

Narrative Goals in Games: A Novel Nexus of Story and Gameplay

Rogelio E. Cardona-Rivera
José P. Zagal
rogelio@eae.utah.edu
jose.zagal@utah.edu
University of Utah
Salt Lake City, UT, USA

Michael S. Debus
IT University of Copenhagen
Copenhagen, Denmark
msde@itu.dk

ABSTRACT

The intersection of gameplay and story has been widely debated in games scholarship (*i.e.* the ludology/narratology debate). It has also manifested in concepts used in game discourse (*e.g.* “ludonarrative dissonance”) and development (*e.g.* “what is narrative design?”). We propose that *goals*, as a constituent element of games, is a novel and fruitful nexus point between story and gameplay. We provide an analytical framework that articulates and bridges the relationship between the goal structures in games and their narrative counterparts. This framework is anchored upon what we define as a *narrative goal*: an interpretation of a ludological goal. We can thus formally account for a narrative goal (*e.g.* “Rescue the prince”) that requires players to act in a way that satisfies a corresponding game imperative (*e.g.* *Reach*-<location>). Finally, we articulate our work’s foundational relevance to narrative design and associated issues.

CCS CONCEPTS

• **Software and its engineering** → **Interactive games**; • **Applied computing** → **Computer games**; • **Human-centered computing** → *HCI theory, concepts and models*; • **General and reference** → Design.

KEYWORDS

narrative goal, ludological goals, narrative design, analytical framework, story, gameplay, games

ACM Reference Format:

Rogelio E. Cardona-Rivera, José P. Zagal, and Michael S. Debus. 2020. Narrative Goals in Games: A Novel Nexus of Story and Gameplay. In *International Conference on the Foundations of Digital Games (FDG '20)*, September 15–18, 2020, Bugibba, Malta. ACM, New York, NY, USA, 4 pages. <https://doi.org/10.1145/3402942.3402986>

1 INTRODUCTION

Scholars from various backgrounds have debated whether games are stories, stories are games, or what the relationship between them is, could, or should be [*e.g.* 1, 21, 22, 26, 27, 35]. Some have examined the relationship between story and game via rules [*e.g.*

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than the author(s) must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.
FDG '20, September 15–18, 2020, Bugibba, Malta

© 2020 Copyright held by the owner/author(s). Publication rights licensed to ACM.
ACM ISBN 978-1-4503-8807-8/20/09...\$15.00
<https://doi.org/10.1145/3402942.3402986>

5, 46], linking a game’s material rules [39] to “interpretative” rules that govern how to make sense of material ones through narrative structure. Others have argued that the specific structure of the “quest” is the nexus between stories and games [3, 24, 47].

We propose a broader framework for examining the story/game relationship: one that focuses on goals as an often mentioned constitutive element of games [42]. Games often communicate players’ goals by referring to narrative and gameplay together [34]. Further, when describing a game’s goals, players often do so by framing them in a narrative context. Players will say “I need to go save the prince” rather than “I need to move the game character to a specific game location” [20]. Indeed, it seems that for many games, it is a narrative goal that is at the forefront of how players describe the game rather than the game’s goals [17, 31]. We argue that focusing on goals is fruitful for articulating, studying, and bridging the relationship between narrative and games. Our framework is primarily *analytical* [4]: we set forth concepts and a method with which to interpret, represent, and reason about narrative design. Our framework depends on what a narrative goal *is* and we illustrate a case example discussion to suggest the analytical richness afforded by narrative goals in the study of story and gameplay.

2 OUR ANALYTICAL FRAMEWORK

We set forth an analytical framework with which to make sense of a game’s design. This framework aligns the narrative and ludic-like natures of games and was developed through abductive analysis [45]. Due to space constraints, we do not *fully* articulate our framework’s genesis nor its relation to narrative design. Rather, we focus on its constituent concepts and analytical method. The method offers a way to structure a narrative designer’s thinking process and is applied for one case example.

