establish that the dataset was rich and answered all the research questions, with participants discussing in great detail what their design process up to the current stage of their games had been, their thought process behind the choices they had made up until this point regarding failure in their games, and extensive

discussion of ideas and thoughts prompted by the deck of cards during the activity itself. Their direct interactions with the toolkit (how they handle and organise the cards etc) offers valuable insight into the design activity itself, as participants often commented on what they were doing and why.

The entire dataset was coded during the open coding phase. To best capture the nuance of the dataset in this first phase of open coding, the codes were generated in vivo, meaning as close to the participants' own voices as possible [142]. A second cycle of open coding was done to refine the codes, a particularly important process as there was only one coder coding the dataset: doing multiple passes of coding in a systematic and rigorous manner, with some time between each cycle allowing the same researcher to return to the dataset with a fresh perspective, helps produce robust codes that serve as the basis for the rest of the analysis [146] [22] [24]. This open coding process generated a total of 1106 individual codes. This high number is explained by two factors: first, the in vivo approach, sticking as close to the participants' voices as possible [142], giving rise to individual codes that were the same in substance but had slightly different wordings depending on how both participants formulated the same idea - these duplicates would be grouped together and eliminated later in the grouping process. Secondly, the open coding was also applied to the actions participants were performing during the activity, not just to what they were saying - thus generating another layer of codes that would not exist, had the participants' interactions with the toolkit not been accounted for.

The codes were then put into mind maps (called MAXMaps) in MAXQDA instead of coding sheets to facilitate the grouping process. Duplicate codes

(where two participants are saying the same thing in slightly different words, for instance ‘the activity is interesting and fun’ and ‘interesting design exercise’) were grouped together first. Then, codes were grouped together thematically, and divided into separate mind maps in order to generate groups of codes that could constitute possible categories.

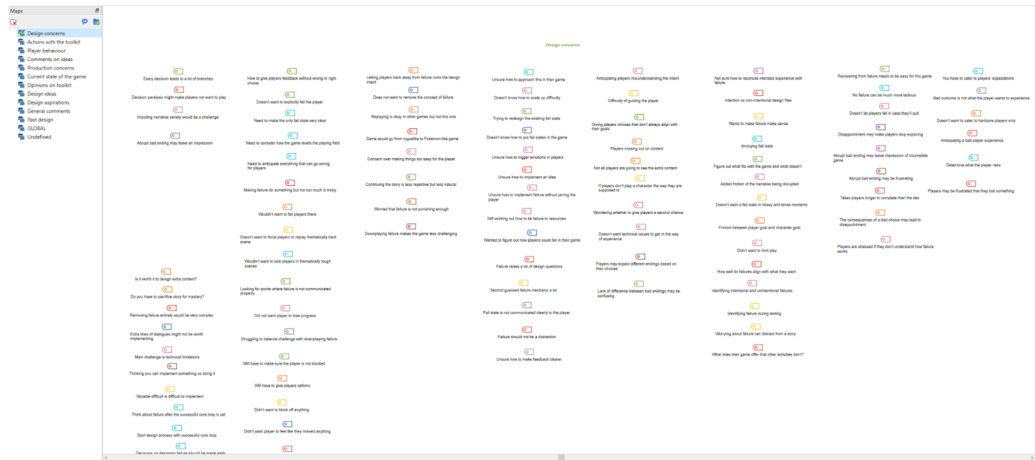


Figure 7.1: In-progress categorisation, with mind maps created, edited, and revisited to create and test candidate categories and sub-categories.

The categorisation and abstraction process continued until all main categories and subcategories generated answered to Schreier’s criteria for robust and reliable main categories: that they are unidimensional (each category “should capture only one aspect of your material”), and mutually exclusive (all categories and subcategories mutually exclude each other, and codes can only be assigned to one subcategory) [146]. In other words, if two subcategories or categories included the exact same data and repeated themselves, they were reworked until they each represented a more specific and unique aspect of the data.

This rigorous and systematic process was repeated until unidimensional and mutually exclusive main categories and subcategories were generated,

and tested against the dataset and the research questions to ensure they accurately represented the dataset and answered the research questions.

Some qualitative content analysis practitioners include a quantitative breakdown of their analysis with statistics regarding the frequency of codes, etc. Such a process was not followed here as, as per Schreier, such a quantification of the data is only relevant if it addresses a specific research question; for instance, if one of the research questions had been ‘how often do participants talk about frustration when discussing the design of fail states?’. The research questions for this project included no such quantitatively-inclined questions - therefore, the focus was laid exclusively on the qualitative analysis [146]. Likewise, in qualitative research, the reliability of the research is ensured, especially when the research is conducted by a single researcher, by the systematic and transparent nature of the process followed, wherein every step followed by the researcher is laid out in detail in the final report, as is the case here [146].

Because of the data collection method for this project, this section will include further information that will help contextualise the results of the content analysis. Firstly, it includes a breakdown of the games the participants discussed during their workshops, in order to contextualise the type of games that were brainstormed over, and contextualise the participants quotes provided throughout the results of the analysis.

Secondly, this section includes a more detailed description of the workshops’ setup, in order to contextualise how the participants developed their ideas and conclusions over the course of the activity and how they were allowed to interact with and use the toolkit.

7.2.5 Participants

Each participant joining the workshop was working on a specific title in development, at various stages of the development process. The table below offers an overview of the games discussed during the workshops, including their gameplay and how the participants envisioned the experience of failure in those games at the time the workshops took place.

Participant number	Game description	Failure	Stage of development
Participant 1	Movement-based VR game. The player rides a sandboard through various levels using a VR headset and controls.	No game over and no setbacks. If the player goes off course, they must find their way back to the track and try again or continue.	Technically finished, but wanted to revisit fail states.
Participant 2	Narrative-driven game inspired by dating simulators, centered around LGBTQIA+ and trans identity experiences.	Still making decisions around failure and narrative consequences, but expressed an interest in using failure to unsettle the player and convey thematic messages.	Early in development.
Participant 3	Hypercasual mobile game, inspired by Pokemon's gameplay: the player collects monsters, raises them/levels them up, and uses them to battle other monsters.	The player can lose a battle encounter. Failure signals to the player that their monsters may not be levelled up enough or that they should try using another one.	In development.
Participant 4	Puzzle game, inspired by Portal, wherein the player can interact with the environment by blinking.	No hard fail state, but the player can get stuck. Quitting the game could be interpreted as failure. The devs deliberately want to keep what counts as failure loose and up for the players to decide.	In development.
Participant 5	Space and horror-inspired game where the player must perform menial tasks to maintain a space station while avoiding encounters with monsters. The difficulty and stakes ramp up when the monster starts chasing the player.	Still making decisions around failure and difficulty alike, and how to reconcile the menial nature of the tasks with the sudden tension of the monster chase. Wondering if failure should end with a game over, or if something should happen afterwards.	In development.
Participant 6	Narrative-driven GameBoy game wherein the player plays as a programmer, trying to do their job while navigating life in a residential block where strange occurrences happen.	Still making decisions around failure, and will have resets if the player fails. However, considering some of the heavy themes in the narrative (ie child death, suicide...), does not want to force players to replay through some difficult scenes.	In development.

Table 7.1: Participants breakdown, part 1 (P1 - P6)

Participant number	Game description	Failure	Stage of development
Participant 7	Puzzle game where the player uses lights to solve puzzles. No story or narrative yet. The game was developed as part of a university assignment.	Does not want failure to be too punishing. Player can retry the puzzle a couple of times before being locked out.	Finished a first version for a university assignment, looking to expand it.
Participant 8	‘Cozy-creepy’ non-violent, narrative-driven adventure game, where the player plays as the young mayor of a haunted town.	The player has a confidence meter that decreases over time when running into enemies. If the confidence meter depletes entirely, the player is sent back to the player-character’s room to refill the confidence meter. Still working out how punishing or non-punishing this ‘time-out’ should be	In development, approaching beta
Participant 9	Alternative controller game where the player navigates a space and controls the flow of the game by tilting a box.	Still making decisions around failure, as the game is a work in progress, and alternative controllers come with a learning curve that is less prevalent in less unusual controllers.	In development.
Participant 10	Mad Max-inspired roguelike game where the player can build and upgrade their car. Includes procedural generation for the environment, and an underlying narrative.	Players may die and have to start over with the added challenge of newly generated content, as per roguelike tradition.	In early development (documentation and paper prototypes).
Participant 11	Resource management game where the player makes various elements interact together to maintain and sustain an ecosystem.	Does not want failure to be severe to keep in line with the relaxed atmosphere of the game, but wants to use failure as a teaching tool. Trying to strike a balance between telling players ‘you need to be careful with this’ and ‘you are allowed and encouraged to experiment’.	Finished prototype for a game jam, seeking to expand the game.
Participant 12	Narrative-driven game, visual novel with player choices and multiple endings. Emphasis is laid on the consequences of player choices, even the smaller ones.	Failure never results in a game over but may lead to one of the ‘bad’ endings faster. Because the game is very short as of now, players need to restart the game if they reach a bad ending.	Finished a first version for a university assignment, seeking to expand it.

Table 7.2: Participants breakdown, part 2 (P7 - P12)

7.2.6 Running the workshops: context and observations

To further contextualise the results of the workshop and the content analysis, what follows is a more in-depth description of how the workshops unfolded, and observations made during the workshops that fall outside the remit of the content analysis, but provide valuable insight into the process of data collection and of the design activity itself.

For ease of access for participants, all workshops were run online on playingcards.io. Running the workshops remotely enabled participants to take part from their homes and offices, without limiting recruitment to the city of York or nearby locations. [Playingcard.io](https://playingcards.io) has built-in card games mechanics that help easily transpose the actions participants would take in a physical setting, into a virtual setting (drawing cards, reading them, organising them, shuffling a deck, etc).

A virtual room was set up with the Prompts deck of cards and the Questions deck of cards. Participants could click on the virtual cards to flip them and drag and drop them anywhere on the board, and hover over them to enlarge them and read the text. Below is a screenshot of the virtual room's set up, with a card flipped and moved onto the board to serve as an example. Brief instructions were also added to the board in case participants needed a reminder.

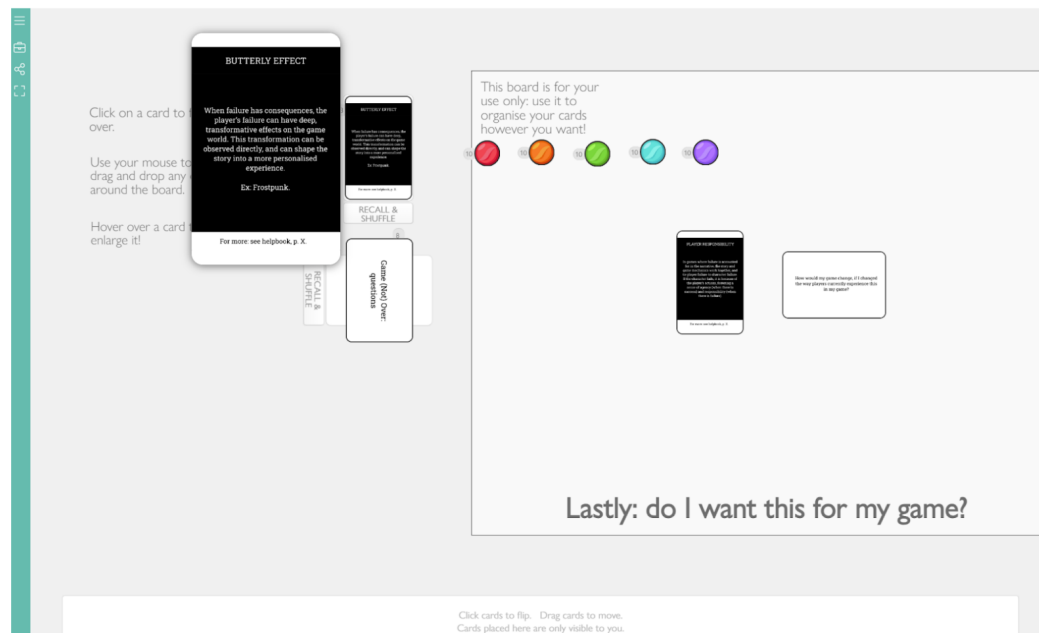


Figure 7.2: The Game (Not) Over Toolkit set up on playingcards.io

Virtual rooms on playingcard.io do not include any tool for participants to take notes. In an in-person, physical setting, participants would have been provided with post-it notes, paper, and pens or markers to help with the brainstorming process. Instead, they were provided with coloured tokens to help them organise their cards if they so wished. The red-orange-green colour scheme was tested during the pilot stage and was deemed useful by testers; however there was no instruction or direction on their use, and participants were free to use them as they pleased. Most participants used the tokens, with a reasoning mostly following this logic: red = not useful/not applicable, green = useful/applicable, and orange = maybe useful/maybe applicable, with some variations and nuances from one participant to another. Some participants did not use the tokens at all. Blue and purple tokens were added to the board upon two of the participants' requests when, during

their respective workshops, they found themselves limited by only having three colours of token and explicitly asked if it would be possible to add more. The requests were granted so as to accommodate their needs during brainstorming and give them the tools they needed to make use of the toolkit the way they intended.

Some examples of how the participants made use of the deck of cards and the tokens at their disposal can be found in Appendix B.

The workshops were quite freeform in the way participants wanted to use the deck of cards, even with the provided instructions. The format was voluntarily flexible, as the deck is meant to be ready to use out of the box, based on what the designer wants to focus on and how they usually brainstorm, and without the intervention of a researcher. As the examples above demonstrate, despite being presented with the same toolkit, participants chose to use it and organise the cards in different ways, highlighting its flexibility and the possibility for users to adapt it to their specific needs while using it. Some participants focused exclusively on the discussion, sharing their thoughts aloud as instructed, and weighing the prompts and questions on the cards against their existing designs and ideas. Some other participants, especially those who were still in the process of developing their games or close to finishing, spontaneously opened their game engines or itch.io pages to show the current state of their games and additional visual material:

- Participant 1 showed video footage of their game available on their itch.io page to show the particular level they wanted to revise
- Participant 5 showed their game in a scene in Unity
- Participant 6 showed their game in a GameBoy emulator engine

- Participant 8 provided a link to their game prior to the workshop
- Participant 9 showed their alt controller to the camera
- Participant 11 showed the itch.io page of the game jam version of their game.

Some participants took their own notes on their devices or on pen and paper during the brainstorming activity with the toolkit, so that they could return to them after the workshop in future design sessions. Some others asked to gain access to their transcripts so that they could return to their ideas in later stages of development. Some participants also asked if they could be given access to the virtual room after the workshop to continue doing the activity on their own and ideate further, or re-use the toolkit after making some changes to their design.

7.3 Results

7.3.1 Outcomes of the workshops: content analysis results

This section outlines the results of the inductive content analysis conducted on the recorded footage of the workshops with game designers, including both the activity itself and the debrief interview that followed. As outlined in the visualisation below, a total of four categories were generated, describing how participants engaged with the toolkit, grouped into two overarching main categories: Discussion and Contextualisation, and Ideation and Reflection. Each category and subcategory is broken down below in matrices,

which summarise the themes and content of each subcategory with examples pulled from the data. A prior, broader breakdown of each subcategory, complete with additional participant quotes can be found in the supplementary material, in order to provide further insight into the content of the discussions around failure that did not answer the research questions directly, but provided valuable information as to the kind of discussions that arose during the workshops.

7.3.2 Main category 1: Discussion and contextualisation

While using the toolkit, participants were prompted by some of the cards to reflect on their personal experience and literacy of games, without necessarily generating ideas for their game. In other words, the toolkit prompted participants to offer context regarding their own design practice, offering an insight into their own understanding of failure in games that informs their own decisions, and helping situate any idea that they may generate while doing the activity and using the toolkit.

Category 1: Reflecting on relevant knowledge and experience

This contextualisation first draws on their existing understanding of failure in games, based on their own experience playing and learning about games, as well as their past experiences making other games prior to the one they chose to discuss during the activity.

Firstly, participants, either when prompted by a card in the toolkit or of their own accord, drew from their personal experiences making and playing games to discuss certain aspects of failure. Participants were all game designers and, by extension, all game players, with extensive knowledge of games they can draw from to inform their reflections throughout the course of the activity, while using the toolkit. On the idea of failure specifically, some participants brought up relevant historical knowledge of how video games evolved and how older games differ in their systems from today's games, to emphasise that conventions that were the norm years ago may not have to dictate how games are made today; die-and-reset mechanics for instance,

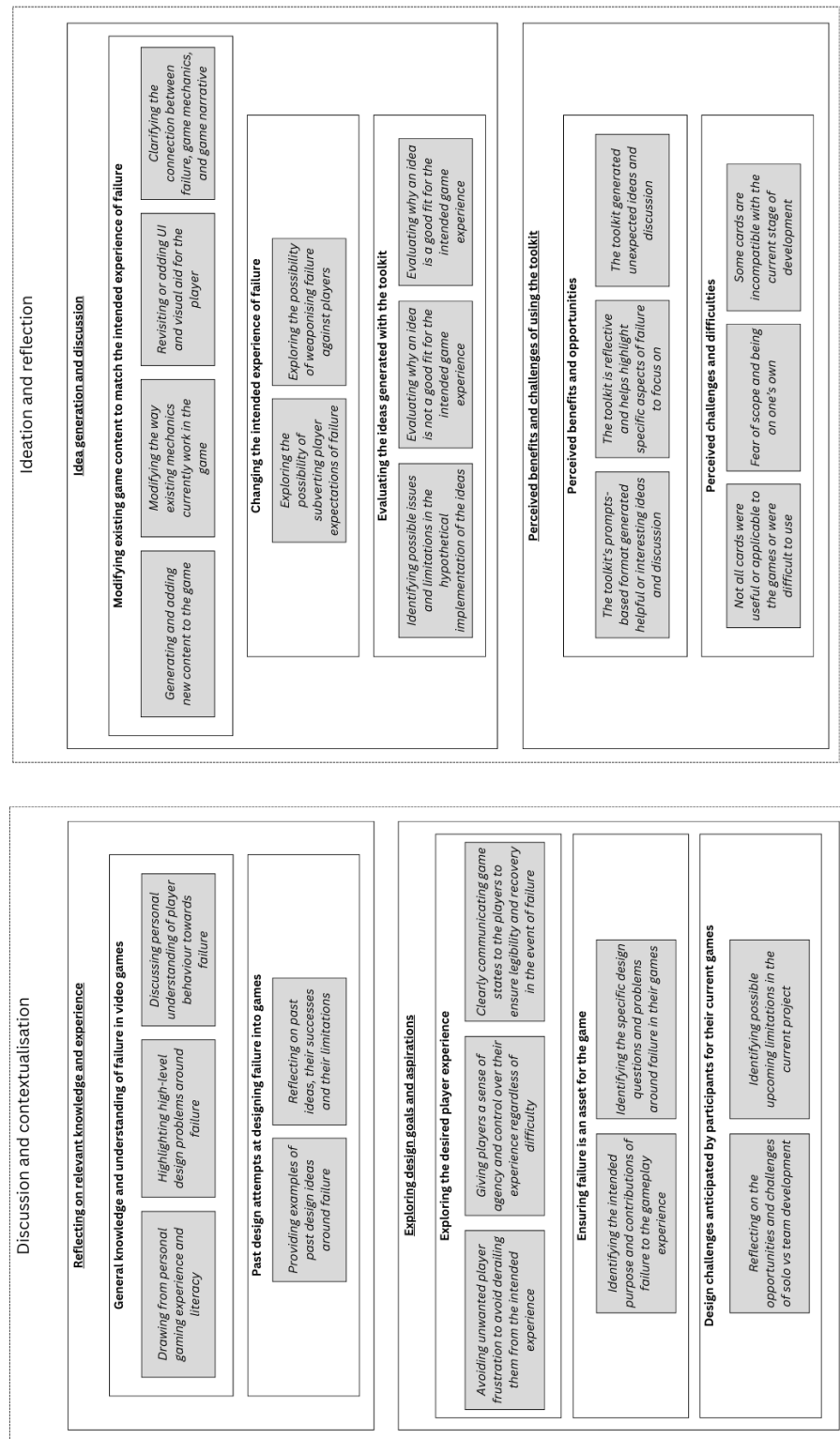


Figure 7.3: Results

may be an inheritance of older games that are less relevant today (P9), and game-over states *“are kind of falling out of vogue”* (P8).

