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Article

Don't Leave Me Alone Here: Introducing the 'Ludo-Rapport Model for Player-Companion Interaction' in Video Games

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Abstract

This article explores the relationship between video game players and virtual companion characters in the form of rapport, while examining how this type of meaningful interaction is formed, developed, and maintained while playing a video game. It discusses methods used by game designers to create companions that do not feel like functional objects in a game sequence, but rather like believable functioning subjects that are not simply shaped or bent by or to the player's action and will. As this article shows, a player's interaction with such companions can encourage growth and empathy in both the player-character as well as the player. For this purpose, I introduce a unique model that allows us to isolate key video game components in the formation of rapport, analyze their significance and function, and apply them to video games centered around meaningful interaction between players and companions. The 'ludo-rapport model for player-companion interaction' draws inspiration from a social psychology study on the nature of rapport and is adjusted specifically to the field of video games studies. The model demonstrates how rapport between players and companions, via the player-character, is formed best by a combination of narrative, mechanics, and gameplay components in an interrelated structure. Using the game *God of War* (Santa Monica Studio 2018) as a case study to evaluate its application, this article argues that rapport between players and virtual companions in video games reinforces the medium's transition from instrumentalizing to empathizing, encouraging players to ask *how* a game *feels* rather than *what* a game *does*.

Introduction

Video games these days are rarely experienced alone. Whether played on a mobile phone, a PC or a dedicated console, gaming is a social experience that can form meaningful connections and relationships among players all over the world. According to a 2013 report, out of 1.2 billion people who play games, over 700 million do so online (Spil Games 2013), and a recent study shows that of the seven most played game types, five are online multiplayer-based games (Limelight Networks 2020: 10). The image of gaming today is without a doubt a far cry from the early reputation of games as anti-social spaces, a trend which is reflected in numerous studies discussing the social benefits of gaming.[1] However, while many studies related to video games tend to emphasize socio-cultural aspects of gaming communities, a growing number of single-player games with no multiplayer or online components at their core, offer players an entirely different kind of meaningful and emotional relationship to explore: rapport with a virtual, non-player character (or NPC, a character in a video game that is not controlled by the player) in the form of a video game companion.[2]

In this article, I focus on this type of interaction and examine its formation by introducing a unique model that analyzes the way rapport—generally defined as a positive and meaningful interaction—evolves and is maintained in a video game environment while considering the multilayered dynamics of players, player-characters, and NPC companions. I draw inspiration from the study of social psychologists Linda Tickle-Degnen and Robert Rosenthal on the nature of rapport as a dynamic structure of three essential and interrelated components: mutual attentiveness, positivity, and coordination. These elements are then translated into three core components in video games: narrative, mechanics, and gameplay. I argue that a player-and-companion rapport can be formed best by the combination of these three components and that such a relationship can dramatically enhance players' experience in the forms of engagement, immersion, and emotional investment in the game.

Review of emotions in video games

As this article aims to explore the emotional state of rapport between players and virtual companions, it is necessary to provide a review of how emotions translate into video games. Emotions have always played a significant role in game design and generated great interest in academic research on the field. Scholars today explore a wide range of complex emotions in games, presenting a much broader scope than the focus on players' negative emotions and psychological effects such as aggression, violent behavior or

addiction that was predominant in game research for over two decades.[3] While the discussion on these topics (and the debate on some of the early findings and theories) is far from over,[4] more voices than ever in both academia and, to a lesser extent, mainstream media, push for a more diverse discourse on the topic.