2.1 Concepts: Goals, Narratives, Hierarchy

A *goal* is an end toward which effort is directed, and we are concerned with two distinct types:¹ ludological and narrative.

2.1.1 Ludological Goals. These are designed in-game objectives or conditions players are expected to meet to succeed at a game; for example, score points, move an on-screen character, or trigger certain in-game events. Extant scholarship describes the different kinds of *ludological* goals a game may have, how they are related to each other, and how they manifest [12, 19, 28, 32, 41]. In prior work [15], we described two kinds of ludological goals.

¹ We purposefully exclude player-defined goals [9], *i.e.* goals that players themselves bring to a game, often not necessarily considered by the game’s creators. These goals deserve study, but are outside the scope of this article.

Table 1: Ultimate goals, per Zagal et al. [50].

Ultimate	Description (“Games with this ultimate goal...”)
<i>Win</i>	Effect an evaluation when a predefined state is reached.
<i>Finish</i>	Effect <i>no</i> evaluation when a predefined state is reached.
<i>Prolong</i>	Conclude against the designer or player’s intent.

Table 2: Imperative goals, per Debus et al. [15]: goals necessary to achieve an ultimate goal.

Imperative	Description (“This imperative requires players to...”)
<i>Choose</i>	Select one element from a finite set of elements.
<i>Configure</i>	Manipulate elements such that they are in a “correct” state.
<i>Create</i>	Bring an element into existence that was not before.
<i>Find</i>	Locate a particular element.
<i>Obtain</i>	Bring a particular element under control.
<i>Optimize</i>	Accumulate a requested amount of a particular element.
<i>Reach</i>	Navigate to a particular location.
<i>Remove</i>	Eliminate an element from existence that existed before.
<i>Solve</i>	Select one “correct” element from an infinite set of elements.
<i>Synchronize</i>	Bring one or more elements into spatial/temporal unity.

Ultimate goals are overarching goals that (often) determine the end conditions of games [50]. There are at least three types: *Win* a game, *Finish* it, or *Prolong* the act of play (see Table 1). Colloquially, you “win” in Soccer, you “finish” *Super Mario Bros.* [SMB 16], and you “prolong” play by surviving in *Space Invaders* [43]. All games have an ultimate goal.

Imperative goals are sub-ordinate (to ultimate) goals which more-concretely require the player effect a particular game state of affairs described by the game itself [15]. There are at least ten types: *Choose*, *Configure*, *Create*, *Find*, *Obtain*, *Optimize*, *Reach*, *Remove*, *Solve*, and *Synchronize*, (see Table 2). These goals involve activities that link game elements such as space, time, and entities [14]. Each imperative goal has a logical dual, in the form of its *prevention*.

2.1.2 The Hierarchy of Ludological Goals. To accomplish a game’s ultimate goal, players must always satisfy an imperative goal [14, 18]. This then leads automatically to the fulfillment of the ultimate goal – e.g. *Finish SMB* [16] by *Removing* Bowser – or to the fulfillment at a future point in time – e.g. *Win* a Soccer match by *Optimizing* your score. Imperatives may (infinitely) decompose into other imperatives. For instance, the imperative *Remove- \langle agent=B1 \rangle* (where B1 denotes Bowser) might decompose into *Reach- \langle location=A1 \rangle* (where A1 denotes the Axe), a more-specific imperative that is closer to the needed gameplay as in Figure 1.