Besides drawing on their personal library of knowledge around games, participants also offered insight into what they personally identified as common problems in designing failure into games, highlighting high-level design questions they have become familiar with through their work as game designers and their experiences as players, such as the difficulty of normalising failure: *“Maybe giving people an opportunity to come back and do better would be better for society overall, because you are not putting a stigma on people who failed”* (P7), or the inherent challenge of turning a negative experience like failure into an asset: *“And it doesn’t matter if you write the best fucking script in the whole world, if your first 30 seconds are frustrating, nobody’s gonna read page 10,000.”* (P2).

Because of their experience as both game designers and players, participants also had an in-depth understanding of player behaviour, which the toolkit prompted them to discuss. Specifically, participants brought up that different audiences for different genres may have different understandings and attitudes towards failure: *“I do think puzzle games... like, the players who play those games, especially the ones that are very serious about the genre, [...] they have a higher patience threshold”* (P4). Likewise, participants pointed out that players’ reactions to failure can be unpredictable, rather than a uniform, universal experience designers can fully anticipate at the stage of design; and more crucially, that players may have different understandings and interpretations of what failure means to them in the first place:

“I think some aspects of failure and some aspects of player reaction to failure may depend on the player itself [sic]” (P3).

“Because if my, I would say if my goal in the game, my self-defined goal was to help everybody that I can and keep my people safe... If one of the results of my action is that my people are not safe anymore, I might interpret as, oh, I made the wrong choice, I made the wrong decision” (P10).

Secondly, participants discussed past attempts at integrating failure into their games, and the challenges they faced in doing so. These discussions included more detailed and more specific reflections around prior games that they made, as well as around the game they are currently working on, discussing old ideas they have already discarded or are currently questioning. The toolkit prompted participants to provide examples of past design ideas participants had around failure, tapping into games they had made prior to attending the workshop and thus in the experience that now informs their design decisions or considerations for their newest projects (one participant mentioned a different game they had been working on, where a point of interest had been to use failure to convey *“an element of grief”* to players, thus making it thematically relevant to the game (P6), while another discussed the same game they brought to discuss at their workshop, but mentioning ideas that had been abandoned for clashing with the rest of the game, meant to encourage player exploration rather than punishment (P4)).

Furthermore, participants expanded on what they thought had worked and not worked in those prior design ideas, ranging from failure not *“actually [letting] people focus on the essence of what I was trying to, to share with them”* (P9), failure being more frustrating than participants had intended it

to be, creating a negative play experience (P1), or failure leading players to not being able to progress through the game at all, thus missing out on most of the game content altogether (P5).

Category 2: Exploring design goals and aspirations

By using the toolkit, participants were also prompted to explicitly formulate their design goals with regards to failure and their game more generally, thus clarifying and situating the place they wanted failure to have in their games, what they wanted their players to experience, and what challenges they may face going forward.

Firstly, participants explicitly stated what they wanted their players to experience in regards to failure, specifically for the game they chose to discuss during the workshop. Those design goals for player experience informed their reflection with and around the prompts, as well as the ideas that were generated from the activity. Such concerns around their desired player experiences included avoiding unwanted player frustration so as to avoid derailing players from the intended experience. As a part of the overall experience, failure should avoid derailing the player from the narrative of the game, for instance by abruptly interrupting the story with a die and reset system *“almost like reading a book, you don’t want to suddenly just yank the book away and then to be frustrated that they can’t figure out how something is resolved”* (P10) and be a seamless part of the experience, rather than a disruptive one. In order to parry this potential distracting frustration stemming from failure, some participants highlighted the design challenge they face in having to challenge the player while also empowering them to feel like they can continue playing

the game. Participants introduced some of their design strategies that they follow or keep at the back of their mind both throughout their design process and throughout the workshop as they navigate the prompts and questions raised by the toolkit. A key element of ensuring this experience for players, is by finding design solutions in order to afford players a sense of agency and control over their experience, regardless of the difficulty of gameplay, for example by allowing players to play however they want to, and to focus on whatever aspects of gameplay they choose, including revisiting some sections of the game:

“So it kind of shifts the balance between those if, if they just wanna just fully just power through combat, they can do that and they can focus on mastery but there still will be story elements in it.” (P10).

“Like, I always wanted, I wanted them to always have the option to go back and do things that they feel like they’ve missed.” (P8).

To help the player achieve this sense of control and agency, the game should have ways of clearly communicating information to the players, to ensure a degree of legibility and recovery in the event of failure, regardless of its nature. Ideally, in the games discussed during the workshops, participants wanted their players to always know what to look for, or that there is something worth looking for past the failure state they may have just experienced: *“However, there’s also the other side where it’s like they know there’s something there. Like there’s no, they know there’s a narrative there they might wanna seek out.”* (P10). Relatedly, the game should have a way of clarifying, in some way, what the player can do to recover from failure:

“I’ll have to make sure that those are clearly communicated to the player

that like, here's some options of what you can do to gain [resources] so that you'll be able to do this." (P8).

Ultimately, the activity with the toolkit led participants to explicitly formulate their goals, including those that, on the surface, may sound counter-intuitive to the presence of failure states, but tie back to the wider game design: *"We want players to experiment, we want players to succeed."* (P4).

Secondly, participants discussed their desire to turn failure into an element of gameplay that contributes to the overall experience of the game, into an asset in service of the player experience, and how this might occur. When prompted by the toolkit, either explicitly so by a card, or by way or contextualising an idea or thought, participants identified the intended purpose and contribution of failure to the overall gameplay experience, for example using failure to trigger some form of reflection in the player:

"I think hopefully with the game they can, with the the fail, they will more think about nature and environment in general and say, okay, maybe I should not use too much car or plane, I think is a bit too much to ask, but if it can trigger some reflection towards it, that would be really good." (P11)

Or by using failure to create new opportunities of play for the player, for example with a system of consequences unlocking new avenues for the player, thus elevating failure into something more than the player failing to reach a goal: *"And elevating that inside of the game and kind of turning those failures into something more also through the community, characters around them, and also systems is, is pretty cool."* (P6).

Following up on giving examples of how failure might contribute to the overall player experience, participants also identified the specific design ques-

tions and problems around failure that they will have to tackle, generally, in order to deliver those intended experiences. Participants have stated that one of their intended goals with failure is to make it seamless and not have it derail the player's experience from gameplay or story; for some participants, the challenge thus lies in reconciling what can be very contradictory gameplay and narrative themes, like attempting to design a horror game with a "cosy" gameplay, and thus minimal failure: *"It really takes the, the edge off of the, the bite out of the, out of the horror game. So, and I also wanted to avoid something like that. So in... so I want, you know, I wanted the creepiness factor. I wanted it to be non-violent."* (P8). On the other side of the spectrum, some participants have to think about how to cater to their players' wellbeing as they play through difficult themes and scenes, which may end up being incompatible with a 'traditional' die-and-retry model:

*"So as for this stage, as I'm thinking about failure and resetting [...]
Because the game has seven days, and this puts them back to that start of this day, how to survive that. And the game has some difficult themes. The game has themes of parental abuse mostly, and suicide, because, you know, it's a block, things happened. The, the main tragedy is parental neglect, which, which, which... outcomes was a death of a child, and following that, suicide of the parent, of one of the parents. Light stuff for a GameBoy game, right? But due to the nature of those topics, I wouldn't like to lock the player in those scenes, to kind of force them to relive them. I think if they weren't as hard, maybe, but in this, this game and this, this situation, I would not like to do that. I wouldn't like to, you know, fail them."* (P6)

Lastly, participants discussed the challenges they anticipate moving for-

ward in the design of their games when it comes to failure, be it their concerns around the conditions they are producing their games in, the possible limitations they expect to encounter, or, as previously touched upon, how they suspect their ideas may clash with the player experience. Notably, some participants were solo developers, working alone on their games, while others worked as part of a team or studio, leading them to reflect, especially when prompted by the toolkit to imagine ideas that would generate more workload or changes to implement, that solo developers may have more freedom to take risks with their design as they are the only person they are accountable to (P8). Teams of developers follow a different workflow and pipeline, having to lock in a design and prototype early on so that everyone on the team can work on their part while being on the same page as their colleagues, granting solo developers more freedom and flexibility; however, solo developers are also restricted by their own abilities and resources, for example if they do not know how to create 3D models or programme particularly complex systems (P11).

Relatedly and lastly, participants, when discussing potential ideas or general prompts from the toolkit, or even outside of the activity, identified possible upcoming limitations for the projects they each discussed in their workshops. For example, for every potential idea they would come up with from a prompt, they would have to keep in mind their team's strengths and weaknesses, and how to play to them instead of accepting all possibilities as options worth exploring, for example discarding narrative-heavy ideas for a studio that does not typically tread into narrative-driven games (P4). Likewise, participants kept returning to the necessity of ensuring that any new

idea would fit within their development cycle, with some ideas potentially not fitting shorter development cycles, for instance: *“as a studio we’re interested in sort of like, making small, almost like extended game jam games, like, like two year long game jam games. But, but like, not necessarily settling for like, oh, let’s make a sequel or let’s make another game in the same genre”* (P4). Finally, technical limitations were also a challenge to address, whether they be limitations in the developer’s personal skills (P10), or limitations set by the technology itself, for example a GameBoy emulator engine with a limited number of variables the developer can work with (P6).

7.3.3 Main category 2: Ideation and reflection

During the activity, participants were also able, by using the toolkit, to generate new ideas around failure for the games they chose to discuss during their respective workshops and evaluate them for potential future implementation. They also offered comprehensive feedback and reflections around the toolkit and the activity themselves, and how the toolkit informed their design approach during the activity.

Category 3: Idea generation and discussion

During the workshops, participants, prompted by the toolkit and their own brainstorming process, generated a number of ideas related to failure that they could potentially implement in their games. Participants first came up with ideas mostly involving adding new content to the game or modifying existing game content, or contemplated changing the intended purpose of failure in their games entirely; and lastly, evaluated whether those specific

ideas would be worth pursuing further in later design.

Firstly, participants came up with a broad diversity of ideas spanning over many aspects of game design, from narrative to difficulty scaling to the user interface, all of which address, in some manner, a problem or need in their game, or offer an alternative or additional possibility to their already existing ideas. Some of the ideas participants came up with while using the toolkit in their respective workshops, consisted in ideas that would add new content to the game: for instance dialogue and scenes adding a touch of dark humour to failure (P4), extending gameplay and adding animations to make failure particularly spectacular as it unfolds before the eyes of the player (P10), adding NPCs that would be able to assist the player in overcoming an obstacle after failure (P7), a statistics system that would allow the player to compare their own choices to other players' choices (P12), or a local multiplayer mode with a split screen (P5).

Another strategy taken by participants in response to some of the prompts and questions raised by the toolkit, was to consider the existing mechanics in their design, and how they could modify them in order to either imagine a completely alternative version of their game, or to bring their design closer to their intended player experience. For example, participants considered replacing restarting the game after failure with respawning the player in a different section of the map, without interrupting the narrative or restarting the player at the beginning of the story/level/section, thus using failure as a way to let players continue their exploration despite failing at a task (P6). Other participants considered the pace of failure, and how fast or slowly a situation should escalate into a fail state (P2), while others, who were earlier

in their development process, still had freedom to determine what game mechanics to tie fail states to - for instance tying fail states to resources availability in a roguelike game with a significant mechanic of repair and upgrade (p10).

For other participants, less than modifying or adding new mechanics to the game, some ideas revolved around assisting the player with new UI or visual aid to clue them in on how to recover from or avoid failure, such as adding user interface elements to give the player very explicit directions at the risk of being *“heavy-handed”* (P8), using environmental clues to inform the player of their success or failure by having their success or failure reflect in the environment deteriorating or improving (P11) or the player character themselves evolving visually depending on how bad in shape the character is meant to be (P10).

One more strategy that was discussed, with regards to modifying the game mechanics, visuals, or adding new content, was to clarify the possible connections between failure, the game’s mechanics, and the game’s narrative. Some participants revisited their game’s narrative, and suggested that their game’s combat system (with its win and lose conditions) could be justified by a narrative opposing *“good monsters versus bad monsters and that you fight to rescue the good monsters from the bad ones”* (P3). Another participant, whose game was divided into two maps and sections for the player to explore, suggested using failure to free up the player’s exploration options rather than restricting them: *“So that way around you have the access to the other, other space, and when you fall asleep to finish the day, once again you will be in the normal plane. So we can jump back and forth between, between those*

things.” (P6). Finally, failure could be used to reinforce the message behind a narrative, such as using the consequences of player failure to drive a theme of environmental responsibility by showing the destruction resulting from human mishandling of the environment (P11).

Interactions with the toolkit also prompted participants to reconsider what the purpose or effect of failure would be in the game. More specifically, these participants sought to push some ideas enough to subvert or challenge more typical experiences of failure.

Following prompts from the toolkit, participants suggested that failure could potentially be used in ways that the players may not expect: rather than using failure to signify that the player is not succeeding at the game, participants considered using failure as a device to warn players that there is more to the game than meets the eye, and therefore encourage them to revisit their own expectations about the game:

“So the fact that a failure is, is not the end, and in here, it is fitting with the themes of the game with those shifting realities, giving a glimpse on the other side, both kind of to warn the player of what is on the other side, but on the other hand give the player control to check it out when they land it.”
(P6)

Likewise, instead of respawning the player in the same place to allow them to better prepare for the next enemy attack, it would be possible to respawn the player in a different location, therefore deliberately disorienting them and keeping them alert in a horror-themed game (P5). Or, reflecting wider on the intended function of failure in their games, some participants considered using it to change the tone of the overall game entirely: either by turning

what should have been success into a bittersweet experience that feels like failure, or by turning failure as an acceptable outcome to be embraced as part of the experience:

“And part of this, their narrative is that they’ve actually, they’ve actually, they they find it but they don’t end up staying. It’s almost like bittersweet of just because they’ve lost so much, which I did make... It’s not so much catastrophic. It’s more just to be kind of like be that, empathize that that someone has just been travelling so long that they just, they can’t actually settle. That was nothing for them to settle down for.” (P10) “So I think it would change my game in a good way to have ‘accepting failure’ [note: the title of a prompt], and maybe even have a final moment where you’re allowed to be like, do I really want to make this world without suffering at the cost of my own existence for a moment? Or is it okay to just live with suffering?” (P2).

Relatedly, and arguably going one step further, some participants responded to some of the prompts by exploring ideas that would ‘weaponise’ failure against their players, integrating the negative emotions associated with failure into the full experience. This could be achieved by letting players experience the full extent of the consequences of their failures, as one participant suggested by having their player be forced to turn against friendly NPCs if they were taken over by the monster they have been avoiding throughout the game (P5), adding catastrophic outcomes to storylines should the player fail to achieve their goal (P10), or directly question the player’s perception of success and failure, their moral implications, and making the player feel judged for it:

“And that would be interesting because then the person who you’re supposed to be like helping is now really your enemy cuz they have no choice but to go through that. And that would add an interesting dynamic where the game goes like no, I’m judging you for what you think is success and you’re a bad person.” (P2).

While coming up with those ideas, participants, either prompted by the questions in the toolkit or of their own accord during the brainstorming sessions, evaluated them, discussing whether or not they would be appropriate ideas to implement in their games, and what would be potential advantages and barriers in doing so.

Firstly, participants were able to identify possible issues and limitations in the hypothetical implementation of their ideas. Some ideas may require some testing before participants could decide whether they would be good ideas for them to pursue further (P10). Other ideas present a risk, because they would completely change the way players make sense of failure, or of the game as a whole:

“Yeah. It, it would, it’s, it would change the interpretation decision space, because yeah, based on the bits and pieces of information, the player will build a mental model of the story, what it’s about, what are the, the, the usual thingy. And with that, there’s also that subset coming of the failure.” (P6)
“I think it would be worth it... but it would completely change the game.” (P5)

Thus necessitating an effort on the game designers’ part to find the right way of framing this new fail state, which requires some re-thinking of the design on their part in order to avoid jarring the player (P9).

This evaluation process during the activity and the post-workshop interview was in some cases instantly successful, with participants being able to determine on the spot whether those limitations could be overcome, and what made an idea a good one or a bad one for their specific projects.