One of the leading voices is Katherine Isbister, who in her book *How Games Move Us* explores the "powerful role of games in creating empathy and other strong, positive emotional experiences" (Isbister 2016: xvii). Isbister demonstrates how strong emotional qualities—including ones dealing with difficult themes such as grief, depression, or loneliness—are revealed and realized in contemporary independent games such as *Hush* (Antonisse and Johnson 2008), *Cart Life* (Hofmeier 2011) or *Journey* (Thatgamecompany 2012) (ibid.). Gordon Calleja is another champion of this message and includes various forms of emotional engagement in the form of affective involvement, as one of the six dimensions of his player involvement model. Calleja argues that the potential of games to affect players emotionally is a significant factor in the absorbing nature of video games, and while other media also achieve this, "an important difference with digital games is the way they place the player in a cybernetic feedback loop between human mind and machine" (Calleja 2011: 135). This feedback loop is at the core of Jane McGonigal's argument on how video games are fulfilling genuine human needs that the real world is currently unable to satisfy. McGonigal claims that this feedback and other attributes unique to the medium make us care more about real-life issues encountered in games, resulting in our drive to tackle these real-life problems and eventually, to fix what is wrong with our reality using solutions acquired in virtual game worlds (McGonigal 2011).

A major part of the paradigm shift is credited to innovative game designers and the way they focus on and implement emotional design in their creations. Stephane Bura makes this clear, saying that "players don't play to complete games, just as readers don't read to finish books. Players play to feel emotions" (Bura 2008). Considering the ways games impact players emotionally is not a secondary element in current design philosophy, but an anchor in the early design phase. In his book *The Art of Game Design*, Jesse Schell approaches game design from multiple perspectives which he refers to as "lenses." The first lens of design according to Schell is the lens of emotion, necessary to craft memorable experiences, which requires the designer to ask what emotions players are having when they play, and why (Schell 2015: 19). This is not to say that emotions have been entirely neglected in past game design, or that designers did not aim to display, explore, or convey a wide array of emotions. A well-known example is a 1982 magazine recruitment ad by Electronic Arts (EA), entitled "Can a computer make you cry?", placing software alongside other artistic media and branding the company as one producing art,[5] the benchmark for emotional involvement.

Despite this and similar efforts, however, the focus of most designers has been on emotions that are native to the medium such as joy, triumph, competitiveness, and empowerment, and so recognition of games as a medium capable of conveying a broad emotional palette did not come to fruition for many years, resulting in games excelling in emotional design being rather few and far between.[6] This is echoed in Isbister's argument that "at this moment there's a Renaissance taking place in games, in the breadth of genres and the range of emotional territory they cover" (Isbister 2016: xvii). It is hard to pinpoint when the "Renaissance" began exactly, but as with most cases of media evolution and cycles, an aggregation of factors generated this trend. In the case of video games, major milestones were the rise of indie games[7] which lowered the entry bar for game development and massively diversified the development scenes and themes in the mid-2000s, alongside major studios creating more complex, compelling, and gripping games than ever before. Such creations are not limited to positive emotions, with some designers choose to confront players with painful themes, moral dilemmas, frustration, and even guilt, pushing the emotional impact of video games to new heights.[8]

What is it that makes emotions so important in the stories we experience as players, and are stories essential to create emotional games? Lebowitz and Klug argue that "the entire point of stories is to let us experience other places and other lives. When we feel sympathy for a tragic heroine or deep hatred for a villain, it proves just how much a part of the story we've become" (Lebowitz and Klug 2011: 107). Without such attachment, we are no more than observers of a fictional event. When we do form an attachment to a fictional character, however, "the place and characters have become alive and real" (ibid.). That is when we, the readers, viewers, and players become immersed, or present in the creation. That is how fictional characters transcend their role from strangers on a page, actors on a movie screen, or pixels in a video game, and become "our friends, companions, and enemies, and as such, we truly care what happens to them" (ibid.).

For players to form such emotional attachments with the characters they interact with in stories, the characters themselves must demonstrate a key feature shared with fictional characters across all visual media: an "illusion of life." The term is at the heart of Frank Thomas and Ollie Johnston's 1981 seminal work on Walt Disney animation, describing how Disney animators in the 1920s and 1930s aimed to make audiences believe that the characters seen on the screen are not necessarily "alive," but exhibit emotions that reflect an "illusion" of living beings (Thomas and Johnston 1981). Although animators today have many more tools to convey characters' emotions than nearly a century ago, the foundation of this approach can still be seen across all forms of animated creations. Similarly, since animation was one of the main pillars in the evolution of video games, this approach can be expanded to include contemporary games that do not rely on