Thus, all games have a hierarchy of ludological goals: the hierarchy’s top level defines the ultimate goal, and further sub-ordinate levels define the needed imperative goals until – at the base of the hierarchy – a specific moment in a gameplay session is reached. It is not easy (and perhaps impossible) to determine the complete Ludological Goal Hierarchy for any but the simplest games [15]. This is because the hierarchy includes the more abstract goals *all* players experience in the game and the idiosyncratic moment-to-moment ludological goals that might emerge during gameplay. To continue the example, all players must satisfy the goal *Reach- \langle location=A1 \rangle* , but in Figure 1’s game state, that player might have the immediate

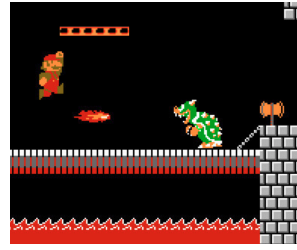


Figure 1: In *SMB*, *Remove-Bowser* may be accomplished via the more-specific imperative *Reach-Axe*, closer to the needed gameplay.



Figure 2: The feedback at the end of *SMB* reinforces the interpretation of the ultimate imperative *Reach-Axe*, closer goal *To Finish* as “Save the princess.”

goal of *Prevent(Synchronize- \langle agent=M1 (Mario), object=F1 (Fireball), unity=Spatiotemporal \rangle)*, which itself decomposes into *Reach- \langle location=P1 (Platform) \rangle* . Another player may never face these more-specific goals (because perhaps they took a different path via a Warp Zone). Thus, the Ludological Goal Hierarchy includes all goals a player may face in all possible playthroughs of a game.

2.1.3 Narrative Goals. We define a **narrative goal** as an **interpretation** of a ludological (ultimate or imperative) goal. We mean “interpretation” as an assignment of meaning to the symbols of some formal language [44]. Here, the set of symbols is the set of possible ludological (ultimate | imperative) goals and the possible meanings are grounded in the game’s narrative. Thus, a narrative goal is a ludological goal with some meaning “assigned” to it.²

Meaning is the product of *enaction*, as discussed in embodied cognition [40]. Generally, such meaning *emerges* as a result of our purposeful-activity in the environment (*i.e.* situated action) [24] and is *recoverable* through our use of metaphor in language [30]. For us, meaning emerges from two things: the player’s choice [33] of action in pursuit of the underlying ludological goal – including actions not taken [36] and/or inaction [49] – and the feedback (*i.e.* multi-modal stimuli) that the player receives from the environment/game (*e.g.* text, images, sound, interface elements). This interpretative activity results from responses to a designer’s pre-structuring [25].

“Save the princess” is a plausible interpretation for *SMB*’s ultimate goal *To Finish* because it is suggested by the game’s box, which asks: “Do you have what it takes to save the mushroom princess?” This interpretation is reinforced via feedback presented at the end of gameplay emphasizing the quest-like nature of the player’s preceding actions (see Figure 2).

2.1.4 The Parallel Hierarchy of Narrative Goals. If ludological goals are structured hierarchically, and narrative goals are interpretations of ludological ones, then there is necessarily a *parallel* hierarchy of narrative goals. Figure 3 illustrates this for our running example. Subordinate to the ultimate goal of *To Finish* (with corresponding interpretation “Save the princess”), we find *Remove- \langle agent=B1 \rangle* (“Defeat Bowser”), and further *Reach- \langle location=A1 \rangle* (“Destroy the bridge with an axe”).

²Our understanding of Narrative Goals is broad, including goals that are merely represented but not necessarily part of a narration. The distinction between these is important but omitted due to lack of space.

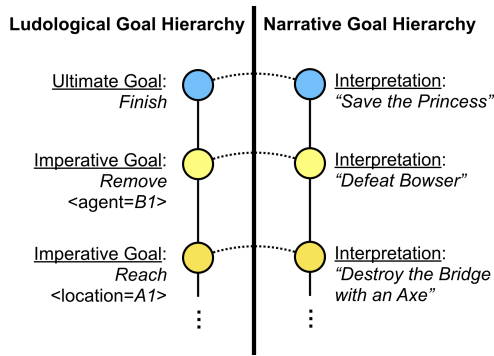


Figure 3: The parallel goal hierarchies of SMB. Because narrative goals are interpretations of ludological ones, there is a parallel hierarchy of narrative goals in all games.