Among the considerations that helped participants classify an idea as not a good fit for their specific project, the fact that some ideas would change the design of the game entirely and stray too far from the designer's intended design and experience was a major barrier that justified discarding the idea entirely (p10). Other ideas would be impossible to implement in the current state of the game (P1), for example because the design is already too set and some mechanics can no longer be changed to fit this new idea in. Returning to development considerations and practicality, especially for the solo developers among the participants, some ideas would add too much workload to be worth trying to implement, as they would considerably extend the development timeline (P5). Lastly, while some ideas were appealing conceptually, participants reflected that their game and their audience may not be the right one to implement them:

"It would be nice to have the time and probably also the intelligence to have one of those in your game. You know, like, to have that kind of like, Easter egg. But then you also need a popular game that people want to figure out. You can't, if you put it into like your game that only gets, you know, 10,000 sales, it's probably not gonna pan out." (P4).

On the other side of the spectrum, considering which ideas would be worth exploring further in future development, ideas were favourably considered if they could easily build up on an already existing design, expands the work

the participants had already done on their game, and repurposes mechanics they were unsure about:

“And in that way I think it’s cool, because it will also broaden the decision space. [...] And it doubles the decision space as I give you access to that other day, other, other world actually.” (P6).

Relatedly, some ideas proved to be great thematic and narrative fits, for example failing to help a NPC resulting in this NPC attacking the player character out of frustration and desperation in an apocalyptic wasteland-themed game (P10).

Lastly, and returning to the practical considerations of development, ideas were favourably reflected upon if they did not generate too much additional workload for participants, keeping their development pipeline and their efforts manageable, and respecting the intended scope of the game (either because the idea can take advantage of the technology the game is built in, thus limiting the extra work the developer would have to put in (P6), or by adding some extra work, *“but not so much that it breaks everything”* (P2)). Similarly, and taking advantage of the freedom of solo developers and smaller teams, some participants highlighted that if they liked an idea, they could fairly easily experiment with it, and discard it if it did not turn out the way they wanted (P8).

Category 4: Perceived benefits and challenges of using the toolkit

During the activity as well as in the post-activity interview, participants offered informative feedback on the toolkit itself, taking note of what they thought worked well for them and their games, what advantages they iden-

tified in using the toolkit, and what obstacles they faced in using it for their games.

Firstly, participants evaluated the toolkit's benefits during and after the activity, and described what those benefits were as well as the design opportunities that arose from the activity. The first advantage they identified was that the toolkit's prompts-based format, specifically, was conducive to generating helpful and interesting ideas and discussion. According to participants, the toolkit achieves this by having a structure that feels methodical, and provides clear direction for brainstorming, compared to their usual process:

"I like how methodical it is because usually I just kind of sit there and look at the ceiling. [...] I'd look at the ceiling and be like, and the maybe I'll think of something and maybe I won't. And if I do, I think about it a little bit more and think about if I can implement it. If I don't, I kind of just move onto something else or stop. So yeah, it's kind of like a very time-consuming process of just doing nothing or - I mean, it's not nothing, but it basically feels like nothing. And sometimes it's like, super unproductive. It's just the nature of the, the idea. But so, I like, I like how systematic it is." (P5)

Relatedly, the combined use of prompts and questions allowed for a degree of flexibility and control over the brainstorming process - instead of having to follow one prompt after the next in a linear fashion, participants were able to decide for themselves what ideas were interesting to unpack, and to do so with the help of the questions cards (P1). In some instances, the question cards *"add more depth to the question, which can sometimes help you figure out how it like, is relevant"* (P5), or helped completely reframe a prompt

card in a way that turned it from irrelevant, to relevant, by prompting a different line of thought:

“It wasn’t super relevant to our game, but the question that came up alongside it was about other games that enabled the experience, and to kind of like, discuss those - and then, of course, that could lead into our game. But like, because of the question coming alongside it, that’s what made it an easy conversation to have. [...] So I think weirdly enough, I think it’s the white cards that impact... well, they’re, they’re the questions, of course they impact the structure, the conversation. But like, it’s the white cards that sort of impact how the black cards feel. Like, you know, when you draw a black card you can be like, of, that fits or that doesn’t fit, but it, it’s the white card that sort of enables whether or not it’s an interesting thing to talk about” (P4).

The prompts and questions themselves were flexible enough to be transferable to their games, with participants being able to *“twist things”* to fit with their own ideas and priorities (P8). Likewise, the prompt cards felt like good starting points to build up ideas from as *“an interesting hook”*, allowing participants to ask themselves questions such as *“can I put it somewhere in there? Does it resonate nicely?”*, ultimately using the prompts *“as inspirations”* (P6). Notably, prompts could also work on their own, creating a different design exercise, but one that could potentially still be productive to generate game ideas or design ideas (P4).

The toolkit was also deemed reflective by participants, and described as useful to highlight very specific aspects of failure for designers to focus on. More specifically, the toolkit highlighted design possibilities available to de-

velopers, and the value that failure could bring to their game, *“instead of just failing the level”* (P7). The toolkit also highlighted reasons for participants to think more deeply about failure, where before they may *“never [have looked into it] so in depth [...] So it’s definitely added to how I think about failure in games”* (P7). Using the toolkit encouraged participants to be more creative and experimental with their design of failure, looking for more usual ways to approach this design problem:

“I think when I usually kind of approach, like, failures in my game, I usually just kind of go for like, the, I guess it’s like, go for like the stereotypical options. [...] I would kind of, I would kind of have, like, some expectation of what the failure would be like because those are the like, the... those are more like the traditional way, traditional failures that those kind of games were over. [...] So I guess this deck of cards kind of makes me, kind of, rethink, like, what failures could be like, even if it’s the same type of game. Like, maybe if it’s an action game, could it be, like... could there be like more other types of failures that kind of offer to the player, and maybe what types of failures will be available if I’m implementing like a narrative-driven game, like, other than like that ending, what other failures could there be?” (P12) *“It’s definitely helped me be a bit more reflective [...] it was interesting to see how it would jar with the design of my game. I don’t tend to, like... I was only thinking on fairly, on the level of just, you know, very much a roguelike style of game. [...]. I, it’s, it’s a very creative way to kind of think ‘what could I do?’.”* (P10).

Using the toolkit, especially in a context where participants had to talk about their ideas out loud, was also useful in getting participants to practise

talking about their own game design process, which in this particular case, was deemed useful for a participant who had a game design job interview some time after the workshop (P9).

Lastly, participants reported that using the toolkit led to unexpected ideas and discussions. Participants came into their workshops knowing that they would be asked to participate in a design exercise using a cards-based toolkit, and therefore came in with certain expectations. Some participants reported that the toolkit *“has given me more ideas than I thought [...] and shown me where my game could go”* (P7). The toolkit unveiled unexpected avenues of reflection, with some prompts highlighted as something they had *“never thought of it like this”* (P10) and raised new questions for the participants to consider in their future design:

“So it’s actually opened up a set of options of like, how much feedback should I give the player? You know, what kind of ending should I give them, and how can I contribute to this general kind of emergent narrative that I’m going for?” (P10).

Or to re-evaluate design decisions made for previous games, and considerations for future games:

“Yeah, so I guess the overall, like, the question, the difficulties and like, the questions of like, the cards, are actually quite inspiring; just kind of, just kind of inspires me to actually think through like, my games, pretty, pretty well I guess. Like, because, I mean like, those difficulties, I actually... I actually kind of haven’t really kind of thought about those kind of difficulties before.” (P12)

During and after the activity, participants also identified some challenges

and difficulties they encountered while using the toolkit, thus opening up potential areas for improvement and further iterations.

Firstly, participants pointed out that not all prompts were useful or particularly applicable to their specific game: some prompts fell outside the remit or scope of their game entirely, for example prompts about interacting with NPCs coming up in a discussion around a game that does not have too many dialogues, and for which the designer does not have the resources to expand on the game's narrative (P11), or ideas they were just not particularly interested in out of personal preference (P9), although some participants pointed out that they *"kind of fully expect that in any system, like, you can't make a system that applies, that is so generic that it applies to everything"* (P5). Aligned with this were participants pointing out prompts that suggested ideas that they had already explored and implemented (P12), and prompts that led to repetitive discussion due to being too similar or leading to similar associations of ideas being explored. Similarly, some prompts and questions, when combined together as combinations, led to some confusion or lack of clarity:

"I think. . . . Oh, there's a real weird. . . I think I'm gonna put that as like, it's not quite going to work with either of those. . . [the participant puts a red token on the two question cards they just tried to use in combination with a prompt card, and moves the prompt card down in the board]" (P10). *"So, okay, so I guess maybe like, so like when I was doing, like. . . I think when I was, like, just working with the cards, there are some, like, pretty difficult combinations, like, some questions, just some questions and difficult things. I think it's just, kind of requires quite a bit of thinking to kind of actually, how*

they could kind of, how I could make sure that, how I could kind of come up with a response that would kind of work, work with both cards a bit.” (P12).

Fear of scope was also a concern brought up by participants after reflecting more broadly on the types of ideas that the toolkit helped them come up with, combined with the concern of, as mostly solo developers, being on their own to implement them. The toolkit prompted ideas that could, potentially, easily get out of scope compared to what participants were considering, because the toolkit *“could lead to a lot of ideation, which is more work”* (P10), and incur some *“feature creep”* - namely the temptation of adding more and more features into the game (P5 and P6) (interestingly, a risk also identified by Kultima et al in their own research [104]). Likewise, while participants fared well in the activity in the workshops, some pointed out that having co-designers to use the toolkit with could lead to *“a more open conversation”* (P4), while using it on one’s own without other voices to brainstorm with could give the impression of *“I’m just an echo chamber in my own head”* (P10).

Lastly, some of the prompts and cards were incompatible with the games discussed at their current stage of development, with some game mechanics discussed missing entirely from the current design of the game, for example, the game not having a story or narrative at the time of the workshop, rendering all prompts around narrative less relevant if they discuss narrative as an already existing element in the game (P7). Some other prompts discussed ideas that, in the context of team development especially, has not even yet been discussed in the design, meaning that participants did not have much substance to discuss those points yet (P9); and on the other side of the

spectrum, some game concepts and designs were too advanced in their development for participants to be able to apply some of the prompts, reinforcing the idea that the toolkit would be best used very early on in development (P4).

7.4 Discussion

7.4.1 Summary of findings

The research question asked how the Game (Not) Over toolkit supports game design, and how it offers a probe into the game design process. By applying inductive content analysis to the data collected from the recorded workshops, two main categories were constructed: Discussion and Contextualisation, and Ideation and Reflection. Each main category was itself made up of two categories, reflecting different aspects of data:

- *Discussion and Contextualisation*: participants reflected on **relevant knowledge and experience**, drawing on their own understanding of games and experience in playing and designing games, to answer the prompts and questions delivered by the toolkit. They also contextualised their line of thought and ideas by explaining and **exploring their design goals and aspirations**, thus contextualising why they want failure to work the way they want it to work in their games.
- *Ideation and reflection*: by engaging with the toolkit during the design exercise, participants **generated and discussed ideas** for their games, relating these new ideas to their current design, core design pillars, and potential future iterations. They also reflected, both during

the activity itself and in the follow-up interview immediately after the activity, on **the benefits and challenges of using the toolkit they perceived** while engaging with it.

This section will expand further on the results, to situate them as part of an evaluation of the toolkit, and an in-depth investigation of the game design process that occurred during the workshops, accounting for the specificities afforded by the use of the toolkit and the focus on designing for failure.

By doing so, the contribution of this research is situated on two levels: firstly, it offers an in-depth examination of the use of toolkits in the process of game design; and secondly, it proposes a practice-based approach to researching game design questions. Like the previous chapter, this research builds upon the works of critical game theorists [62] [15], queer game theorists [137] [138], but also upon the works of designers and design researchers questioning their design processes themselves. These workshops encouraged participants to exemplify and formulate some of the usually hidden rhetorics [18] [19] of video games. It also offers a detailed account of the running of design-based workshops for research and design, building up prior works by Kultima et al [104], Kwiatkowska et al [106], and Portelli and Khaled [132] who used similar methods for their own design toolkits - the Game (Not) Over toolkit builds upon these foundations by offering an approach to narrowing the focus on a very specific aspect of game design and the player experience: failure (and reuniting the two perspectives).

This chapter also addresses this thesis' third and final research question:

RQ3: How can we approach the design of positive experiences of failure, or failures suited to the intended player experience?

Using the Game (Not) Over toolkit in a bespoke game design exercise focused on experiences of failure, this research explores, in depth, a possible approach that can similarly be developed for and applied to other aspects of game design, combining the strengths of research and design to zoom onto one particular side of the player experience, and generate new ideas and solutions.

7.4.2 Evaluation of the toolkit

Using the results of the content analysis to evaluate the toolkit itself serves as a valuable reflexive process to re-examine the design process that led to the creation of the toolkit itself; with those results, it is now possible to determine whether the toolkit address its intended purpose or mission statement as outlined in the previous chapter.

Addressing the toolkit's mission statement

As stated in the previous chapter, the toolkit's stated purpose was to be used during early stages of development, for brainstorming and ideation purposes, in order to generate discussion and ideas during the design process that the users can apply to their games.

As demonstrated by the results of the content analysis, overall the toolkit successfully meets these goals. While participants were at different stages of the development process in their games, the ones who most successfully generated ideas or explored potential changes to their game design were participants who were in the earlier stages of production, as opposed to the ones whose games were already out as a first version to be further iterated

upon, or those who were close to release. During the activity, participants were able to generate new ideas, review them against their design goals and core pillars, to discuss whether to include or exclude certain ideas generated during the activity, and to engage with and expand on the ideas presented to them. This was indeed the intended experience for users of the toolkit. As Cross explains, “a central feature of design activity, then, is its reliance on generating fairly quickly a satisfactory solution, rather than on any prolonged analysis of the problem” [42]: game designers are not (generally) trying to build detailed theories around the nature of failure in video games, but they do need to find way of implementing it in their games in a way that meets their design intentions by ideating and generating such solutions applicable to the specific context of their games. The toolkit supports this process.

During the activity, participants generated both high-level discussions around the concept of failure in games in general (by contextualising their own decision, expanding on their personal knowledge and experiences), and highly specific ideas for their games by contemplating how they could modify or add to their existing design plans and prototypes. This stage of idea generation is crucial to the design process as a whole, and the most optimal stage for designers to approach the question of failure. Ideation and solving design problems, including in game design, is a complicated, messy process, possibly best described by Nigel Cross in the following terms: “Due to the complex nature of most creative design projects, it is rare that they are resolved in a straightforward manner. Often, the resolution of a problematic situation is an ongoing, iterative process that cycles between problem framing and articulation, hypothesis generation and practical evaluation. Addressing

one component of the situation may cause other components to change in unforeseen ways, necessitating a reformulation and reframing of the problem, which in turn leads designers to conceive of new solutions” [42]. The toolkit’s function, then, is to provide support, a jumping board, from which to carry out this constant cycle between problem articulation, hypothesis generation, and (hypothetical or practical) evaluation, which participants did.

It is worth highlighting that during the activity and while using the toolkit, participants were able to comfortably rely on their expertise and experience, and did not take every prompt offered to them at face value; nor did they try to integrate every possible idea to their design, or deem every new ideas as a definitive possibility. Participants felt confident in denying, refuting, or discarding ideas that did not apply to the specifics of their game or their design intentions, which is a positive indication that the format of the toolkit and its contents support the critical engagement. This ability to shift perspectives on a given problem [48] is part of the toolkit’s intended purpose, and a sign that the toolkit does indeed work as a support tool, rather than a didactic tool that delivers information to users without giving them the space to appropriate ideas for themselves. The toolkit is not meant to tell game designers how to design the ideal experience of failure - it is meant to help them disentangle the concept of failure and support them in determining what this ideal experience might look like for their very specific and unique project. In this, the results show that the toolkit also succeeds.

Another key highlight from participants’ discussions and feedback was that for the more experienced participants in the sample, the toolkit did not necessarily teach them anything they did not already know about failure in

video games. However, using the toolkit and its methodological, oriented format helped them speed up the brainstorming process and zero in on the issues they were facing with failure, and the possible solutions they could come up with, faster than they would have through their usual design process:

“So I wanted to integrate failure more deeply, but I haven’t had the proper, I’ve thought about it and I probably would’ve gotten it on my own, but this helped me do it with less chewing on my own nails or whatever. So it was, it made it easier and a shortcut.” (P2).

Further reflections

Participants’ feedback and observations made during the workshops informed the identification of a few areas worth accounting for in similar future research.

A first avenue to explore would be whether to increase the number of question cards in the Questions deck, so as to increase the diversity of questions users can juggle with and pair up with prompts. In its current version, the toolkit only includes 9 question cards, which proved to be enough for the duration of these workshops for the most part, with participants either taking their time to address the questions, or returning to them with a different prompt. In a different context where users would not be limited by the time allocated for their workshop, for example for a full design or brainstorming session on their own time or with their team, a greater number of questions may help balance the two decks more and bring out more areas of discussion. It is also possible that diversifying the question cards might help with the prompt cards that users were unable to address because they did not fit

the premises of their game, either by helping them discard them faster, or by prompting productive discussion by looking at the prompt from different perspectives.

A second, similar avenue to explore, would be to offer more customisation options in the decks: as the toolkit currently stands, it only includes one Wildcard, a blank prompt card that users can customise by writing their own prompt on it - such customisation can be useful if users notice that a particular dimension of failure is not covered by the toolkit, but they know it to be a valuable aspect to cover in the development of their games. It can be a one-time usage, or something to return to in subsequent sessions using the toolkit. Further iterations of the toolkit could include more customisable Wildcards in the prompts deck, as well as customisable Questions cards for users to write down and return to any questions they may notice reoccur whenever they design a new game.

Thirdly, participants did not make use of the helpbook during their workshops except to read the rules when prompted or to remember how many cards they are meant to go through. It is likely that the number of virtual tools participants had to juggle through (Zoom for the video call, playin-cards.io for the board, and Google Docs for the helpbook) was a deterrent: participants were entirely focused on the board and the toolkit itself, and some of them were also pulling up Unity or their game engine, or physical sketches to show me. The helpbook, which was intended as a support tool rather than a core element of the toolkit, was not needed, and therefore not referred to when already engaging with all those other elements.

7.4.3 Reflections on the workshops

Building up from the results, additional reflections can be drawn from this research, both with regards to the use of such toolkits for the purpose of game design, and with regards to this workshops-based format as a methodological approach for design and research.