traditional animation to exhibit emotions. Games today present an extraordinary variety of visual expressions, from hand-drawn animation to computer graphics and full-motion capture, and while the methods to achieve the sense of illusion differ greatly between games, the importance of creating believable characters across all genres and visual styles cannot be overstated.[9] Also, while the relationships between players and NPCs differ in intensity, purpose, presentation, implementation, and impact, they are crucial in creating an emotional attachment that complements other aspects of video games such as exploration, combat, or storytelling. As discussed in game studies research and shown by empirical data,[10] virtual characters capable of perceiving and exhibiting emotions, forging relationships, and reacting to their environment, the game world, and the player's actions, are more believable in the eye of the player and encourage the formation of a meaningful attachment. The rapport between players and companions can dramatically enhance players' engagement, which reinforces the industry's transition from instrumentalizing to empathizing, and ultimately encouraging players to ask *how* a game *feels* rather than *what* a game *does*.

Finally, since our interaction with games can be realized via multiple components of involvement, players' emotional response is not limited to the stories they tell or even the characters they interact with, meaning that games that are not narrative-based or ones with limited interaction options are still capable of impacting players emotionally. An often-cited example is 2012 *Journey*, a game that is meant to parallel the hero's monomythic journey[11] as analyzed by Joseph Campbell (1949), but the way the game conveys these themes is through its mechanics, settings, and sequences. The game does not provide any exposition of its themes but still manages to convey its message masterfully: as players embark on their journey, they are limited to a hesitant, slow plodding pace which makes traversing the vast land challenging and intimidating. The movement gradually evolves into a free-flowing and liberating rhythm, an evolution that can emulate experiencing various trials and overcoming various tribulations. In other sections players must avoid menacing enemies in dark caves, alluding to the fear in the belly of the whale, followed by adversity on the way to the top of the mountain as players' movement is once again restricted, this time to an agonizing pace in an unforgiving environment. Ultimately, players are rewarded with the ability to fly, a sensation of transcendence in the final journey to the mountain's peak, before returning to the starting point with all the acquired abilities they gained throughout the adventure. *Journey* presents all these stages with no text, no voice-over, or any other means of traditional narrative exposition, and yet the developers were able to leverage the tools of interactivity to convey messages of intimacy, joy, fear, vulnerability, and hardship. Eight years after its release, *Journey* is still praised for presenting such a complex emotional arc with means unique to the medium of video games.

Working definitions

When discussing video games outside the discipline of game studies, the jargon can be somewhat overwhelming with terms, abbreviations, and acronyms used to describe anything from genres and technology to play styles and gaming communities. This article is no different in its broad use of such jargon, and it is crucial to explain the key terms which are at its core.

The player-character

The analysis in this paper refers to single-player, mostly linear games with an established plot and characters, where players do not have the option to create their avatars. Therefore, I will be using the term player-character, meaning that players control the protagonist characters of a game, characters that are governed by their own desires and motivation, have an established background, personality, goals, and relationships that we as the players explore throughout their adventure. Although avatars and player-characters are often used interchangeably, the term avatar usually implies a representation of the player, a blank slate, or a vessel for the player to embody and experience the game world through her perspective. Such a distinction is not always clear, however, and deciding how to describe a certain type of player-controlled character can be controversial as a result. Salen and Zimmerman, for example, refer to the protagonist character as "a puppet, an object for the player to manipulate according to the rules of the game" (Salen and Zimmerman 2004: 453). While manipulating characters according to pre-established rules is at the heart of most video games, I argue that established player-characters are far from being simply marionettes for players to manipulate, a complexity addressed by Salen and Zimmerman who acknowledge that by controlling such characters, "the player has a portal into the complex narrative world of the game" (ibid). Hence, the player encounters the game world through the character's eyes, an action which according to Salen and Zimmerman results in a strong emotional attachment to their digital counterpart (ibid.). From Lara Croft in *Tomb Raider* (Core Design 1996) to Sam Porter Bridges in *Death Stranding* (Kojima Productions 2019), a common thread of this type of games and their leading characters is the richness of their histories, relationships, and interactions with the game world and its inhabitants, which players unfold alongside them throughout the game.