The Narrative Goal Hierarchy suggests a causal structure in terms of the narrative that the player is a part of. In narratives, there are four senses of causation worth considering [48]: (a) *Enablement*, a causal relation involving sufficient but strictly not necessary criteria for something to occur, (b) *Physical*, a causal relation that appeals to the physical world and mechanical causality between entities (e.g. gravity *causes* me to stay on the ground), (c) *Motivational*, a causal relation brought about by an action toward a goal, and (d) *Psychological*, a causal relation that reflects a side-effect of an action toward a goal. The Ludological Goal Hierarchy’s nature – which reflects the sub-ordinate conditions needed to satisfy super-ordinate goals – suggests that the Narrative Goal Hierarchy will primarily reflect *Motivational* causation. This aligns with the consensus that narratives provide motivation to act in games [26, 27, 38].

2.2 Methods: Decomposition, Regression, Map

The core method of our goal-based framework is to *decompositionally* and/or *regressively* analyze [8] a game’s goal structure. Each goal – ludological or narrative – can be analyzed and subsequently mapped to its element on the *other* side of the generated hierarchy.

The analysis begins on either side of the parallel hierarchies and is question-driven. If you start on the ludological side, each new *sub-ordinate* (“lower-level”) ludological goal is obtained through decomposition by answering: “and *how* do you achieve *that* goal?” If instead you start on the narrative side, each new *super-ordinate* (“higher-level”) narrative goal is obtained through regression by answering: “and *why* do you want to achieve *that* goal?”

The mapping between hierarchies may be more (or less) evident depending on the game. While our interpretation of *To Finish* as “Save the princess” is plausible, our interpretation of “Destroy the bridge with an axe” is arguably less well-supported: nothing explicitly indicates that what the player is doing is *actually* destroying the bridge. *SMB*’s “bridge destruction” animation is of sufficiently low fidelity that players may interpret it differently (e.g. the bridge was “retracted”). Further, nothing explicitly indicates that what the player touches is in fact an axe (perhaps it is a lever?). The game’s graphical representation of $\langle \text{location}=\text{A1} \rangle$ suggests the interpretation of an axe due to an appeal to its prototypical [29] appearance. Interpretations can be fragile since players may never formulate a

narrative goal. What happens if the player never comes up with the interpretation “Destroy the bridge with an axe”? Here, they would be “stuck,” unable to continue and forced to randomly try things in hopes of discovering what they’re supposed to do. Here, the game’s imperative *Reach*- $\langle \text{location}=\text{A1} \rangle$ can still be met - but the player may not understand what they did that allowed them to finish the game.

3 DISCUSSION

The interpretation of the Ludological Goal Structure is fundamentally a *sensemaking* activity. Whereas the Ludological Goal Hierarchy codifies the meaning of the game in terms of goals that need to be satisfied *To (Win | Finish | Prolong)* it, the Narrative Goal Hierarchy suggests the meaning of the game in terms of the *motivation for play* as part of the player’s sensemaking of the game’s representational elements. Thus, players may walk away with different game stories due to different interpretations of the Ludological Goal Hierarchy, even though they engaged with the same game.

Gameplay *and* sensemaking co-operate: as the player plays, so too do they mentally enact the events. Importantly, we do not mean that game stories are a byproduct of (what Aarseth [2] calls) purely **interpretative** activity. Rather, the structural elements of games play a direct role in how the game story is constructed in the mind. Structurally, **storygames** [37] – which place a primacy on narrative – may have more narrative elements that facilitate a player’s sensemaking of their experience *as a narrative*. But, relative to storygames, non-storygames (a) have the same “phonological” (e.g. sounds, graphics, haptics) channels to communicate information to the player, and (b) also require the player to act toward structurally-meaningful (ludological) goals. In both storygames and non-storygames, the interface – *i.e.* the format through which narration happens – that communicates the game’s structural elements can be designed to scaffold (or not) the mental construction of particular narratives. Either way, the game’s interface is what effects a change in a player’s sensemaking, which results in a narrative – specifically, a game story – (mentally) “materializing” to the degree desired by the designer.