On the side of game design and the participants in this project, it has been noted that there would be valuable observations to be made by contrasting solo users engaging with this toolkit with teams engaging in the same activity. The solo vs team configuration was a key consideration during both the design of the toolkit and the design of this workshops study: it is worth highlighting that the toolkit was designed and intended as a toolkit that can, at its core, be used by a single, solo designer, but has the flexibility and potential to work for teams of developers as well. The advantage of engaging with the toolkit with a group of colleagues or other game developers would be the opportunity to bounce ideas off other people, and make it a more collaborative process where multiple perspectives and/or specialisation can contribute to the discussion (for example, if a narrative designer, programmer and level designer could evaluate their ideas against what they, as specialists and project owners in their respective roles, would know would be possible or impossible to implement). Therefore, while the toolkit was intended to work for solo use, I also attempted to recruit teams of two or three developers to further investigate this configuration. Unfortunately, organising group workshops within a reasonable time frame proved very difficult for scheduling reasons.

As a tool for design as a solo developer, those sessions were reported as in-

teresting and productive for the participants involved, some of whom walked away with ideas they stated they wanted to try and implement in future iterations of their games. From a research standpoint too, this workshop-based format using the toolkit to focus on a specific aspect of design, failure, also proved to be very informative and thought-provoking. Every workshop yielded very informative discussions around the idea of failure, and the think-aloud protocol followed by a debrief interview coupled with observation of how participants manipulated and organised the cards on the board, provided very in-depth data by providing a unique vantage point into the design process by situating me, as the researcher, as a direct observer of the design process while participants are going through a dedicated design exercise that calls upon their experience and expertise.

This approach proved to be very different from post-mortem interviews, such as the ones performed in the lead-up to the design of the Game (Not) Over toolkit, where participants were asked to remember, explain or justify design decisions that they made years prior the interviews. While highly valuable information, this retrospective approach means that participants may not remember certain moment-by-moment decisions, or may remember the general reasoning behind a finalised design decision, but not the detail of prior iterations or smaller hurdles that they faced. Organising those workshops and observing game designers in a dedicated design exercise centred around failure, created a unique opportunity to remove this time barrier and the limitations posed by recall, to observe game designers grapple with design questions, problems, and ideas arising ‘in real time’. There is an ontological difference between being able to retroactively capture what designers

remember thinking about when making certain design decisions, and being able to capture those decisions in the moment that they happen in: what participants decided to prioritise during the discussion, what they decided to discard, what topics and ideas they were able to address immediately, which ones they had to write down and put on hold for ulterior review because they could not make a judgement call without returning to their documentation or prototypes first, what ideas they were able to evaluate on the spot, and which ones would need to be tested with an actual build and some more development work.

In other words, a key benefit of this approach was how it allowed for a very granular, detail-oriented investigation of the design process - a level that can be lost with other methods of data collection relying on participant recall, such as surveys or interviews. The workshop format allowed for this direct observation of the design process and reasoning, while the toolkit itself played a central role in focusing the discussion and design endeavours on the topic of failure. The toolkit and its design activity-oriented approach proved to be a valuable method to generate very granular and detailed insight into a very focused area of game design, stimulated by direct and directed prompts and questions, both for the participants involved and their design practice, and as a research method.

7.4.4 Designing failure: a context-driven approach.

In addition to gaining a first-hand understanding of how the toolkit works in a situation of actual design, the content analysis and observations made during the workshops provide valuable insights and reflections around the process

of designing for failure in games. This dedicated design exercise confirmed many of the points already covered in previous chapters of this thesis, the overarching idea being that the design of failure is best approached with a highly context-driven focus.

Games come in different genres, with different gameplays, and provide very different experiences for players. Some of the research into failure has tried to identify points of friction between failure and the player experience, navigating the space between failure being too frustrating, failure turning players away from games, striking the right balance between difficulty and flow [107]. Other research has pointed to the function of failure for certain play experiences, notably in narrative contexts [158] [108]. This study highlights the difficulty of generalising recommendations or assumptions for the specific practice of design: participants, when engaging with the toolkit and brainstorming over their games, accounted for very granular, microscopic details impacting every aspect of their games, ranging from story elements to game feel to level design to political message conveyed to the players. All the prompts in the toolkit are based in research and grounded in scientific evidence, but it did not, and should not, stop designers from taking liberties with the ideas presented to them in order to tailor the experience of failure they are aiming for for their specific, unique game.

This necessity was highlighted by the participants themselves: each of them came into the exercise with very different projects and very different needs, ranging from horror-centered games with an element of challenge to interactive experience with unconventional controls. This diversity of profiles and projects was a key factor in prodding the richness of potential approaches

to failure individual designers can take and mapping out their similarities as well. In the context of failure, this wide array of games further demonstrated how contextual forth the design and experience of failure is. Accounting for this contextual aspect as early as possible in the design process, before too many other decisions or mechanics are locked in and restricting further decisions on failure, is key to having the freedom of experimenting and identifying the most appropriate ways of implementing failure in a game. In other words, having a clear picture of the context in which failure will be experienced by players, and everything that informs this context, is the common denominator of importance across these projects, moreso than the individual decisions themselves that will be highly specific to every game.

While general principles or assumptions around how players experience failure constitute valuable information, those principles or assumptions may clash with a designer's intended design and experience, or support it but with some tweaking and refining to really fit within the designer's vision. Accounting for the granular specificities of the intended play experience, the gameplay, and the conditions of production allows designers to identify and remove some of the barriers they otherwise face. This research proposes that there is no one way of designing failure, nor one desirable experience of it, but that it relies entirely on the context of the experience offered to the player (in what context are they intended to play, and what is the intended experience?), the gameplay that supports and provides this experience (how does failure fit into the gameplay loop without distracting players from the intended experience - disrupting the player's experience can be a desirable thing to do, but the disruption must be intentional), and the specific con-

ditions of production for the game (can the designers actually implement a particular design idea?).

7.4.5 Limitations and opportunities

As has already been highlighted throughout this chapter, the workshops conducted for this study were conducted remotely, using Zoom and digital tools in order to not limit the recruitment of participants based on their geographical location, as well as to have the possibility of recording the sessions. As such, future research opportunities could look into organising similar workshops in an in-person, face-to-face setting, in order to collect data on how users would interact with a physical copy of the toolkit as opposed to a digital one. The configuration of in-person workshops changes the parameters of data collection and interactions with the toolkit and the researcher involved, as participants would have the opportunity to physically manipulate the cards, would not have to navigate between tabs to access different platforms and tools during the activity, and could more easily be provided with material for brainstorming, such as post-it notes, paper, pens, etc, which was not possible with the remote format of these workshops. Participants who wanted to take notes or sketch ideas would have to do it on their own accord, with whatever material was available to them in the space they were in when sitting in the workshop.

Another key aspect to keep in mind is that participants naturally knew they were observed, and were actively talking me through their thought process throughout their workshops. While such a discussion arguably simulates the conditions of a brainstorming exercise, the fact that I was not their co-

designer and instead a researcher, is an important distinction. Arguably, the observation of the process may change the process: such was the intention here, as getting participants to truly engage with the toolkit and their ideas was necessary for the nature of this study, but a more naturalistic approach with a less obvious presence from the researcher may be preferable for other research questions.

As previously discussed, the workshops were individual workshops, as opposed to being set up as team brainstorming exercises. The discussions that occurred may not reflect the additional layers that an exchange of ideas between two or more people working on the same project would have: as pointed out by one participant, using the toolkit by oneself may, to some extent, give a feeling of an echo chamber effect, wherein some users may prefer to have other people they can exchange ideas with. Future research could look into these preferences and differences in configuration between users who may be more comfortable in doing such design exercises on their own (especially if they are making a game entirely on their own and are used to brainstorming by themselves), users who may want to use such toolkits with their teams, working on the same projects, or users who may organise such a brainstorming activity with other developers each working on different projects, in a bid to engage in stimulating discussions with peers while exchanging ideas about their project with external onlookers. As an example, I presented the toolkit at the IGGI Conference 2023 as an in-person workshop: for this more informal presentation, I divided the room into two groups, gave both groups physical copies of the toolkit and the helpbook, and let them get on with the exercise by themselves after a brief introduction and explanation. While no

data was collected during this session, I was able to make a few observations that could inform future development or research:

- Both groups had no difficulty engaging with the exercise, and no intervention on my part was needed for the hour that the activity lasted.
- Participants in both groups referred to the helpbook to read some of the more detailed descriptions of the prompt cards or look at further examples. The participants in the online workshops did not do so.
- Both groups were made up of game researchers and game designers, all very knowledgeable and experienced with games. The discussions in both groups were very dynamic and free-flowing, and the rules outlined in the helpbook were used more as broad guidelines rather than strict rules to follow (for example how many cards to go through before stopping), which seems to point to a confirmation that in a group setting as well, where people may be more prone to following tangents or spend more time on a particular topic, the toolkit is flexible enough that the experience is not disrupted, and participants can appropriate the toolkit in whatever way seems fit in the moment.
- As with the online workshops, one participant came forward after the session to ask for further access to the toolkit, as they felt it could help them address some hurdles they have been facing in a project they were working on at the time. This participant was a board game designer, pointing at the possibility that the content of the toolkit, whilst born from research into digital games, may have wider implications, and that experiences of failure may have some overlaps between analog and

digital games worth exploring. Likewise, one of the participants in the pilot version of this study tested the toolkit with a LARP game in mind, and confirmed that the workshop had given them some ideas to explore further, even if some prompts were more applicable to digital games.

7.5 Conclusion

This final study, which put the Game (Not) Over toolkit to the test, made several contributions to our understanding of failure.

First, putting the toolkit in the hands of game designers and observing them engage in a design exercise focusing specifically on the question of failure, confirmed that designing failure is a complex, and extremely context-specific endeavour. For failure to work in a given game, one would be hard-pressed to find a formulaic version of failure that would universally apply to all games, or to all games belonging to the same genre. Some participants pointed out that they did try to implement failure in ways that they thought would be fitting for the genre in which their game belonged, only to find that they were not satisfied with the outcome. Other games can provide helpful guidance and inspiration, but copy-pasting the same formula without questioning why, even for something as seemingly self-explanatory as failure, is not always a viable solution.

Secondly, the toolkit itself provided participants with the opportunity to engage with, discuss, and disentangle some of the issues they were facing with their designs. This confirmed two things: first, that the Game (Not) Over toolkit fulfills its intended purpose, and supports the design of failure

at the moment of intervention it was intended for, at the ideation stage when designers can still change their design and game mechanics. This also told us that design toolkits, more broadly, might indeed constitute a desirable bridge between academia and practice, between theoretical knowledge and actionable design. Researchers stand to learn a lot about design and about their own topic of specialisation by engaging with the act of turning their knowledge into a translational resource like a cards-based toolkit; and they would contribute to bridging the so-called gap between academia and practitioners. This kind of designerly endeavour does not only allow us to share our knowledge and expertise with the outside world - it also allows us to invite the outside world in, and unlock new opportunities for learning and research that would otherwise remain inaccessible to our more traditional methods.

Having now completed this journey from qualitative surveys to designing toolkits, the final chapter of this thesis will offer a review of the findings and concluding remarks to bring this exploration to an end.

This thesis set out to investigate the experience of failure in video games. The complexity of this experience was already underlying previous academic research, as outlined in the literature review. There is a clear multi-faceted, multi-layered complexity to defining, or even identifying failure in video games, for scholars and for players and game designers alike - making the task of studying or designing such experiences all the more complex by extension. For instance, there is a clear distinction between fail states that are ‘hard-coded’ in a game, such as game over states, quantifiable and determined by the game’s ruleset and mechanics, triggered by player actions and communicated in no uncertain terms by the game, and fail states as they are defined and experienced by players themselves. As has been observed throughout this thesis, for some players, failure is little more than a stepping stone on a learning curve, is part of the game loop and is not really interpreted as failure, but more so as a temporary setback on the path to completing the game [6]. For others, events that are not necessarily hard-coded as game over states still count as failure, for instance the negative consequences that may follow a wrong or ‘bad’ decision in a more narrative-driven game [21] [75]. In other words, there is the objective fail state that a game may try to communicate [10], but whether or not it is accepted as such by the player, relies

on the player's subjective interpretation of it in the context of the game and in the context in which the game is played, complexifying the definition and purpose of failure in video games. No player will experience failure the exact same way as all other players will, as the experiential element of failure relies on a diversity of contexts informing the player's interpretation of it [63]. While failure can be used and accounted for in generalisable research such as user research where the expected number of player deaths can be counted against the actual number of player deaths during a playtest to try and estimate whether a level or boss fight is too difficult, this vision of failure only tells part of the story. This thesis was concerned with the more subjective experience of failure, with the interpretational level with which players engage when making sense of failure in video games, and with the potential for game designers to engage with that level of interpretation and subjectivity when designing such experiences in their own games, in a way that is desirable or positive for the player experience.

The overarching RQs were:

- RQ1: What constitutes a positive, desirable experience of failure in video games?
- RQ2: How can we reconcile player and designer perspectives to broaden our understanding of failure in video games?
- RQ3: How can we approach the design of positive experiences of failure, or failures suited to the intended player experience?

In order to address these questions, this thesis was subdivided into four studies, each addressed in a different chapter:

1. An exploratory study aimed at understanding players' perceptions of what failure is and what positive experiences they associate with it
2. A interview study with game designers seeking to identify the design objectives, challenges, and opportunities that arise when designing games leveraging the potential of failure
3. A design-focused project in which I designed a toolkit aimed at unpacking those more subjective experiences, re-framing them through an iterative design process in order to express them in a designerly language, and supporting the game design process around the specific question of failure
4. A workshop study in which game designers used the toolkit during a design exercise to engage more deeply with the idea of failure, thus gaining insight into its potential benefits for their games, and into the game design process itself.

In answering these research questions, this thesis makes a dual contribution to games research:

1. An empirical contribution, by conducting surveys and interviews and gathering qualitative data to produce new knowledge and understanding into the player experience of failure and the game designers' experience in designing it into their games
2. A design contribution, by outlining and proposing a detailed method to creating a game design toolkit aimed at facilitating the design of failure during game development. The process I followed to design this

toolkit is one possible method to approach similar design endeavours, and the toolkit itself is one possible method to approach the thorny problem that is failure in games

8.0.1 RQ 1: What constitutes a positive, desirable experience of failure in video games?

Player perspectives

The purpose of this thesis was not to attempt and identify or create a perfect recipe for successfully designing experiences of failure in games, as all games are different, try to communicate different ideas or experience, and employ failure in different ways, be it as punishment for a lack of skill, a learning experience, or narrative purposes. In a bid to explore the diversity of the landscape of possibilities for failure, this chapter instead sought to identify different areas and contexts where failure was deemed by players to have a positive and desirable effect on their experience.

From the participants' responses, it became clear that failure itself could indeed, as hypothesised by other scholars, take very different forms: game over states, character deaths, permanent negative consequences to narrative choices, changes to the game world state, etc. What mattered to the players in these situations was the context or dimension of the experience that failure affected or related to: thus, I identified failure as carrying the potential to be a learning experience, a social experience, or an affective experience, depending on the in-game and out-of-game context in which it occurs. From this research, I argue that failure, even in video games, is a deeply personal experience that relies heavily on the player's personal circumstances and

game literacy, which in turn informs their interpretation of this experience. Game designers and researchers alike have little control or insight into those personal circumstances or previous experiences, including very specific situations that may influence these perceptions - thus highlighting the difficulty and complexity of both designing and researching failure on a universal level.

Hence, I argue that it is more productive to consider failure from a variety of angles. Perhaps it is worth not asking if a high player death count might be detrimental to the player experience, for instance, but instead, whether a high player death count could affect the affective experience provided by the game, or constitute an affective experience in and of itself; or, if it would make learning the mechanics of the game easier and faster, when paired with a quick and instant respawn system. This study points out that video game players situate failure within the context of the game that they play, the context in which they play, the context of their experiences with other games, their life circumstances, personality, preferences, etc.

This chapter argues for the importance, for both researchers and game designers, of situating failure within a broader context, especially if an explicit goal is to explore what constitutes a desirable or favourable experience of failure. Based on the results of this study, I argue that what makes failure desirable is not solely the game mechanics that trigger it, but the various contexts in which this failure unfolds, and what additional layer of interpretation and experience it provides the player with for further elaboration. Most crucially, players themselves are keenly aware of those contexts, and account for them when recounting their own experiences of failing in games, making it a highly reflexive experience both in play and post-play.

Within the broader context of this thesis, this chapter makes an empirical contribution by taking the focus away from specific game mechanics under scrutiny when examining player experiences of failure (player deaths, respawns, churn...), and re-situates failure as an experiential phenomenon, rich and multi-faceted, that opens up a broad diversity of avenues of reflection to explore when designing or studying this particular aspect of play. It provides insight into what players may value in the experience of failure, and the numerous contexts in which failure, when leveraged to the player's advantage, may turn into a positive, desirable experience to include in a game.

Designers perspectives

Having, in the previous chapter, explored the complex relationships players can have to the idea and experience of failure, the mirroring question it raises is that of the games they play, and the creators engineering those experiences through game design. The perspective of game designers is instrumental in understanding why failure exists in video games at all, in the rich and varied forms that it does, and the reasoning behind this existence. Video games are not created from a vacuum, but are the product of careful and deliberate design decisions: reflection, assumptions, ideation, iterations, and often, compromises. Thus, it is crucial, when looking into failure, to account for the voices of game designers to understand the contexts in which failure is implemented, just as the previous chapter has explored the contexts in which failure is experienced. By doing so, this research contextualises the experience of players in the production and design process in which these

experiences were imagined and engineered, and furthers our understanding of games as a whole.

This chapter offers an in-depth, empirical, exploratory approach, by way of a series of interviews with game designers that specifically worked on titles identified as relevant and pertinent to the question of failure by past research and my own gaming experiences. This chapter thus provides a corpus of relevant texts where failure is an integral part of the game's experience, and a very granular exploration of the challenges and thinking that led to the games in question being what they are, offering the experiences of failure that they do. In other words, this research identifies the challenges those game designers faced when addressing this particular aspect of a game, and some solutions these designers in particular have found in their own practice.