Companions

Companions in video games are the characters that players do not control directly (non-player characters, or NPCs) and which accompany the player-character for the entire or most of the duration of a video game. NPC companions fulfill numerous roles in video

games, from sidekicks, gameplay tools, escort objects or information conduits, to plot devices, advisers, agents of exposition or interpreters of plot and lore for both the player and player-character. Companions can assist in maintaining a proper flow or pacing in a game, and alleviate slower sections by keeping players engaged, helping defeat difficult enemies or allowing the player to traverse the game world more easily and reaching inaccessible locations. As discussed by Chowanda et al., over time the patterns of interaction between a player and companion can evolve in several ways according to the companion design's capability of accommodating such progress (Chowanda et al. 2016: 85).

In the context of this article, companions must fulfill a central role throughout the entirety of a video game, even if deliberately absent from some sections as part of the game design and narrative. The focus is on the rapport between players and companions that are embedded in the game's narrative, mechanics, gameplay, and progression, are not optional, and cannot be "recruited" or "dismissed" by the player (as in the form of a "party" in a role-playing game). In addition, the player cannot influence the companion's attitude towards the player-character via dialogue trees, and in most cases does not directly control the companion.[12]

Narrative, mechanics, and gameplay

To analyze rapport between players and companions, I make use of the following video game components: narrative, mechanics, and gameplay. These components are interrelated in forming the type of games I examine, and while numerous other components are just as important in forming a video game (aesthetics, technology or platforms of play, to name only a few), I identify the components mentioned above to be instrumental in the process of forming rapport between players and companions.

Narrative in the context of video games is the sequence of events that unfolds in the game which may be either linear and pre-scripted or branching and emergent. Whether designer-driven or player-driven, narrative binds events together and drives the player toward completion of the game's story. While we can identify different types of narrative involvements,[13] in this article narrative refers to the game's story which is conveyed through in-game dialogue, cut scenes, environmental storytelling, and so on.

Understanding (or explaining) video game mechanics necessitate closer examination, as we do not have a universally agreed-upon theory of game mechanics. Egenfeldt-Nielsen et al. refer to mechanics as an ambiguous term often referring to events or actions that the game design allows for, and, while not addressed in research as often as, say, narrative analysis, mechanics are still a controversial component in game design and game studies, with several frameworks and theories discussing the term.[14] Most of these share the idea that game mechanics function as the core of any game and are the building

blocks of the game's rule system. Since video games are rule-based, the mechanics organize the causal relationships between the interactions of the different agents in a game according to how play progresses, what happens when, and what conditions determine victory or defeat (if these are elements present in the game). Although mechanics can be understood as subsets of rules, in the context of this article I refer to Miguel Sicart (2008) who makes the distinction that rules are normative, while mechanics are performative, meaning that the rules in video games are set, and meant to remain, underneath the surface of play but are communicated by the mechanics. A more hands-on approach reveals the significance of mechanics in actual game design. Game designer Jesse Schell, for example, argues that "game mechanics are the core of what a game truly is. They are the interactions and relationships that remain when all of the aesthetics, technology, and story are stripped away" (Schell 2015: 158). Considering the example of *Journey* referred to earlier, it is clear mechanics can convey meanings beyond what is presented aesthetically or narratively. On one level, game mechanics are very objective, clearly stating sets of interaction with the game. On another level, though, they involve a more subjective interpretation, as echoed by Imre Hofmann as he discusses how game mechanics and game experience causally correlate with each other: "I consider 'game experience' and 'game mechanics' to be the two conceptual cornerstones that define the field of game mechanics: on one side, 'game experience' stands for the *subjective experience* ("I feel excited playing this."), whereas on the other side, 'game mechanics' stands for the *objective mechanics of a game* ("The inner, causal architecture of this game looks like that")" (Hofmann 2018: 69). While Hofmann talks about the game experience in general, this article focuses on how mechanics evoke specific emotions and convey meanings supporting rapport building between players and companions.