We contend that *how* meaning emerges from the interplay between ludological and narrative goals – how they mutually inform and constrain each other – is a central concern of **narrative design**. A narrative designer’s primary role is to construct **feedback** that elicits a designer-intended interpretation in the minds of players [11]. We posit that the tension across the Parallel Hierarchy of Game Goals is at the heart of thorny narrative design issues and our framework provides a way to explicate them.

For example, *ludonarrative dissonance* [23, p. 256] might be explained via mismatches between the ludological and narrative goal hierarchies. Further, the challenge of effective *localization* [13] might be due to the need to transcreate a games’ Narrative Goal Hierarchy so as to preserve the relationships between narrative goals and their ludological counterparts. We can also examine how designers use literary devices to scaffold narrative goal interpretations that, in turn, create *player expectations* and *interactive narrative affordances* [10] via the ludological goals they suggest. Due to space limitations, we defer discussing these issues to future work.

4 CONCLUSIONS

We provided a definition for narrative goals and showed how this definition, together with prior work on game goals, can be productive for better understanding and analyzing the relationship between gameplay and narrative. Rather than position games as having to balance between the narrative v. the ludological, we have illustrated how this spectrum is a false dichotomy that fails to account for how ludological goals might be structured and presented to suggest narrative meaning (in terms of motivations) and how narrative goals might be structured and presented to suggest ludological meaning (in terms of actions).

Storygames and non-storygames alike have narrative quality; both share interfaces that shape the sensemaking that gives rise to a player's interpretation of the game in a ludological and narrative goal sense, and thus both have need of narrative design. Narrative design is more about constraining the space of designer-satisfying *interpretations* than it is about world-building or screenplay writing; these latter activities are still immensely important, but more as a means to the narrative design end.

We conclude by revisiting and revising a seminal conclusion in the study of gameplay and narrative: that narratives are “just uninteresting ornaments or gift-wrappings to games, and laying any emphasis on studying these kinds of marketing tools is just a waste of time and energy” [21]; see “fiction denial” by Bateman [6, 7]. We agree that narratives are “ornaments” in the sense that narrative goals are an interpretation of the ludological ones, but have demonstrated how studying their interaction is interesting, fruitful, and necessary. The relationship between gameplay and narrative is symbiotic – not antagonistic – relevant for all but the most abstract games, and not restricted to storygames. To study a game is to study its narrative, and to study a narrative in games is to study its gameplay.