In the context of the present thesis, this study was a necessary step in identifying what points of friction they may encounter in the game design process, what they may struggle with, and where a possible point of intervention would be most useful. The scope for intervention, iteration, and for implementing changes in a existing design varies dramatically depending on the phase of development a game designer is in: the earlier stages of development leave more space to experiment with radically different ideas, before anything is set in stone and too many resources are invested in a single idea, whereas changes implemented towards the end of development may involve more fine-tuning and balancing efforts. Both approaches, and a number of others, would be relevant to the question of failure, but one of the goals of this research, by exploring specific design processes in detail, was to gain insight into where key moments of decision-making happen, where difficulties

arise, and where designers have the opportunity to actually determine and create those experiences for their future players.

The interviews conducted for this chapter provided an in-depth examination of the games selected for this study, and rich post-mortem reflections around the challenges and opportunities of designing experiences of failure in both critically and commercially successful games, where failure was identified, both by myself and the designers interviews, as a particular point of interest in the design process. Specifically, those themes were organised into two overarching categories:

- The high-level considerations participants had to account for when designing failure, namely the constraints they had to work with, around, or overcome, and the issues they faced when tackling this specific design challenge. What makes failure difficult, tricky, or complex to address and design for, was the crux of this chapter, as identifying those points of friction in the design process allowed for a more thorough understanding of why failure looks the way it does in the games discussed in this chapter. Those points of friction were, namely, the dogma of failure that persists in the game industry and games audiences (the notion that games must have some form of failure in them to qualify as games, or fun, etc), which restricts designers' creativity if followed too strictly; design vision and production conditions, wherein participants described the difficulty of trying to reconcile the very material constraints they sometimes had to work with in the context of production while adhering to their design intentions; and the creative challenge of coming up with new, innovative ways of addressing the notion of failure

in their games.

- The low-level decisions participants made to resolve these conflicts or innovate around them. Those solutions included using narrative to frame failure into context, integrating it into the game world as much as possible and blending it into the full player experience, gameplay loop, and story; creating meaningful experiences of failure, wherein, relatedly, designers sought to justify the presence of failure in their games to give it a meaningful purpose rather than a presence by default; and ensuring the player understands, and has the tools to contextualise failure in the game, understand what it does, and how it contributes to their overall game experience.

Throughout this series of interviews, one of the key take-aways established a direct parallel with the previous chapter, and between the player experience and the design process: context is key to defining the appropriate approach to failure, and to navigating the intended player experience against the core pillars of the game in development, and the material and logistical constraints of game development. This is true for game development as a whole, but this research confirms that the specific case of failure also holds true to this statement. Failure is not a universal experience or phenomenon for players, and neither is it a universal experience or phenomenon for game designers. Considering the richness and complexity of individual scenarios, studios, and production contexts, one can question whether a blueprint for designing successful experiences of failure is possible or desirable at all - or whether each of these decisions is highly context-dependent and something that works in one game will prove detrimental to another, even if they belong

to the same genre or draw from the same inspirations.

This chapter's contribution to the overall thesis and research question is that it provides tried and tested, successful examples of design strategies that game developers and designers have iterated, developed, and implemented into their own games. It complements the perspectives of players explored in Chapter 4 by offering reflexive analysis of real experiences, that can serve as examples of good practice at a minimum, while contextualising these examples and providing in-depth insight into the various factors that players into the decisions the interviewees made during the design process of their games. Looking to the other side of the player experience, this chapter provided insight into the limitations game designers may encounter when designing specifically around the idea of failure, limitations that include, but are not limited to, target audience and genre. It also identified possible avenues of design that do offer a solid ground to experiment with failure and identify the type of failure, or form of failure, a game could include in its gameplay. In other words, this chapter makes an empirical contribution to the corpus of games research and outlines strategies and caveats to designing the type of player experiences discussed in the previous chapter.

It is worth highlighting again that the participants in this study primarily came from independent game studios or were independent practitioners. There is an important distinction to consider between more commercial games and games that have more freedom to artistically experiment. Cole, Cairns and Gillies point out a distinction between those two models down to the form challenge can take: according to them, commercial games, and indeed a majority of games, are more focused on functional challenge (player

input, actions, performance, etc), whereas what they call ‘avant-garde’ games “present the player with an ‘emotional challenge’ that is overcome not with skill and dexterity, but with a cognitive effort not dissimilar to Schopenhauer’s notion of the aesthetic experience of the sublime” [35]. In other words, mechanical skill is not what matters, but the player’s ability to approach and engage with “the resolution of tension within the narrative, emotional exploration of ambiguities within the diegesis, or identification with characters” [35]. This distinction drawn between avant-garde games and other, more mainstream games in both their mode of production and the gameplay implemented, was reflected in the participants’ accounts of their own ideas when approaching the question of failure; thus making the designers’ perspectives and constraints inseparable from the resulting player experience.

To understand video games and the multitude of layers of experience that they offer, examining the perspectives of the people who make games, and the craft of game design itself, should not be overlooked, as such research informs and contextualises those experiences and the players who are often at the center of games research. As film studies have expanded to extend from the viewer experience and spectatorship to analyse films in the multiple contexts surrounding their production, so too do multiple perspectives enrich our understanding of games.

8.0.2 RQ 2 and 3: How can we reconcile player and designer perspectives to broaden our understanding of failure in video games? How can we approach the design of positive experiences of failure, or failures suited to the intended player experience?

Research through design and the design of the Game (Not) Over toolkit

Because failure can be a complex and highly subjective experience, it can be, as demonstrated in Chapter 5, a difficult area to design for in the game design process. With Chapter 4 and 5 focusing on unpacking what contributes to making failure so layered and multi-dimensional, Chapter 6 focused on examining potential ways of facilitating this reflection around failure in the design process itself. Leveraging the results of the research outlined in chapters 4 and 5 as well as the findings of the literature review, I sought to explore how this knowledge base can be expanded upon to help game designers better achieve their design visions in this particular area of gameplay - since failure is a complex design challenge to address. Because the design of failure is a design problem, I sought a design solution to it, by creating a cards-based design toolkit centered entirely around game design and the experience of failure within its remit.

Aligning with the complexity of subjective experiences of failure, the process of designing this game design toolkit, of performing research through the process of design, and for the process of design, was a highly reflexive

one. While game design support tools do exist in (game) design research, there are few toolkits thought out to explore one very specific aspect of the player experience and address it in the design process. My design process, as a result, was very exploratory and combined the creative process of designing a tool, and the academic reflection necessary to account for this design process, the merging of research into this process, and reporting and justifying every decision made in the making of this toolkit.

The process of designing the toolkit constitutes a valuable research contribution on several levels. Pertaining to the experience of failure and game design itself, the process of creating the toolkit further highlighted and reinforced the findings of Chapters 4 and 5, but also allowed for an expansion of those findings. Where reflexive thematic analysis was an invaluable tool to identify areas of interest and key themes to better understand player and designer perspectives, making the toolkit meant revisiting those themes and unpacking them further into smaller, more digestible nodes with the express purpose of being legible and actionable during the design process. In other words, designing the toolkit equated to a critical re-analysis of previous results with an explicit focus on understanding what specific points of the design process these learnings can intervene at and support. The process of making the toolkit thus provided insight into the process of designing such toolkits so they serve the appropriate intended purpose, and into the process of game design itself - insights that were only generated because of this process of reflection, iteration, and creation, hence, the contribution of this research to research through design. Furthermore, since the toolkit aims at supporting the game design process and game designers, it also contributes

to the area of research for design.

Therefore, while the toolkit itself is a contribution, the result of careful and deliberate design process, Chapter 6 and its account of the design process of the toolkit is the other contribution of this particular section of this thesis.

This chapter:

- Accounts for the process of integrated prior research into the content of the toolkit, informing both its form and content, by delivering a careful account of how I returned to the themes generated in chapter 4 and 5 and used them as a basis to inform the purpose, scope, and format of the resulting toolkit.
- Accounts for the process of using that research to decide on the format of the toolkit, linking the particular format of themes created through thematic analysis with the similar format of game design patterns, thus establishing a clear connection between research output and design decisions. The themes resulting from reflexive thematic analysis lent themselves particularly well for a toolkit inspired by design patterns: thus, the idea of a cards-based toolkit was justified by the research and content informing it.
- Accounts for the process of determining the scope and purpose of the toolkit within the game design process. Game design is a multi-step process going from ideation to creating a final product after multiple rounds of iteration, prototyping, testing, etc. Ideating for the creation of this toolkit, and testing multiple prototypes with different foci and scopes, was a highly valuable process in identifying what would suit this

particular project focusing on positive interpretations and experiences of failure best - which resulted in the earlier stages of game design being identified as the most productive point of intervention for the toolkit, and for its contribution to the design process to be more reflexive than didactic.

- Accounts for the process of creating the cards themselves and iterating on their format and content through iterative testing and making, accounting for the material reality of a physical vs and online deck of cards, the experience of users in the process of using the toolkit, and matching the intended purpose of the toolkit from the start of its development.
- Lastly, this chapter accounts for my personal insights and the decisions I made in the creative process of designing this toolkit. While the design process was indeed richly informed by prior research, my own creative intent, expression, and experience, also informed its design, as a researcher, a designer, and a video games player. Other researchers and designers could have gone through the same process and created a different toolkit. Those personal reflections and perspectives are included to transparently demonstrate where those creative decisions occurred and how they work concurrently and in tandem with the scientific process dictating the research behind this thesis.

I now want to highlight that creating a game design toolkit is only one way of answering the ‘how’ in this chapter’s research question: how to reconcile player and designer perspectives, and how to approach the design of failure in

video games. Other researchers with other specialties, methods and research interests may identify yet other approaches to follow a similar line of inquiry. For the purpose of this thesis, creating the toolkit was the most suitable method to follow: through its creation, I was able to account for an in-depth, detailed, reflexive exploration of the process of creating such a tool for the specific purpose of designing failure into video games, the challenges that arose during its creation, and the considerations that went into creating it in the shape it currently exists as.

As an endeavour into design inquiry and a proposed solution to the question of designing failure in video games, a toolkit is a creation that fits into the creative design process and addresses, to a degree, the ‘fuzziness’ and at times chaotic nature of this process. Dalsgaard, in his description of creative design and its problems, thus summarises this fuzzy, exploratory nature:

“Due to the complex nature of most creative design projects, it is rare that they are resolved in a straightforward manner. Often, the resolution of a problematic situation is an ongoing, iterative process that cycles between problem framing and articulation, hypothesis generation and practical evaluation. Addressing one component of the situation may cause other components to change in unforeseen ways, necessitating a reformulation and reframing of the problem, which in turn leads designers to conceive of new solutions” [44].

This description of the design process, incidentally, very aptly describes both the process of designing the Game (Not) Over toolkit, and the process of game design. Insofar as designing experiences of failure in video games is concerned, the chapter investigating game designers’ perspectives had al-

ready pointed out this very iterative nature: a toolkit, because of its flexible nature, supports this iterative process by being a tool of intervention that can be used with every new iteration, and support this necessary reformulation, the reframing of the problem, and the ideation of new solutions. Its contents were also designed to feed into and support that process, with question cards encouraging users to re-think common assumptions or suggested lines of thoughts. Thus, the Game (Not) Over toolkit constitutes a contribution to both inquiry into game design, and game design as practice.

I also would like to highlight, once again, how invaluable industry contributions have been in this process, both before the creation of the toolkit to inform the research shaping it, and after, to make further investigation into the applications of the toolkit and failure itself. As Sanders points out, “there is a growing awareness that different types of research and different types of research expertise are needed at the various points along the design development process. It has become apparent that the skills needed at the generative end are not always possessed by practitioners who have traditional research backgrounds” [143]. Having some, but limited experience as a game designer, it was paramount for my research that I understand more clearly how more experienced game designers have addressed the challenge of designing for failure in their own games, and that once the toolkit would be designed, I investigate how other experienced game designers use it and evaluate it - both to evaluate the effectiveness of the toolkit itself, and to uncover new knowledge around the design of failure enabled by the combination of the toolkit and the participants’ expertise.

In turn, this project has been a valuable learning experience for me as

a designer. While there are many ways of designing toolkits such as the Game (Not) Over toolkit, I was particularly interested in finding a format that would foster creativity and reflexivity first and foremost. Using my own research as base material for this toolkit was a fascinating exercise in aiming for this result. While my two first research projects had produced empirical research results, that is to say, knowledge and information, creating the toolkit took me on a process to deconstruct this knowledge and present it to my intended audience in the form of questions and suggestions rather than guidelines. This exercise was more complex than simply re-phrasing the themes I had constructed during Reflexive Thematic Analysis, and encouraged me to be keenly aware of how I was revisiting those themes, dividing them further, and turning them from research outcomes into a means or conduit instead. In order to do so, I learnt, or re-learnt, to think both as the designer of this toolkit and as a game designer. Pulling from my experience with game jams, and throughout the iteration process of the different prototypes, a key learning for me was the importance of finding a way to shape this toolkit in a way that would prioritise the voice of its users, and that indeed, a degree of creativity in how to rephrase and present my own research was not only desirable, but necessary in order to achieve this purpose. As a researcher, the purpose of the methods I employed were to find answers to my research questions. As a designer for research, I learnt that shifting the paradigm to asking questions, highlighting the 'fuzzy' areas of game design, and allowing creativity to nourish this process, allowed me to explore failure in games under a different light - and that finding those 'fuzzy' areas was just as valuable as finding answers to questions.

Evaluating and reflecting on the experience of using the game design toolkit with game developers during a game design workshop: lessons and conclusions on designing failure

Chapter 7 accounts for the final study of this thesis, acting as a culmination of the three prior research projects. Having examined the question of failure from the point of view of players, game designers, and designed a toolkit to explore this question further through the lens of design, chapter 7 concludes with a workshop study during which game designers used the toolkit in a dedicated design workshop. By having the opportunity to observe game designers engage with the toolkit and with the question of failure in game design, this final study garnered invaluable insight into the process of designing failure, using the toolkit as a way of zeroing onto this particular focus. Particularly, I argue that this method offered close insight into the design process and in situ reflections that may not have readily been accessible in post-mortem interviews. Through this workshop and design exercise, game designers who were at various stages of development in their games, were able to provide a window for a close examination of how they approach the question of failure, in a moment-to-moment research approach. All participants in this study were at various stages of development, albeit mostly in the early stages of their process, or were at the very least in a place where they expressed a want, or a need for their game, to revisit the question of failure - with a desire to use the toolkit and experiment with it to see for themselves what insights it would help them generate.

The workshops demonstrated that the toolkit yields encouraging results as far as meeting its design intentions go, but for the remit of this thesis, this

study constitutes a two-part contribution. The first contribution addresses the question of failure itself, thus being of a more empirical nature, while the second contribution examines the game design process through the lens of the toolkit as a design method, thus making it a design-focused contribution concluding a long reflection around game design methods.

On the question of failure, this study provides additional evidence that failure, both in its design and experience, is highly contextual, and that a very wide range of questions can dictate the shape and form it will or can take in a game - even its very presence in a game easily comes into question once designers start questioning whether it is ‘needed’ or a distraction from the rest of the gameplay. And even then, what kind of failure would be distracting players from the rest of the gameplay, is a separate question entirely. Accounting for all these complexities is difficult juggling game for game designers, who find themselves in the position of having to anticipating the many ripples their decisions on failure will have on the rest of the game, and of having to compromise in many places. The challenge, for them, then becomes determining where to make those compromises, and how to navigate those many knock-on effects, without sacrificing their design intent.

This study provides a detailed account of the process of using a design toolkit such as the one designed in Chapter 6 and used in this final study, both for the purposes of game design and the purposes of research. It constitutes close and granular insights into the advantages and limitations of using the Game (Not) Over toolkit to support the game design process specifically when addressing the question of failure, and into the detail of the discussions, themes, and questions that arose for game designers at this particular stage

of development, when prompted to address this particular question by the toolkit.

Crucially, the way participants engaged with the toolkit reflected broader game design approaches as a whole, and allowed participants to zero in on failure. Those constituted the body of the results:

- Discussion and contextualisation, wherein participants, prompted by the toolkit, reflected and drew from relevant knowledge and experiences (other games that they have played, other games that they have made, and how these tackled the concept of failure), and re-explored their design goals and aspirations (re-framing them under the specific lens of failure).
- Ideation and reflection, wherein participants, prompted by the toolkit, generated and discussed new ideas for their games projects, and crucially evaluated them against their design goals and game pillars (did their new ideas for failure fit or go against their initial design intentions, and if against, what needed to be adjusted?), as well as offered insight into the advantages and drawbacks of the toolkit in its role as a design support tool.

In other words, this chapter constitutes a two-way contribution to game design knowledge and scholarship: it provides insight into the benefits and limitations of the Game (Not) Over toolkit as a design tool, the benefits and limitations of using a design tool as a design method for this particular research into failure in games, and insight into the design of failure itself through an actual game design workshop.

8.1 Implications and opportunities

Having reviewed the contributions of this thesis to games scholarship, I now expand on these contributions to explore their implications for games, game design, player experience, and how the present research helps reframe and refine our understanding of failure in video games. Failure, as demonstrated throughout this thesis, is a complex and fascinating experience, especially when we start looking into the questions it raises beyond the quantifiable measure of whether a player has solved a puzzle, beaten a boss or level, or completed a game. This final section explores what those uncovered areas suggest for failure in games.

8.1.1 Player agency, control and disruption

First and foremost, we have established that failure is a deeply personal, contextual experience for many players. Video games set themselves apart from other forms of entertainment media in that their interactivity lets players have a degree of input into the narrative, if only by requiring the player to take actions in order to complete the game. While there has been criticism in the space of narrative-driven games for choices and failure sometimes being perceived as meaningless and inconsequential (ex: the Telltale games [144]), I propose that no matter the shape the narrative of the game follows, be it traditional (passively observed by the audience), user-driven (outcomes are predetermined but triggered by player input) or user-created (generated by the player themselves, for example in life simulations), the subjective interpretation of failure remains. Even if the game places a particular meaning onto failure via the game design and mechanics, such as punishment for fail-

ing to beat a boss, or heartbreak as a beloved character dies, players will always, to an individual degree, layer their own personal interpretation of what that failure means for them and their experience of the game. Herein lies, perhaps, an interesting reconciliation between ludology and narratology, which in games scholarship have been at odds with one another [55]. Failure is experienced both at a ludological and narrative level, with both players overlapping with and complementing one another, sometimes creating frictions (good and bad) when they fail to align, sometimes working together and enhancing one another.