In order for these meanings to come into operation, we need an interface, which is the gameplay created by the mechanics (Adams and Dormans 2012). The term gameplay, as noted by Egenfeldt-Nielsen et al., is often used but rarely defined (Egenfeldt-Nielsen et al. 2016: 127). While they argue that gameplay refers to the game dynamics, or more simply, "how it feels to play a game," they acknowledge that this feeling is influenced by other factors such as a game's audio and visual aspects (aesthetic elements) and that gameplay is usually considered a consequence of the game's rules rather than its "representation" (ibid.), which is in-line with Hofmann's distinction of gameplay and game experience (Hofmann 2018). While some include the game's aesthetics as part of the definition of gameplay, aesthetics generally refer to all of the stimulating elements of the game and are often closely related to the less abstract elements of the game's design such as music, art, and even story. Depending on the design, aesthetics are usually not as subtle as say, game mechanics, meaning that gameplay can refer to the player's entire

experience of playing a game. In short, gameplay can be understood as a player-focused subset of all possible interactions in a game, a tangible interface for mechanics in experiencing a video game.

Tickle-Degnen and Rosenthal on the nature of rapport

To examine rapport between players and companions, I refer to a study by Linda Tickle-Degnen and Robert Rosenthal who examine social relationships in the form of rapport. The study of interpersonal relationships has traditionally focused on feelings, attributions, expectations, and behaviors of individuals *vis-à-vis* one another (Altman 1990: 294), elements that are at the core of Tickle-Degnen and Rosenthal's theory. According to Tickle-Degnen and Rosenthal, rapport exists only in the interaction between individuals and is experienced as the result of "a combination of qualities that emerge from each individual during interaction" (Tickle-Degnen and Rosenthal 1990: 286). As I will demonstrate, this framing is extremely useful when considering rapport between players and companions, and when suitably applied in the field of game studies, can address the obvious limitation of assessing emotional attachment between human players and virtual characters.

The main argument of Tickle-Degnen and Rosenthal is that the nature of rapport is a dynamic structure of three interrelated components: mutual attentiveness, positivity, and coordination. Mutual attentiveness creates the focused and cohesive interaction between interactants, as "they become unified, through the expression of mutual attention to and involvement with one another" (Tickle-Degnen and Rosenthal 1990: 286). The focus of each participant in this stage is directed toward the other, is other-involved, as interactants "experience the feeling as one of intense mutual interest in what the other is saying or doing" (ibid.). The second essential component is the positivity present in the interaction. In this phase, interactants in rapport with one another "feel mutual friendliness and caring" (ibid.). Tickle-Degnen and Rosenthal clarify that while the positivity component is closely related to the degree of involvement and attentiveness, "a high level of one component does not necessarily imply a high level of the other component" (ibid.), resulting in the possibility of negative mutual attentiveness. The final essential component of rapport identified by Tickle-Degnen and Rosenthal is coordination between interactants. They use terms such as balance, harmony, and "in sync" to describe this component of rapport, words that convey "an image of equilibrium, of regularity and predictability, of coordination between the interactants" (ibid.). Once again, although the positivity and coordination components are intricately linked, they are not equivalent, and while the terms used to describe coordination have positive connotations, "there is something more to them than just positive valence" (ibid.).

Tickle-Degnen and Rosenthal's model is not without its limitations, however, with critics claiming that the three components do not always generate or signal rapport and that how they correlate with rapport vary across contexts (in Nelson et al. 2016: 1). While such criticism addresses limitations when conducting a psychological study on the nature of rapport, the taxonomy suggested by Tickle-Degnen and Rosenthal, when applied to the analysis of design aspects of player and companion interaction in video games, provides us with an innovative way to explore a relatively uncharted theme in video game studies. While there are numerous player-oriented studies examining players' emotional attachment to virtual characters, ranging from marriage (Isbister 2016: 31) to dating virtual pigeons (Lamerichs 2014: 43-61), there is not, to the best of my knowledge, a comprehensive, design-oriented exploration focused on player-companion rapport. Hence, inspired by Tickle-Degnen and Rosenthal's theory, the model I propose aims to map player-companion rapport by isolating the three interrelated components of involvement with video games presented earlier, and matching them with the corresponding components of the Tickle-Degnen and Rosenthal model on the nature of rapport.