REFERENCES

- [1] Espen Aarseth. 2012. A Narrative Theory of Games. In *Proceedings of the 6th International Conference on the Foundations of Digital Games*. 129–133.
- [2] Espen J. Aarseth. 1997. *Cybertext: Perspectives on Ergodic Literature*. John Hopkins University Press, Baltimore, MD, USA.
- [3] Espen J. Aarseth. 2004. Quest games as post-narrative discourse. In *Narrative across media*. University of Nebraska Press, Lincoln, NE, USA, 361–376.
- [4] Gabriel Abend. 2008. The Meaning of ‘Theory’. *Sociological theory* 26, 2 (2008), 173–199.
- [5] Chee Siang Ang. 2006. Rules, gameplay, and narratives in video games. *Simulation & Gaming* 37, 3 (2006), 306–325.
- [6] Chris Bateman. 2013. Fiction Denial and the Liberation of Games [Limited Edition Working Paper], Bolton: University of Bolton. (2013).
- [7] Chris Bateman. 2013. Is Fiction Just a Wrapper for Games? Online. <http://blog.ihobo.com/2013/10/is-fiction-just-a-wrapper-for-games.html>
- [8] Michael Beaney. 2005. Appreciating the Varieties of Analysis: A Reply to Ongley. *The Bertran Russell Society Quarterly* 128 (2005).
- [9] Staffan Björk and Jussi Holopainen. 2005. *Patterns in Game Design*. Charles River Media, Hingham, MA, USA.
- [10] Rogelio E. Cardona-Rivera. 2019. *A Model of Interactive Narrative Affordances*. Ph.D. Dissertation. North Carolina State University.
- [11] Rogelio E. Cardona-Rivera and R. Michael Young. 2013. A Cognitivist Theory of Affordances for Games. In *Proceedings of the 2013 Digital Games Research Conference: DeFragging Game Studies*. DiGRA.
- [12] G. Costikyan. 2002. I Have No Words: I Must Design: Toward a Critical Vocabulary for Games. In *Proceedings of the 2002 Computer Games and Digital Cultures Conference*, Frans Mäyrä (Ed.). Tampere University Press, Tampere, Finland.
- [13] Dawid Czech et al. 2013. Challenges in video game localization: An integrated perspective. *Explorations: A Journal of Language and Literature* 1 (2013), 3–25.
- [14] Michael S. Debus. 2019. *Unifying Game Ontology: A Faceted Classification of Game Elements*. Ph.D. Dissertation. IT University of Copenhagen, Denmark.
- [15] Michael S. Debus, José P. Zagal, and Rogelio E. Cardona-Rivera. 2019. A Typology of Imperative Game Goals. *Manuscript submitted for publication*. (2019).
- [16] Nintendo Creative Department. 1985. *Super Mario Bros*. Nintendo, Tokyo, Japan. Video game published for the Nintendo Entertainment System.
- [17] Mirjam Palosaari Eladhari. 2018. Re-tellings: The Fourth Layer of Narrative as an Instrument for Critique. In *Proceedings of the 11th International Conference on Interactive Digital Storytelling*. Springer, New York, NY, USA, 65–78.
- [18] George Skaff Elias, Richard Garfield, and K. Robert Gutschera. 2012. *Characteristics of Games*. MIT Press.
- [19] Christian Elverdam and E. Aarseth. 2007. Game classification and game design: Construction through critical analysis. *Games and Culture* 2, 1 (2007), 3–22.
- [20] Astrid Ensslin. 2011. *The Language of Gaming*. Palgrave Macmillan.
- [21] Markku Eskelinen. 2001. The gaming situation. *Game studies* 1, 1 (2001), 68.
- [22] Gonzalo Frasca. 2003. Ludologists love stories, too: notes from a debate that never took place. In *Proceedings of the DiGRA Conference: Level Up*.
- [23] Clint Hocking. 2009. Ludonarrative dissonance in Bioshock: The problem of what the game is about. *Well played* 1 (2009), 255–260.
- [24] Jeff Howard. 2008. *Quests: Design, Theory, and History in Games and Narratives*. AK Peters/CRC Press, Wellesley, MA, USA.
- [25] W. Iser. 1980. Interaction Between Text and Reader. In *The Reader in the Text*, S. R. Suleiman and I. Crosman (Eds.). Princeton University Press, 106–119.
- [26] Henry Jenkins. 2004. Game Design as Narrative Architecture. In *First Person: New Media as Story, Performance, and Game*, Noah Wardrip-Fruin and Pat Harrigan (Eds.). MIT Press, Cambridge, MA, USA.