This, arguably, contributes to the establishment, delivery, and experience of emotional challenges as defined by Cole, Cairns and Gillies [35] previously mentioned. Challenge often, if not always, implies the presence of the possibility of failure, and the way failure is framed within this challenge helps frame the challenge itself (how consequential or inconsequential will failure be, will there be a second chance, will there be consequences outside of the challenge, etc). Cole and colleagues argue that in emotional challenges (and, I argue, in failure involved in emotional challenges), “what matters here is the intensity, novelty and quality of the emotional experience on offer, rather than length or replayability”, and that the emotions following such a challenge are much more nuanced and diverse than they are following a functional challenge [35]. Emotional challenges involve a “cognitive effort to deal with challenging material or comprehend ambiguous elements of the diegesis” [35], a concept echoed in Bopp et al’s investigation of positive negative experiences in games [20] where failure has been mentioned as part of this emotional experience, but never investigated as a self-standing element

of inquiry. Throughout this thesis, I have endeavoured to re-situate failure as a key component of such experiences by examining player experiences of failure in games, and by investigating the challenges and affordances game designers face when trying to explore those same ideas.

As participants, players and designers alike, have stated throughout each study, failure is a disruptor: it is a component of games that gets in the player's way, and by doing so, can trigger powerful experiences. In their research into discomfort in games, Gowler and Iacovides identify several scenarios which create discomfort for players: "uncertainty in high pressure environments (creating anxiety and fear); when things do not go as planned (leading to frustration and feeling foolish); being provided with much responsibility but limited choices (creating anxiety and guilt), the tragedy of losing an in-game character (resulting in sadness and helplessness) and unwanted exposure to disturbing themes (leading to disgust and nausea)" [75]. Out of these five scenarios, three can be very explicitly related to failure: things not going as the player had planned (and possibly thwarting their plans and leading them to fail), limited choices limiting the player's ability to successfully respond to a situation (once again, potentially leading to failure), and the tragedy of losing an in-game character (after players failed to rescue them). This discomfort related to failure, the authors point out, is highlighted by their participants as adding to their overall experience [75]. In these spaces of disruption, as evidenced in Chapter 4 the player is pushed into a corner and made to reflect on their gameplay, the game as a whole, the narrative, and their own approach to failure, games, and discomfort. This favours the benefits of emotional challenges as outlined by Cole, Cairns and Gillies: "by

leaving space for the player to think and contemplate — unburdened by the requirements of completing functional challenges, the player is better able to emotionally invest, and subsequently receive a greater emotional return, in the diegesis.” [35]. By extension, then, failure is a powerful trigger and catalyst for such subjective and deeply emotional experiences.

This is particularly important when, in video games, one of the most common trope associated with failure is character death, in particular player character death: Mario and many other characters lose ‘lives’ and respawn as though it were nothing (and in video games logic, it is nothing). Death is trivialised - until it is turned into a spectacle, an experience, or an alternative to player character death is found, such as alternative failure scenarios [158]. But, failure, as outlined above and throughout this thesis, can be leveraged to disrupt this status quo, and to call attention to difficult story themes and how a game’s structure and design feed into them. Wysocki perhaps points this out best with a poignant example from *Bioshock*, where one of the franchise’s key plot twists spins failure and success around when the game reveals that the player character has been psychically controlled whenever another character would use the phrase “would you kindly?”. “Would you kindly...?” and the reveal of this simple, repeated phrase turning out not to be us, as players, accepting a task, but us being forced into them by way of mind control, re-contextualises every completed task we would functionally have considered successes, and re-frames them as failure to break away from the mind control and exercise our free will [168].

Lastly, this interrelation between control, agency, and failure, brings about critical points of discussion - and design opportunities - around the

larger question of the position of the player within the games they play. Traditionally, players are at the center of the game they play: they are the ones making informed decisions that will influence how the story unfolds and how the game world will be changed as a result. By using failure to disrupt this control, games can shift the focus away from a player-centric experience, and give rise to new, fascinating experiences. Queer games in particular have been exploring this shift in focus and questioning the power dynamic between player and games: Gati gives the example of goal-less and rewards-less games, where players are deliberately left in the dark about what they are supposed to do, encouraging players to question and tentatively define what it is that they want from a game (Gati uses the example of *Rustle Your Leaves To Me Softly*, a game that does not reward the player for interacting with a plant), and to shift their focus onto what it is that they interact with [70]. This lack of feedback and of success or failure states puts players in a "humble" position, wherein the focus is not their gratification, but something else entirely, defined in the space between the player and the game - thus questioning and challenging the very self-centered approach of more traditional game design. While Gati here specifically discusses a game or experience that shares similarities with dating simulators (with traditional dating sims very much focusing on rewarding the player and gratifying their romantic inclinations, using the characters in the games as ploys to achieve this goal often without fail), there are many ways in which the same idea could be explored to challenge how we define the player's position within a game. Queering games, Gati explains, disrupts in order to redefine and celebrate alternative ways of playing, as follows: "playing with one's own

vulnerability achieves its own, queer and compelling, joy. But this is not the joy of mastery, amorous consummation, or triumph: it is the queer pleasure of playfulness that risks the self to imagine new forms of being with Others” [70].

By providing game designers with a tool and guidance to question, reframe, and redefine the status quo on failure in games, the Game (Not) Over toolkit embraces these possibilities, and encourages such innovations - while leaving it to game designers to define what this means for them and their design practice.

8.1.2 Leveraging the power of failure: strategies

Cole and Gillies, to address the complexities of the player experiences described above, propose to describe player agency in terms of “what the player can think (interpretive) versus what the player can do (actual) and for whether an action affects the narrative and characters of the game (fictional) versus the actions of the player themselves (mechanical)” [36]. Adding this interpretative layer to the player experience to complement its mechanical layer indeed, as we have concluded, also opens up our understanding of failure. In fact, I argue that this interpretative layer lies at the core of this thesis, emphasising that players will always bring in their own subjective interpretations of failure, and game designers can use this to their advantage. There are a number of ways game design already leverages this interpretative, subjective, emotional layer of the player experience; and game design can use the same means to leverage the power of failure too.

Video games are vehicles for ideas and meaning. Returning to Bogost’s

conceptualisation of persuasive games, namely games that use their procedural rhetoric capabilities to persuade (for instance, games vehiculating certain world views through the rules that make them up), Bogost even argues for the existence of a “rhetoric of failure” [19]. Video games that use the rhetoric of failure, Bogost argues, are different from unwinnable games or forced failure. Instead, the rhetoric of failure does not force players into inevitable loss, but implements failure in such a way that it draws the player’s attention to it and instrumentalises failure as a way to demonstrate how systems can break down. Citing *Kabul Kaboom* and *New York Defender* as examples, he says “the actions necessary to play the games do not themselves produce failure. Rather, the inevitable breakdown of player attention or reflexes causes it” [19] - in other words, the games are not unwinnable by nature, but the player, being human and unable to sustain endless accuracy and attention, will inevitably slip and cause the fragile gameplay loop to spiral and collapse into total failure, offering a commentary on the endless, unsustainable escalation of conflict and war. These examples interestingly contrast with Ferrara’s guidelines for designing persuasive games, where he recommends tying “the message to strategy” and making “the core message the secret to winning” [60]. Here, the core message lies in the looming threat of failure - the player’s failure to overcome their very human limitations, pitted against a merciless system that resists their attempts at retaking control of the situation.

This merciless and unforgiving system, however, can cause players to “proceed from the level of negotiation to cognitive interaction with the game’s puzzling design” [108]. In other words, it can incite players to take a step back

and elevate the player experience from the conflict itself to a broader reflection. Lee argues that “this recognition emancipates the game from the claw of win-lose logic, turning the game (*ludus*) of motor action to play (*paidia*) of cognitive exploration, wherein in the form and the political message echo each other, fashioning the game space into a think space” [108], failure in games can cause players to break away from the gameloop itself and prompt a more in-depth reflection around the game, or the topics surrounding it. Chapter 4 demonstrated that such moments of reflection and disruption can be valuable, memorable, desirable experiences for players.

There are many approaches game designers and scholars can take to investigate this notion further. A strand of games scholarship proposes that games are akin to thought experiments, with the case of games featuring moral choices being particularly potent in this discussion [125]. Telltale Games’ gameplay revolves primarily around dialogue options and moral choices, with the looming message that other characters “will remember this” implying that each choice will have severe consequences; despite this promise however, the games have often been criticised for actually lacking true consequences to player actions [144]. Sarian argues that instead of rendering those choices meaningless, those choices operate like thought experiments: their value resides not in the consequences of the choices, but of the experience of thinking about and going through those choices itself. “When a reflective choice presents a dilemma with narrative ambiguity, but no ludic consequences, it expresses meaning in a way similar to that by which thought experiments communicate with their readers. Although not an interactive form of narrative, the thought experiment commonly presents readers with a choice, before

encouraging them to consider how they would respond. Consequences exist metaphorically, and are implied by the thought experiment itself. The focus, then, is not on trying to achieve a certain ludic outcome, but on trying to understand the dilemma posed by the thought experiment” [144]. In other words, the value of choices such as the ones presented in the Telltale games lies in the process of choosing itself, in the player contemplating their own priorities, what they are willing to do in this situation to secure success and avoid failure, and what success or failure may even mean in the drastic situations presented to them. Simultaneously, failure and the threat of it, matters tremendously - and doesn’t.

Citing Janet Murray, Stang describes player agency as “the satisfying power to take meaningful action and see the results of our decisions and choices” [153]. A common criticism of Telltale games is that they rob players of this satisfaction, by having the same story outcome regardless of what players actually intended when they made certain choices. Failure, or rather, the inconsequence of failure, becomes a tool for a “self-reflexive critique of agency” [153] wherein failure highlights the ‘illusory’ agency players believe they have when engaging in video games. However, what players may lack in agency in the gameplay outcomes themselves, Stang argues, they reclaim with their own independent, subjective power of interpretation: “Although it has become clear that the kind of ‘agency’ that videogames afford players is illusory, the agency enacted by players as they interpret the game text cannot be overlooked” [153]. In other words, when failure and success are designed in ways that favour it, players’ interpretative abilities can be leveraged; and can completely reframe and reinterpret what failure even means for games.

Going one step further than unwinnable games do, abusive game design is, according to Wilson and Sicart, a particular game design approach aiming at “[challenging] conventions of normative game design” and “creating a dialogue between designer and player” [166]. Abusive game design, they say, achieves this by derailing the player’s expectations of the game (much to the frustration of the player, hence, the name of the practice) and forcing them to consider the intentions of the designer behind the game - why is the game designed the way it is, and why is the designer doing this to me? Instead of catering to the player’s expectations and, arguably, giving them a fair chance at success or failure, game designers making such games retake power and agency from the player’s hands, deliberately avoid designing a game that caters to the player experience, and “gleefully [shove] it in the player’s face” [166]. Games don’t typically taunt players or deliberately disrupt their experience to the point of being almost unplayable - instead, games make themselves and their systems invisible, hiding the authoritative voice of the system behind the illusion of player agency previously discussed. Abusive game design, then, exposes this hypocrisy by brutally disrupting the player experience. “Abusive game design builds on moments of hesitation, cracks in the seamless experience of play, in which the player needs to establish a personal connection with a designer in order to understand the activity of play” [166]; in other words, abusive game design voluntarily pushes players out of their comfort zone to force them to question why they are engaging with the game at all - and what the game even means to begin with. Expanding on prior reflections on the disruptive power of failure, I want to argue that it can be a very powerful tool to create such experiences, if such is the

designer's intentions. Indeed, according to Wilson and Sicart, "the trick is to push players right up to the breaking point, but not beyond" [166] - failure, then, could arguably be leveraged as a formidable tool for torment, leading to powerful emotional and cognitive experiences.

8.1.3 The toolkit: unlocking potential

Rothschild et al, perhaps, best formulated this conceptualisation of player experience by arguing that control is "an interplay of designed experiences and player projection" [136] - through this interplay, meaning is generated, and the player interprets their own experience within the game. This holds true for the particular element of play that is failure, too - and the Game (Not) Over toolkit now constitutes a way for 1. Game designers to leverage that interplay, 2. Game scholars to investigate it.

The approach to design that the toolkit encourages by making statements and asking users to question, reframe, and dispute them, in a bid to deconstruct established ideas of failure and come up with ideas better fitted for their games, was in part inspired by queer theory - and it is my hope that this research can make a contribution the queering of failure in games. Jess Marcotte pointedly highlights that "critiques from intersectional feminist and queer game studies about game design best practices in the industry often focus on the status quo, [...] and that this status quo is, by default, violent, misogynistic, and exclusionary on many levels." [115]]. Failure in games, as Ruberg also points out, contributes to this status quo, by playing into systems that are inherently violent, exclusionary, heterocentric and capitalistic [138]. However, Khaled, like Benford et al and Gower and Iacovides,

highlights the potential of discomfort for reflection: "Reflection is triggered when we are not strictly comfortable, when our assumptions are thrown into question and when we are confronted by situations that challenge our status quo" [98]. We have established that failure can be a powerful tool for creating discomfort in play - it follows then, that failure can be a powerful tool for the self-reflexivity advocated for by queer game theorists. As Marcotte further expands: "Players are used to being catered to and to being in control: being able to reload, reset and try again with few consequences. The possibility of glitches in technology can be usefully integrated into our toolkit for queering control and controllers, as glitches create emergent possibility spaces from errors. This technological failure recalls Halberstam's thoughts on queer failure, in that failure can offer creative and surprising ways of being in the world (2011)." [115].

However, in order to create such disruptive experiences, or simply to innovate with failure, game designers need to become aware of their own assumptions and understanding of failure and video games - of the status quo and how failure feeds into that status quo. Just like queer games or queer readings of games bring to light and deconstruct established conventions in games, the toolkit aims at offering (and being) a way of deconstructing failure and its role in games. Marcotte encourages queer designers to engage with this question, as "resisting the urge to design a solvable problem and to give the players more agency disrupts normative play (and the comfort that comes with that)" [115]. By disruptive normative play, Marcotte, Khaled, and Ruberg argue, game designers can expose the underlying norms, conventions, and unspoken rules of gaming - rules that can often be more exclusionary

than they appear, or close off opportunities for creativity. In *The Queer Art of Failure*, Jack Halberstam argues that "under certain circumstances failing, losing, forgetting, unmaking, undoing, unbecoming, not knowing may in fact offer more creative, more cooperative, more surprising ways of being in the world" [78]. In other words, allowing for these experiences (including failure) that, in more mainstream game design, are either not allowed or strongly discouraged, can foster innovation and inclusivity, by welcoming new experiences, and new ways of playing, that would otherwise be dismissed.

This bid for including experiences otherwise dismissed or treated as 'others' is echoed in the crip technoscience movement. Crip technoscience is a movement born from the intersection between feminist and disabled approaches to technology, and actively question, reinvents, and confronts the status quo in technology: who it is designed for, by who, and the political implications of such decisions. Crip technoscience is notably concerned with putting disabled people at the heart of technology design, not only as receptacles of accessibility technology often designed by able-bodied engineers, but by having disabled engineers and designers at the very heart of the creation process, and accounting for the various ways disabled people modify, or "hack" every day technology to make it suit their own (and often dismissed) needs. Crip technoscience advocates and designs "for political action, refusing to comply with demands to cure, fix, or eliminate disability" [79], and therefore, like queer (game) design, routinely challenges, questions, and reinvents concepts such as control and mastery. Particularly relevant to the intersection with queer game design, "we agitate against independence and productivity as requirements for existence" [79] - in other words, just

like queer game design can reclaim failure as a device to protest notions of productivity being a mandate of games (the player has to accomplish something in order to play, continue to play, or finish a game), crip technoscience argues that being a productive, independent member of society does not and should not define personhood. Where accessible game design sometimes aims at 'erasing' disabilities or putting disabled players on 'the same level' as able-bodied players, crip technoscience asks that disabilities and disabled experiences be acknowledged, recognised, and celebrated for their own sake. In the context of game design, this connects to the priorities of queer gaming: including experiences that are surprising, often dismissed [116], but just as rich and brimming with potential.

The toolkit is one such way of doing so, highlighting shared understandings of failure, ways of addressing it, and asking designers to stop, reflect, and get out of their comfort zone for as long as the exercise lasts. It is perhaps no coincidence that, a year after participating in the workshop study, one participant reached out to ask for access to the toolkit for one of their projects - and that this participant happens to be a designer of queer games. As Juul pointed out: "It is easier to break the rules once you are aware of them" [93]

Concluding remarks

9.1 Conclusions

"Why can't I go live in the woods? Why do I have to be the hero?"

These two questions, asked to me by my younger sister (then 10 years old) as she begrudgingly handed me her Nintendo Switch so I could beat a boss for her in *The Legend of Zelda: Breath of the Wild*, poignantly summarise what has been one of my favourite gameplay dilemmas throughout this thesis. In an open world game like *Breath of the Wild*, why can't Link forfeit his mission and go live in the woods? Why does saving or rebuilding the world befall him, and by extension my sister, whose heroic instincts were prompt to wane in the face of repeated failure against a difficult boss?

Throughout my research, I have encountered many different kinds of reaction to failure. Players who get frustrated at the slightest sign of an obstacle in their path to success, players who patiently see it as a stepping stone to success, players who say they are not sore losers and like a challenge but would throw their computer out the window at the first opportunity, players who embrace failure and the chaos it can wreak on their experience. Nobody agrees on what failure is, but everyone has experience with it - deeply personal, individual experiences nourished by personal circumstances, prefer-

ences, philosophies and personalities. I myself admit to not being very good at putting up with failure in general, but finding tremendous fun in it when a game affords me the space to do so. I was never able to play more than half an hour of *Getting Over It With Bennett Foddy*, but before writing up this section, I played a game of *Viticulture* with my roommates. They were so ahead of me, I stopped trying to win, and instead started building an absurd wine museum with unreasonable quantities of wine bottles in my cellar I couldn't use to complete wine orders to catch up with them, and embracing an alternative gameplay of my own. I was able to do so because the game afforded me the space to, instead of punishing me for lagging behind (although a more victory-oriented player could probably have concluded to an unbalanced endgame and been more frustrated than I got with my made-up wine museum).