The ludo-rapport model for player-companion interaction

In creating a model that allows us to analyze rapport between players and video game companions using the interrelated components presented by Tickle-Degnen and Rosenthal, we must create a bridge between the two sets of components from each field: the "ludo" (from "ludus," the Latin word for play or game), which includes numerous elements and ways of play but will refer here to the narrative, mechanics and gameplay of a video game, and the rapport components presented earlier. Hence, I identify and translate each component by a correlating counterpart and use different states and processes (cognition, affect, and kinesthesis) as "links" to connect the two.

I identify mutual attentiveness as the cognitive component, manifested in the game narrative, with the idea that the player-character is always established and embedded in the narrative itself.

Mutual attentiveness → Cognition → **Narrative** (player-character focused)

The American Psychological Association (APA) defines cognition as "all forms of knowing and awareness, such as perceiving, conceiving, remembering, reasoning, judging, imagining, and problem solving" (APA Dictionary of Psychology: cognition). In games fitting the analysis criteria, both the narrative (a form of knowing) and the interaction with the companion (a form of awareness) are communicated and experienced via the player-character (see Figure 1). The narrative dictates the focused and cohesive interaction between interactants toward the main goal presented to the player as the

player-character. In accordance with the definition of mutual attentiveness, the focus of each participant in this stage is directed toward the other, either positively or negatively, but it must go through the narrative and be experienced via the player-character, as we clearly defined that the model is used to examine single-player, mainly linear games with an established plot and characters. This can be seen in story-driven games, such as *Uncharted 4: A Thief's End* (Naughty Dog 2016). The player experiences the narrative mainly through the eyes of the player-character, Nathan Drake, as well as the interactions with Sam, Sully and Elena as his/our companions. This is done in the form of conversations, flashbacks, and journal entries, but also through combat, platforming sequences, and minigames, all deeply embedded in the narrative and involve mutual attentiveness which in turn enables the progression of the narrative.

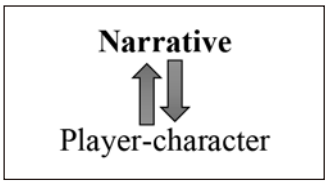

Figure 1: The narrative is experienced via and shaped by the player-character.

Next, I identify positivity as the affective component, manifested in game mechanics:

Positivity → Affect → **Mechanics** (companion focused)

The term positivity is limiting by its nature, but with affect, we have room to examine more complex emotions between interactants, as it is generally defined as "any experience of feeling or emotion" (APA Dictionary of Psychology: affect) and can be described in terms of positive affect or negative affect (ibid.). As previously discussed, mechanics are often used to convey meanings, to a degree where we find games that base most of the interaction with a companion on their mechanics (see Figure 2). Matching mechanics with the positivity component allows us to examine how they are used to build (or break) rapport and evaluate if the mechanics are in support of the interaction with the companion, at the core of the interaction, or whether their role in the interaction is limited or even non-existent. Hence, this component is companion focused. A prime example of the use of mechanics to establish player-and-companion rapport can be found in *ICO* (Team ICO 2001). Interaction between ICO (player-character) and Yorda (companion) is at the core of the game, as the player must guide Yorda by holding her hand, which is translated mechanically to pressing and holding a button. Asking the player to keep holding a button to lead Yorda simulates intimacy, and additional mechanics such as controller vibrations and the lack of a traditional health bar create a visceral connection between the player and Yorda, simulating empathy by tying the player's wellbeing to hers.

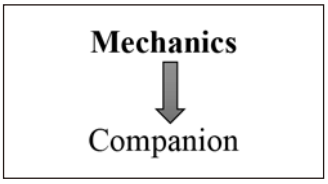

Figure 2: Mechanics provide players with means of interaction with companions.