- [27] Jesper Juul. 2001. Games telling stories. *Game studies* 1, 1 (2001), 45.
- [28] Jesper Juul. 2007. Without a goal: on open and expressive games. In *Videogame, player, text*, B. Atkins and T. Krzywinska (Eds.). Manchester U. Press, 191–203.
- [29] George Lakoff. 1999. Cognitive Models and Prototype Theory. (1999), 391–421.
- [30] George Lakoff and Mark Johnson. 2008. *Metaphors We Live By*. University of Chicago Press, Chicago, IL, USA.
- [31] Bjarke Alexander Larsen, Luis Emilio Bruni, and Henrik Schoenau-Fog. 2019. The Story We Cannot See: On How a Retelling Relates to Its Afterstory. In *Proceedings of the 12th International Conference on Interactive Digital Storytelling*. 190–203.
- [32] Olli Tapio Leino. 2010. *Emotions in play: On the constitution of emotion in solitary computer game play*. Ph.D. Dissertation. IT University of Copenhagen.
- [33] Peter Mawhorter, Carmen Zegura, Alex Gray, Arnav Jhala, Michael Mateas, and Noah Wardrip-Fruin. 2018. Choice poetics by example. In *Arts*, Vol. 7. Multidisciplinary Digital Publishing Institute, 47.
- [34] Souvik Mukherjee. 2015. *Video games and storytelling: Reading games and playing books*. Springer.
- [35] Janet H. Murray. 2005. The last word on ludology v narratology in game studies. In *International DiGRA Conference*.
- [36] Jeff L. Nay and José P Zagal. 2017. Meaning without consequence: virtue ethics and inconsequential choices in games. In *Proceedings of the 12th International Conference on the Foundations of Digital Games*. ACM, New York, NY, USA, 1–8.
- [37] Aaron A. Reed. 2017. *Changeful Tales: Design-Driven Approaches Toward More Expressive Storygames*. Ph.D. Dissertation. University of California Santa Cruz, Santa Cruz, CA, USA.
- [38] Marie-Laure Ryan. 2009. From narrative games to playable stories: Toward a poetics of interactive narrative. *Storyworlds: A Journal of Narrative Studies* 1 (2009), 43–59.
- [39] Katie Salen and Eric Zimmerman. 2004. *Rules of play: Game design fundamentals*. MIT press, Cambridge, MA, USA.
- [40] Lawrence Shapiro. 2019. *Embodied Cognition*. Routledge, New York, NY, USA.
- [41] Heide Smith et al. 2006. *Plans and Purposes How Videogame Goals Shape Player Behaviour*. Ph.D. Dissertation.
- [42] Jaakko Stenros. 2017. The game definition game: A review. *Games and culture* 12, 6 (2017), 499–520.
- [43] Taito. 1978. *Space Invaders*. Taito, Tokyo, Japan. Arcade game.
- [44] Alfred Tarski. 1983. The Concept of Truth in Formalized Languages. In *Logic, Semantics, Metamathematics: Papers from 1923 to 1938* (2nd ed.), J. Corcoran and J. H. Woodger [Translator] (Eds.). Hackett Publishing Co., IN, USA.
- [45] Stefan Timmermans and Iddo Tavory. 2012. Theory construction in qualitative research: From grounded theory to abductive analysis. *Sociological theory* 30, 3 (2012), 167–186.
- [46] Jason Tocci. 2008. “You Are Dead. Continue?”: Conflicts and Complements in Game Rules and Fiction. *Eludamos. J. for Computer Game Culture* 2, 2 (2008), 187–201.
- [47] Susana Tosca. 2003. The quest problem in computer games. In *Technologies for Interactive Digital Storytelling and Entertainment Conference*.
- [48] Tom Trabasso and Linda L. Sperry. 1985. Causal Relatedness and Importance of Story Events. *Journal of Memory and language* 24, 5 (1985), 595–611.
- [49] José P. Zagal. 2011. Heavy Rain: Morality the Quotidian, in Inaction, and the Ambiguous. In *Vice City Virtue: Moral Issues in Digital Game Play*, Karolien Poels and Steven Malliet (Eds.). Acco Academic, Leuven, Belgium, 267–286.
- [50] José P. Zagal, Michael S. Debus, and Rogelio E. Cardona-Rivera. 2019. On the Ultimate Goals of Games: Winning, Finishing, and Prolonging. In *Proceedings of the 13th International Philosophy of Computer Games Conference*. 11.