Failure is a strange beast in video games - both for players and for game designers. With this research, I hope to have been able to shed some light on this odd, shape-shifting creature that no two people really seem to see the same. I hope this work will encourage researchers to embrace the diversity of experiences it evokes, and designers to find their way around the chaos and make it make sense for their own games. I have not found a magic formula to design the perfect experience of failure, but I hope I have provided interesting insights and tools for others to disentangle what that concept might mean for them, whatever their research, design, or gameplay goals may be. Failure can be frustrating, inspiring, funny, or heartbreaking, and a hundred other nuances in-between. It does not need to exist in every game, but where it does, in whatever shape or form, it has the potential for being a remarkable,

devastating tool to upend the player's experience or elevate it. Or, if it serves the game design, to do nothing remarkable at all. The decision lies entirely in the hands of the designers who make the games we play, and in the interpretation of the players who will get to experience it.

Appendices



Appendix A: Ludography

- *80 Days* (2015), Inkle Studios
- *Alice: Madness Returns* (2011), Spicy Horse Games
- *Alien: Isolation* (2014), Creative Assembly
- *All Walls Must Fall* (2018), inbetweenegames
- *Animal Crossing: New Horizons* (2020), Nintendo
- *Anytown* (in development), Binary Zero
- *Before I Forget* (2020), 3-Fold Games
- *Bioshock* (2007), 2K
- *Bird of Passage* (2019), SpaceBackyard
- *Call of Duty: Modern Warfare 2* (2009), Infinity Ward
- *Celeste* (2018), Maddy Makes Games
- *Crusader Kings 2* (2012), Paradox Interactive
- *Cuphead* (2017), Studio MDHR Corp
- *Dark Souls III* (2016), FromSoftware

- *Detroit: Become Human* (2020), Quantic Dreams
- *Disco Elysium* (2019), ZA/UM
- *Dream Defense* (2016), Altitude Games
- *Elden Ring* (2022), FromSoftware
- *Fallen London* (2009), Failbetter Games
- *Firewatch* (2016), Campo Santo
- *Frostpunk* (2018), 11-bit Studios
- *Getting Over It With Bennett Foddy* (2017), Bennett Foddy
- *Gods Will Be Watching* (2014), Deconstructeam
- *Gone Home* (2013), Fullbright
- *Hades* (2020), Supergiant Games
- *Heaven's Vault* (2019), Inkle Studios
- *Hollow Knight* (2017), Team Cherry
- *I Am Bread* (2015), Bossa Studios
- *Life Is Strange* (2015), DONTNOD Entertainment
- *Limbo* (2011), Playdead
- *Lords of the Fallen* (2014), CI Games and Deck 13
- *Metro Exodus* (2019), 4A Games

- *Monopoly* (1935), Parker Brothers
- *Minecraft* (2011), Mojang Studios
- *Orwell's Animal Farm* (2020), Nerial
- *Overboard!* (2021), Inkle Studio
- *Papers, Please* (2013), Lucas Pope
- *Pyre* (2017), Supergiant Games
- *Red Dead Redemption 2* (2019), Rockstar Games
- *Return of the Obra Dinn* (2018), Lucas Pope
- *Run Run Super V* (2015), Altitude Games
- *Shadow of the Colossus* (2005), Team Ico
- *Spec Ops: The Line* (2012), Yager Development
- *Sunless Sea* (2015), Failbetter Games
- *Sunless Skies* (2019), Failbetter Games
- *Surgeon Simulator* (2013), Bossa Studios
- *The Landlord's Game* (1904), Elizabeth Magie
- *The Legend of Zelda: Breath of the Wild* (2017), Nintendo
- *The Legend of Zelda: Ocarina of Time* (1998), Nintendo
- *The Long Dark* (2017), Hinterland Studio

- *The Red Strings Club* (2018), Deconstructeam
- *The Sims* (2000 - 2024), Maxis, Electronic Arts
- *The Stanley Parable* (2013), Galactic Cafe
- *This War of Mine* (2014), 11-bit Studios
- *Through the Darkest of Times* (2020), Paintbucket Games
- *Totem Teller* (in development), Grinning Pickle
- *Until Dawn* (2015), Supermassive Games
- *World of Warcraft* (2004), Blizzard Entertainment
- *X-COM* (1994 - 2024), MicroProse, Firaxis Games, 2K Games

Appendix B: Cards sorting during workshops

This Appendix expands on the workshops organisation and set up described in Chapter 7. Below are some examples of how the participants made use of the deck of cards and the tokens at their disposal.



Figure B.1: Example 1

This participant kept their prompt cards and question cards paired together, and used green tokens and red tokens to indicate that a pair of cards was useful/applicable to their game, or not useful/not applicable to their

game.



Figure B.2: Example 2

On the other hand, this participant did not use the tokens at all, and preferred to keep all their cards paired together and laid out on the board to keep track of topics already covered.



Figure B.3: Example 3

This participant used the space in on the board and the coloured tokens to organise the prompt cards based on usefulness (green for useful, orange for unsure, red for unhelpful/non-applicable), and added more tokens of the same colour to highlight prompts of particular interest. The prompt cards remained on the board, but they would put the question card to the side after exhausting it.



Figure B.4: Example 4

This participant kept their paired up cards together to track their brainstorming history, and used coloured tokens to signal their evaluation of each discussion: blue to signal an idea they are interested in exploring in future design sessions, green to signal ideas they agreed with or found interesting, orange to signal something they were unsure about or unsure how they would implement in their game (ex: the green-orange combination signalling an idea they liked, but did not know at the time how to approach from a design standpoint).

References

- [1] Espen Aarseth. Playing research: Methodological approaches to game analysis. In *Proceedings of the digital arts and culture conference*, pages 28–29. Melbourne Australia, 2003.
- [2] Espen Aarseth. Define real, moron! *Digarec series*, (6):50–69, 2011.
- [3] AbleGamers. ‘accessible player experiences (apx)’. <https://accessible.games/accessible-player-experiences/>. Accessed: 2024-08-31.
- [4] Lyn Y Abramson, Martin E Seligman, and John D Teasdale. Learned helplessness in humans: critique and reformulation. *Journal of abnormal psychology*, 87(1):49, 1978.
- [5] Christopher Alexander. *A pattern language: towns, buildings, construction*. Oxford university press, 2018.
- [6] Craig G Anderson. Hits, quits, and retries-player response to failure in a challenging video game. In *Proceedings of the 15th International Conference on the Foundations of Digital Games*, pages 1–7, 2020.
- [7] Craig G Anderson, Kathryn Campbell, and Constance Steinkuehler. Building persistence through failure: the role of challenge in video games. In *Proceedings of the 14th International Conference on the Foundations of Digital Games*, pages 1–6, 2019.
- [8] Craig G Anderson, Jen Dalsen, Vishesh Kumar, Matthew Berland, and Constance Steinkuehler. Failing up: How failure in a game environment promotes learning through discourse. *Thinking Skills and Creativity*, 30:135–144, 2018.

- [9] Angelo Maria Andriano. Enjoying the uncertainty. how dark souls performs incompleteness through narrative, level design and gameplay. *Games and Culture*, page 15554120241226837, 2024.
- [10] Batu Aytemiz and Adam M Smith. A diagnostic taxonomy of failure in videogames. In *Proceedings of the 15th International Conference on the Foundations of Digital Games*, pages 1–11, 2020.
- [11] Chris Barney. ‘pattern language for game design’. <https://patternlanguageforgamedesign.com/PatternLibraryApp/PatternLibrary/>. Accessed: 2024-08-31.
- [12] Anne Bartsch and Tilo Hartmann. The role of cognitive and affective challenge in entertainment experience. *Communication Research*, 44(1):29–53, 2017.
- [13] Roy F Baumeister, Todd F Heatherton, and Dianne M Tice. When ego threats lead to self-regulation failure: negative consequences of high self-esteem. *Journal of personality and social psychology*, 64(1):141, 1993.
- [14] Jocelyn J Bélanger, Marc-André K Lafreniere, Robert J Vallerand, and Arie W Kruglanski. Driven by fear: the effect of success and failure information on passionate individuals’ performance. *Journal of personality and social psychology*, 104(1):180, 2013.
- [15] Jonathan Belman, Helen Nissenbaum, and Mary Flanagan. Grow-a-game: a tool for values conscious design and analysis of digital games. In *Proceedings of DiGRA 2011 Conference: Think Design Play*, 2011.
- [16] Steve Benford, Chris Greenhalgh, Gabriella Giannachi, Brendan Walker, Joe Marshall, and Tom Rodden. Uncomfortable interactions. In *Proceedings of the sigchi conference on human factors in computing systems*, pages 2005–2014, 2012.
- [17] Sabine Benoit, Sonja Klose, Jochen Wirtz, Tor Wallin Andreassen, and Timothy L Keiningham. Bridging the data divide between practitioners and academics: Approaches to collaborating better to leverage each other’s resources. *Journal of Service Management*, 30(5):524–548, 2019.
- [18] Ian Bogost. *The rhetoric of video games*. MacArthur Foundation Digital Media and Learning Initiative, 2008.

- [19] Ian Bogost. *Persuasive games: The expressive power of videogames*. mit Press, 2010.
- [20] Julia Ayumi Bopp, Elisa D Mekler, and Klaus Opwis. Negative emotion, positive experience? emotionally moving moments in digital games. In *Proceedings of the 2016 CHI conference on human factors in computing systems*, pages 2996–3006, 2016.
- [21] Julia Ayumi Bopp, Klaus Opwis, and Elisa D Mekler. “an odd kind of pleasure” differentiating emotional challenge in digital games. In *Proceedings of the 2018 CHI conference on human factors in computing systems*, pages 1–12, 2018.
- [22] Virginia Braun and Victoria Clarke. *Successful qualitative research: A practical guide for beginners*. Sage publications ltd, 2013.
- [23] Virginia Braun and Victoria Clarke. Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health*, 11(4):589–597, 2019.
- [24] Virginia Braun and Victoria Clarke. One size fits all? what counts as quality practice in (reflexive) thematic analysis? *Qualitative research in psychology*, 18(3):328–352, 2021.
- [25] Jonathon D Brown and Keith A Dutton. The thrill of victory, the complexity of defeat: self-esteem and people’s emotional reactions to success and failure. *Journal of personality and social psychology*, 68(4):712, 1995.
- [26] Mark Brown and Sky LaRell Anderson. Designing for disability: Evaluating the state of accessibility design in video games. *Games and Culture*, 16(6):702–718, 2021.
- [27] Oğuz Turan Buruk and Oğuzhan Özcan. Extracting design guidelines for wearables and movement in tabletop role-playing games via a research through design process. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, pages 1–13, 2018.
- [28] Josh Bycer. Can approachability ‘fix’ dark souls? <https://www.gamedeveloper.com/design/can-approachability-fix-i-dark-souls-i->. Accessed: 2024-08-31.

- [29] Josh Bycer. How punishment systems hurt gameplay. <https://www.gamedeveloper.com/design/how-punishment-systems-hurt-gameplay>. Accessed: 2024-08-31.
- [30] Paul Cairns and Anna L Cox. *Research methods for human-computer interaction*, volume 10. Cambridge University Press Cambridge, 2008.
- [31] Alessandro Canossa, Anders Drachen, and Janus Rau Møller Sørensen. Arrrgghh!!! blending quantitative and qualitative methods to detect player frustration. In *Proceedings of the 6th international conference on foundations of digital games*, pages 61–68, 2011.
- [32] Gabriela Carneiro, Gil Barros, and Carlos Zibel Costa. ilo cards: A tool to support the design of interactive artifacts. *Design Research Society*, 2012.
- [33] Mafalda Casais, Ruth Mugge, and Pieter Desmet. Using symbolic meaning as a means to design for happiness: The development of a card set for designers. *DRS2016: Future-Focused Thinking*, pages 1553–1571, 2016.
- [34] Sande Chen. Forced failure as story moments. <https://www.gamedeveloper.com/design/forced-failure-as-story-moments>. Accessed: 2024-08-31.
- [35] Tom Cole, Paul Cairns, and Marco Gillies. Emotional and functional challenge in core and avant-garde games. In *Proceedings of the 2015 annual symposium on computer-human interaction in play*, pages 121–126, 2015.
- [36] Tom Cole and Marco Gillies. Thinking and doing: Challenge, agency, and the eudaimonic experience in video games. *Games and Culture*, 16(2):187–207, 2021.
- [37] Tom Cole and Marco Gillies. Emotional exploration and the eudaimonic gameplay experience: a grounded theory. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, pages 1–16, 2022.
- [38] Reddit commentator. Breath of the wild is a game about grief, but more importantly, about failure. https://www.reddit.com/r/Breath_of_the_Wild/comments/8zbyl2/breath_of_the_wild_is_a_game_about_grief_but_more/. Accessed: 2024-08-31.

-
- [39] Daniel Cook. ‘the chemistry of game design’. <https://www.gamedeveloper.com/design/the-chemistry-of-game-design>, 2007. Accessed: 2024-08-31.
- [40] Ben Cowley, Darryl Charles, Michaela Black, and Ray Hickey. Toward an understanding of flow in video games. *Computers in Entertainment (CIE)*, 6(2):1–27, 2008.
- [41] Chris Crawford. *Chris Crawford on game design*. New Riders, 2003.
- [42] Nigel Cross. Designerly ways of knowing. *Design studies*, 3(4):221–227, 1982.
- [43] Sabrina Culyba. *The Transformational Framework: A process tool for the development of Transformational games*. Carnegie Mellon University, 2018.
- [44] Peter Dalsgaard. Instruments of inquiry: Understanding the nature and role of design tools. *International journal of design*, 11(1):21–33, 2017.
- [45] Bernard De Koven. *The well-played game: A player’s philosophy*. mit Press, 2013.
- [46] Stephanie De Smale, Martijn JL Kors, and Alyea M Sandovar. The case of this war of mine: A production studies perspective on moral game design. *Games and Culture*, 14(4):387–409, 2019.
- [47] Nick Defossez. Making a hard game isn’t easy. <https://www.gamedeveloper.com/design/making-a-hard-game-isn-t-easy>. Accessed: 2024-08-31.
- [48] Ying Deng, Alissa N Antle, and Carman Neustaedter. Tango cards: a card-based design tool for informing the design of tangible learning games. In *Proceedings of the 2014 conference on Designing interactive systems*, pages 695–704, 2014.
- [49] Alena Denisova, Julia Ayumi Bopp, Thuy Duong Nguyen, and Elisa D Mekler. “whatever the emotional experience, it’s up to them”: Insights from designers of emotionally impactful games. In *Proceedings of the 2021 CHI conference on human factors in computing systems*, pages 1–9, 2021.

- [50] Norman K Denzin and Yvonna S Lincoln. Transforming qualitative research methods: Is it a revolution? *Journal of Contemporary Ethnography*, 24(3):349–358, 1995.
- [51] Design and Technology Association. ‘the interactive design process’. <https://www.designtechnology.org.uk/for-education/curriculum/the-iterative-design-process/>. Accessed: 2024-08-31.
- [52] Sebastian Deterding. The lens of intrinsic skill atoms: A method for gameful design. *Human-Computer Interaction*, 30(3-4):294–335, 2015.
- [53] Carol I Diener and Carol S Dweck. An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of personality and social psychology*, 36(5):451, 1978.
- [54] Wilhelm Dilthey. *Introduction to the human sciences*, volume 1. Princeton University Press, 1989.
- [55] Shawn Edrei. Press start to continue: The effects of pseudo-authorial control on video game narratives. *Ctrl-Alt-Play: Essays on Control in Video Gaming*, pages 2013–96, 2013.
- [56] Simon Egenfeldt-Nielsen, Jonas Heide Smith, and Susana Pajares Tosca. *Understanding video games: The essential introduction*. Routledge, 2019.
- [57] Satu Elo and Helvi Kyngäs. The qualitative content analysis process. *Journal of advanced nursing*, 62(1):107–115, 2008.
- [58] Geoffrey Engelstein. *Achievement relocked: Loss aversion and game design*. MIT Press, 2020.
- [59] AL Fayard and S Fathallah. Design thinking misses the mark. *Stanford Social Innovation Review*, 19(21):1–15, 2024.
- [60] John Ferrara. Games for persuasion: Argumentation, procedurality, and the lie of gamification. *Games and culture*, 8(4):289–304, 2013.
- [61] Alessandro Fillari. Lords of the fallen devs want to ”improve the death cycle” of soulslike games. <https://www.gamedeveloper.com/design/lords-of-the-fallen-devs-want-to-improve-the-death-cycle-of-soulslike-games>. Accessed: 2024-08-31.

- [62] Mary Flanagan and Helen Nissenbaum. *Values at play in digital games*. MIT Press, 2014.
- [63] Charline Foch and Ben Kirman. “slow down and look”: Desirable aspects of failure in video games, from the perspective of players. In *Proceedings of the 16th International Conference on the Foundations of Digital Games*, pages 1–10, 2021.
- [64] Charline Foch and Ben Kirman. “the game doesn’t judge you”: game designers’ perspectives on implementing failure in video games. In *Proceedings of the 17th International Conference on the Foundations of Digital Games*, pages 1–13, 2022.
- [65] Interaction Design Foundation. ‘design iteration brings powerful results. so, do it again designer!’. <https://www.interaction-design.org/literature/article/design-iteration-brings-powerful-results-so-do-it-again-designer>, 2024. Accessed: 2024-08-31.
- [66] Bryant Francis. How shadow gambit: The cursed crew made save scumming a central mechanic. <https://www.gamedeveloper.com/design/how-shadow-gambit-the-cursed-crew-was-able-to-make-save-scumming-a-centr>. Accessed: 2024-08-31.
- [67] Lois Frankel and Martin Racine. The complex field of research: For design, through design, and about design. *Design Research Society*, 2010.
- [68] Joana Freitas. From epic fail to epic music: music, silence and failure on” dark souls 3”. *Journal of Sound, Silence, Image and Technology*, (3):55–74, 2020.
- [69] Julian Frommel, Madison Klarkowski, and Regan L Mandryk. The struggle is spiel: On failure and success in games. In *Proceedings of the 16th International Conference on the Foundations of Digital Games*, pages 1–12, 2021.
- [70] Daniella Gáti. Playing with plants, loving computers: Queer playfulness beyond the human in digital: A love story by christine love and rustle your leaves to me softly by jess marcotte and dietrich squinkifer. *Eludamos: Journal for Computer Game Culture*, 12(1):87–103, 2021.

- [71] William W. Gaver, Jacob Beaver, and Steve Benford. Ambiguity as a resource for design. In *Proceedings of the SIGCHI conference on Human factors in computing systems*, pages 233–240, 2003.
- [72] James Paul Gee. What video games have to teach us about learning and literacy. *Comput. Entertain.*, 1(1):20, 2003.
- [73] James Paul Gee. Learning by design: Good video games as learning machines. *E-learning and Digital Media*, 2(1):5–16, 2005.
- [74] Clifford Geertz. Thick description: Toward an interpretive theory of culture. In *The cultural geography reader*, pages 41–51. Routledge, 2008.
- [75] Chad Phoenix Rose Gowler and Ioanna Iacovides. "horror, guilt and shame"—uncomfortable experiences in digital games. In *Proceedings of the annual symposium on computer-human interaction in play*, pages 325–337, 2019.
- [76] Jordan Greenwood, Leigh Achterbosch, Andrew Stranieri, and Grant Meredith. Understanding the gap between academics and game developers: An analysis of gamasutra blogs. In *International Conferences Interfaces and Human Computer Interaction, online. Inderscience Publishers, Kent, Ohio, USA*, pages 141–148, 2021.
- [77] Mata Haggis. Storytelling tools to boost your indie game's narrative and gameplay. <https://www.youtube.com/watch?v=8fXE-E1hJKk>. Accessed: 2024-08-31.
- [78] Jack Halberstam. *The Queer Art of Failure*. Duke University press, 2011.
- [79] Aimi Hamraie, Kelly Fritsch, Gabriele Stera, Lucie Camous, Lucas Fritz, and Chosson Etienne. Crip technoscience manifesto. 2025.
- [80] Sabine Harrer. From losing to loss: Exploring the expressive capacities of videogames beyond death as failure. *Culture Unbound*, 5(4):607–620, 2013.
- [81] John Harris. *Exploring roguelike games*. CRC Press, 2020.
- [82] Natalia Hefkaluk, Conor Linehan, and Anna Trace. Fail, fail again, fail better: how players who enjoy challenging games persist after failure in "celeste". *International Journal of Human-Computer Studies*, 183:103199, 2024.

- [83] Alan Hook and Paul Coulton. Games design research through game design practice. In *Game Design Research: An Introduction to Theory and Practice*, page 97. ETC Press, 2017.
- [84] Jurie Horneman. The design in narrative design. <https://www.youtube.com/watch?v=f8VIlfTtypg>. Accessed: 2024-08-31.
- [85] Robin Hunicke, Marc LeBlanc, Robert Zubek, et al. Mda: A formal approach to game design and game research. In *Proceedings of the AAAI Workshop on Challenges in Game AI*, volume 4, page 1722. San Jose, CA, 2004.
- [86] Ioanna Iacovides, Anna L Cox, Ara Avakian, and Thomas Knoll. Player strategies: Achieving breakthroughs and progressing in single-player and cooperative games. In *Proceedings of the first ACM SIGCHI annual symposium on Computer-human interaction in play*, pages 131–140, 2014.
- [87] Ioanna Iacovides, Anna L Cox, and Thomas Knoll. Learning the game: breakdowns, breakthroughs and player strategies. In *CHI'14 Extended Abstracts on Human Factors in Computing Systems*, pages 2215–2220. 2014.
- [88] IDEO. Design kit: The human-centered design toolkit. <https://www.ideo.com/journal/design-kit-the-human-centered-design-toolkit>. Accessed: 2024-08-31.
- [89] Inklecast. All about fail states. <https://soundcloud.com/inklestudios/all-about-fail-states>. Accessed: 2024-08-31.
- [90] Kristine Jørgensen. The positive discomfort of spec ops: The line. *Game studies*, 16(2):12, 2016.
- [91] Jesper Juul. Fear of failing? the many meanings of difficulty in video games. *The video game theory reader*, 2(237-252), 2009.
- [92] Jesper Juul. In search of lost time: on game goals and failure costs. In *Proceedings of the Fifth International Conference on the Foundations of Digital Games*, pages 86–91, 2010.
- [93] Jesper Juul. *Half-real: Video games between real rules and fictional worlds*. MIT press, 2011.

-
- [94] Jesper Juul. *The art of failure: An essay on the pain of playing video games*. MIT press, 2013.
- [95] Jesper Juul. *Handmade pixels: Independent video games and the quest for authenticity*. Mit Press, 2019.
- [96] Rod Kennedy and Jim Waltzer. *Monopoly: The Story Behind the World's Best-Selling Game*. Gibbs Smith, 2004.
- [97] Chris Kerr. Mental staircases and paradoxical suitcases: Crafting the world-hopping puzzles of co-coon. <https://www.gamedeveloper.com/design/mental-staircases-and-paradoxical-suitcases-crafting-the-world-hopping-puzzles>. Accessed: 2024-08-31.
- [98] Rilla Khaled. Questions over answers: Reflective game design. *Playful disruption of digital media*, pages 3–27, 2018.
- [99] Lucy Kimbell. Rethinking design thinking: Part i. *Design and culture*, 3(3):285–306, 2011.
- [100] Design Kit. ‘design kit: Methods’. <https://www.designkit.org/methods.html>. Accessed: 2024-08-31.
- [101] Raph Koster. *Theory of fun for game design*. O’Reilly Media, Inc., 2013.
- [102] William Kuechenberg. ‘what makes the ’breath of the wild’ story good: Failure’. https://www.cracked.com/article_32491_what-makes-the-breath-of-the-wild-story-good-failure.html, 2022. Accessed: 2024-08-31.
- [103] Jozef Kulik, Jen Beeston, and Paul Cairns. Grounded theory of accessible game development. In *Proceedings of the 16th International Conference on the Foundations of Digital Games*, pages 1–9, 2021.
- [104] Annakaisa Kultima, Johannes Niemelä, Janne Paavilainen, and Hannamari Saarenpää. Designing game idea generation games. In *Proceedings of the 2008 conference on future play: Research, play, share*, pages 137–144, 2008.
- [105] Shringi Kumari, Sebastian Deterding, and Jonathan Freeman. The role of uncertainty in moment-to-moment player motivation: a grounded theory. In *Proceedings of the annual symposium on computer-human interaction in play*, pages 351–363, 2019.

-
- [106] Joanna Kwiatkowska, Agnieszka Szóstek, and David Lamas. (un) structured sources of inspiration: comparing the effects of game-like cards and design cards on creativity in co-design process. In *Proceedings of the 13th Participatory Design Conference: Research Papers-Volume 1*, pages 31–39, 2014.
- [107] Nicole Lazzaro. Why we play: affect and the fun of games. *Human-computer interaction: Designing for diverse users and domains*, 155:679–700, 2009.
- [108] Shuenshing Lee. I lose, therefore i think. *Game Studies*, 3(2), 2003.
- [109] Lu-Hai Liang. ‘animal crossing players share how new horizons got them through the pandemic’. <https://www.thegamer.com/animal-crossing-new-horizons-got-players-through-pandemic/>, 2023. Accessed: 2024-08-31.
- [110] Conor Linehan, George Bellord, Ben Kirman, Zachary H Morford, and Bryan Roche. Learning curves: analysing pace and challenge in four successful puzzle games. In *Proceedings of the first ACM SIGCHI annual symposium on Computer-human interaction in play*, pages 181–190, 2014.
- [111] Dan Lockton, David Harrison, and Neville A Stanton. The design with intent method: A design tool for influencing user behaviour. *Applied ergonomics*, 41(3):382–392, 2010.
- [112] Nick Logler, Daisy Yoo, and Batya Friedman. Metaphor cards: A how-to-guide for making and using a generative metaphorical design toolkit. In *Proceedings of the 2018 designing interactive systems conference*, pages 1373–1386, 2018.
- [113] Andrés Lucero and Juha Arrasvuori. The plex cards and its techniques as sources of inspiration when designing for playfulness. *International Journal of Arts and Technology*, 6(1):22–43, 2013.
- [114] Jennifer Malkowski and Treaandrea M Russworm. *Gaming representation : race, gender, and sexuality in video games / edited by Jennifer Malkowski and Treaandrea M. Russworm*. Bloomington, Indiana : Indiana University Press, 2017.
- [115] Jess Marcotte. Queering control (lers) through reflective game design practices. *Game Studies*, 18(3):1–16, 2018.

- [116] Jess Marcotte and Rilla Khaled. Critical practices in game design. *Game Design Research: An Introduction to Theory & Practice*, pages 199–218, 2017.
- [117] Tim Marsh and Brigid Costello. Lingerin serious experience as trigger to raise awareness, encourage reflection and change behavior. In *International Conference on Persuasive Technology*, pages 116–124. Springer, 2013.
- [118] Alejandro Masferrer. ‘triggers’. <https://www.trytriggers.com/approach>. Accessed: 2024-08-31.
- [119] Philipp Mayring. *Qualitative content analysis : a step-by-step guide / Philipp Mayring*. Los Angeles : SAGE, 2021.
- [120] Elisa D Mekler, Ioanna Iacovides, and Julia Ayumi Bopp. ” a game that makes you question...” exploring the role of reflection for the player experience. In *Proceedings of the 2018 annual symposium on computer-human interaction in play*, pages 315–327, 2018.
- [121] MethodKit. ‘methodkit’. <https://methodkit.com/>. Accessed: 2024-08-31.
- [122] Torill Mortensen and Kristine Jørgensen. *The paradox of transgression in games*. Routledge, 2020.
- [123] Florian Mueller, Martin R Gibbs, Frank Vetere, and Darren Edge. Supporting the creative game design process with exertion cards. In *Proceedings of the sigchi conference on human factors in computing systems*, pages 2211–2220, 2014.
- [124] Myriam Munezero, Calkin Suero Montero, Erkki Sutinen, and John Pajunen. Are they different? affect, feeling, emotion, sentiment, and opinion detection in text. *IEEE transactions on affective computing*, 5(2):101–111, 2014.
- [125] Jeff L Nay and José P Zagal. Meaning without consequence: virtue ethics and inconsequential choices in games. In *Proceedings of the 12th International Conference on the Foundations of Digital Games*, pages 1–8, 2017.
- [126] Norman Nielsen. ‘iterative user interface design’. <https://www.nngroup.com/articles/iterative-design/>, 1993. Accessed: 2024-08-31.

- [127] Ed Nightingale. What would an accessible souls game look like? <https://www.eurogamer.net/what-would-an-accessible-souls-game-look-like>. Accessed: 2024-08-31.
- [128] Kyle Orland. The slow death of the game over. <https://www.escapistmagazine.com/the-slow-death-of-the-game-over/>. Accessed: 2024-08-31.
- [129] Hye Park and Seda McKilligan. A systematic literature review for human-computer interaction and design thinking process integration. In *Design, User Experience, and Usability: Theory and Practice: 7th International Conference, DUXU 2018, Held as Part of HCI International 2018, Las Vegas, NV, USA, July 15-20, 2018, Proceedings, Part I* 7, pages 725–740. Springer, 2018.
- [130] Dorian Peters, Lian Loke, and Naseem Ahmadpour. Toolkits, cards and games—a review of analogue tools for collaborative ideation. *CoDesign*, 17(4):410–434, 2021.
- [131] UX Pin. ‘rapid prototyping process and fidelity – a 5-minute guide’. <https://www.uxpin.com/studio/blog/rapid-prototyping-process-fidelity-10-minute-guide-for-ui-ux-designers/>. Accessed: 2024-08-31.
- [132] Jean-Luc Portelli and Rilla Khaled. Spectrum: exploring the effects of player experience on game design. In *Proceedings of DiGRA/FDG 2016 Conference*, 2016.
- [133] Andrew K Przybylski, C Scott Rigby, and Richard M Ryan. A motivational model of video game engagement. *Review of general psychology*, 14(2):154–166, 2010.
- [134] Arthur A Raney, Mary Beth Oliver, and Anne Bartsch. Eudaimonia as media effect. In *Media effects*, pages 258–274. Routledge, 2019.
- [135] David Roskin. ‘a fascinating insight into pandemic psychology’: how animal crossing gave us an escape. <https://www.theguardian.com/games/2024/mar/21/animal-crossing-new-horizons-helped-us-escape-national-videogame-museum>, 2024. Accessed: 2024-08-31.

- [136] Megan Rothschild, Amanda Ochsner, and Jonathan Gray. It's all part of the game: the emergence of narrative and meaning in play. *Ctrl-Alt-Play: Essays on control in video gaming*, pages 83–95, 2013.
- [137] Bonnie Ruberg. No fun: The queer potential of video games that annoy, anger, disappoint, sadden, and hurt. *QED: A journal in GLBTQ worldmaking*, 2(2):108–124, 2015.
- [138] Bonnie Ruberg. Playing to lose: The queer art of failing at video games. *Gaming representation: Race, gender, and sexuality in video games*, pages 197–211, 2017.
- [139] Bonnie Ruberg. Straightwashing undertale: Video games and the limits of lgbtq representation. *Transformative Works and Cultures*, 28(1), 2018.
- [140] James A Russell. Core affect and the psychological construction of emotion. *Psychological review*, 110(1):145, 2003.
- [141] Richard M Ryan, C Scott Rigby, and Andrew Przybylski. The motivational pull of video games: A self-determination theory approach. *Motivation and emotion*, 30:344–360, 2006.
- [142] Johnny Saldana. *The coding manual for qualitative researchers*. Los Angeles ; London : SAGE, 3rd ed. edition, 2016.
- [143] Elizabeth B-N Sanders. Information, inspiration and co-creation. In *Proceedings of the 6th International Conference of the European Academy of Design*. University of the Arts Bremen, 2005.
- [144] Antranig Arek Sarian. "no going back": The telltale model as thought experiment. *Eludamos: Journal for Computer Game Culture*, 9(1):17–32, 2018.
- [145] Jesse Schell. *The Art of Game Design: A book of lenses*. CRC press, 2008.
- [146] Margrit Schreier. *Qualitative content analysis in practice / Margrit Schreier*. SAGE, 2012.
- [147] Ahmed Seffah and Mohamed Taleb. Tracing the evolution of hci patterns as an interaction design tool. *Innovations in Systems and Software Engineering*, 8:93–109, 2012.

-
- [148] Phoebe Sengers, Kirsten Boehner, Shay David, and Joseph 'Jofish' Kaye. Reflective design. In *Proceedings of the 4th decennial conference on Critical computing: between sense and sensibility*, pages 49–58, 2005.
- [149] Eric Shouse. Feeling, emotion, affect. *M/c journal*, 8(6), 2005.
- [150] Aaron Smuts. The paradox of painful art. *Journal of Aesthetic Education*, 41(3):59–76, 2007.
- [151] Braxton Soderman. *Against flow: Video games and the flowing subject*. MIT press, 2021.
- [152] Daniel St German. Accessibility and difficulty - barriers to art. <https://www.gamedeveloper.com/design/accessibility-and-difficulty---barriers-to-art>. Accessed: 2024-08-31.
- [153] Sarah Stang. This action will have consequences”: Interactivity and player agency. *Game studies*, 19(1), 2019.
- [154] Grant Stoner. Accessibility isn't easy: What 'easy mode' debates miss about bringing games to everyone. <https://www.ign.com/articles/video-game-difficulty-accessibility-easy-mode-debate>. Accessed: 2024-08-31.
- [155] Alexander Swords. 'forest paths method for narrative design'. <https://www.forestpathsmethod.com/>. Accessed: 2024-08-31.
- [156] Katie Salen Tekinbas and Eric Zimmerman. *Rules of play: Game design fundamentals*. MIT press, 2003.
- [157] Hibby Thach. A cross-game look at transgender representation in video games. *Press Start*, 7(1):19–44, 2021.
- [158] Jason Tocci. “you are dead. continue?”: Conflicts and complements in game rules and fiction. *Eludamos: Journal for Computer Game Culture*, 2(2):187–201, 2008.
- [159] Ideo U. 'blog post: What is design thinking why is it beneficial?'. <https://www.ideo.com/en-gb/blogs/inspiration/what-is-design-thinking>. Accessed: 2024-08-31.

- [160] Wouter Van den Hoogen, Karolien Poels, Wijnand IJsselsteijn, and Yvonne De Kort. Between challenge and defeat: Repeated player-death and game enjoyment. *Media Psychology*, 15(4):443–459, 2012.
- [161] Richard Wetzels, Tom Rodden, and Steve Benford. Developing ideation cards for mixed reality game design. *Transactions of the Digital Games Research Association*, 3(2), 2017.
- [162] Matthew Whitby. *Designing for Perspective Challenging Experiences in Games*. PhD thesis, University of York, 2024.
- [163] Matthew Alexander Whitby, Sebastian Deterding, and Ioanna Iacovides. ” one of the baddies all along” moments that challenge a player’s perspective. In *Proceedings of the annual symposium on computer-human interaction in play*, pages 339–350, 2019.
- [164] Matthew Alexander Whitby, Ioanna Iacovides, and Sebastian Deterding. “conversations with pigeons”: Capturing players’ lived experience of perspective challenging games. *Proceedings of the ACM on Human-Computer Interaction*, 7(CHI PLAY):833–855, 2023.
- [165] Malcolm Williams. Interpretivism and generalisation. *Sociology*, 34(2):209–224, 2000.
- [166] Douglas Wilson and Miguel Sicart. Now it’s personal: on abusive game design. In *Proceedings of the International Academic Conference on the Future of Game Design and Technology*, pages 40–47, 2010.
- [167] Alex Wiltshire. Reimagining failure in strategy game design in into the breach. <https://www.gamedeveloper.com/design/reimagining-failure-in-strategy-game-design-in-i-into-the-breach-i->. Accessed: 2024-08-31.
- [168] Matthew Wysocki and Matthew Schandler. Would you kindly? bioshock and the question of control. *Ctrl-alt-play: Essays on control in video gaming*, pages 196–207, 2013.
- [169] Andrew ZH Yee and Jeremy RH Sng. Animal crossing and covid-19: A qualitative study examining how video games satisfy basic psychological needs during the pandemic. *Frontiers in Psychology*, 13:800683, 2022.
- [170] José Zagal. *The videogame ethics reader / edited by Jose P. Zagal*. San Diego, CA : Cognella, 2012.

-
- [171] Eric Zimmerman. ‘how i teach game design’. <https://ericzimmerman.wordpress.com/2013/10/19/how-i-teach-game-design-lesson-1-the-game-design-process/>, 2013. Accessed: 2024-08-31.
- [172] John Zimmerman and Jodi Forlizzi. The role of design artifacts in design theory construction. *Artifact: Journal of Design Practice*, 2(1):41–45, 2008.
- [173] John Zimmerman and Jodi Forlizzi. Research through design in hci. In *Ways of Knowing in HCI*, pages 167–189. Springer, 2014.