Finally, I identify coordination as the kinesthetic component, manifested in gameplay:

Coordination → Kinesthesis → **Gameplay** (player focused)

Kinesthesis is the sense that enables us to control and coordinate movements (APA Dictionary of Psychology: kinesthesis), which correlates to the performative stage of the interaction. This stage is player-focused (see Figure 3), as it asks the player to utilize all the available mechanics of interaction with the companion, producing the gameplay. The interaction can have different requirements and sync levels with the companion, as well as challenges imposed by the narrative, so it also requires a high level of mutual attention between all interactants, as well as a high level of player attention to the sequences presented by the narrative to execute them accordingly. An example of rapport performed by gameplay is seen in *Celeste* (Matt Makes Games 2018) and the interaction between Madeline (player-character) and her inner demon manifested by her dark reflection, Badeline (companion). The game presents a dramatic shift in its rapport-based gameplay, as Madeline starts her journey being hunted by her dark reflection, forcing the player to try and escape Badeline and avoid her attacks. In accordance with the narrative progression, the two ultimately merge and the player must coordinate a series of fast-paced platforming challenges involving the two to reach the goal of the game at the peak of Celeste mountain.

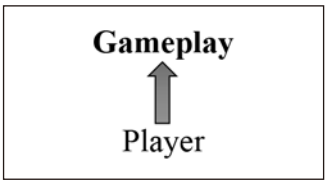

Figure 3: Player's use of available mechanics of interaction results in gameplay.

In order to complete the structure, I refer to Clyde Hendrick's observation[15] that, in the study of rapport, there must be a distinction between the individuals involved in the relationship (the insiders) and those who externally observe those individuals (the outsiders) (Hendrick 1990). Hendrick adds that such a distinction shows that the insider perspective deals with the phenomenology of feelings as experienced by participants in interaction, whereas the outsider perspective focuses on bodies and the actions of those bodies in time and space. When implementing this distinction to our case, the companion

is identified as the insider of the interaction, focused on the affective element/mechanics component, and the player as the outsider, focused on movement, namely the kinesthetics element/gameplay component. Finally, the player-character plays the role of the mediator between the two, forming a continuous feedback loop (see Figure 4). As previously discussed, such feedback loop ability to affect players emotionally is a significant factor in the absorbing nature of digital games and is essential in the formation of rapport between players and companions.

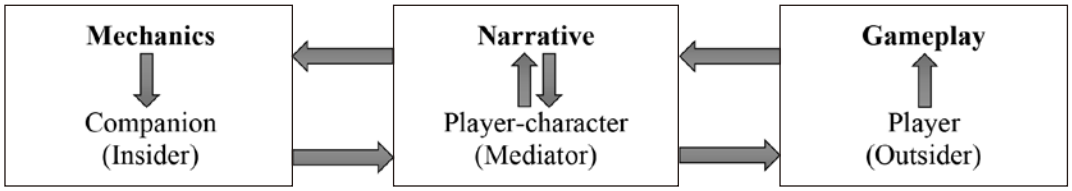

Figure 4: Ludo-rapport model for player - companion interaction. Each component focuses on a specific method of interaction while simultaneously supports the other components/ participants in the formation of rapport.

It is important to clarify that all the components are interrelated, meaning that even in cases where one is more dominant than others, we must consider the entire structure and its parts. In addition, if we change the purpose of the design, the linking elements can correlate differently with the cognitive, affective, and kinesthetic components. As with most theoretical frameworks, this classification is artificial and serves the specific purpose of this model, meaning that its components are not unique in their form, but unique only in their function within this model.[16] Hence, the purpose of the ludo-rapport model is not to examine *if* there can be an emotional attachment between players and NPCs, as this question was proven positive by multiple researchers designing specific models to test players' and NPCs' involvement, nor does it aim to answer how players interact with NPC companions when given multiple options of engagement to choose from (for example, befriending, romancing or betraying). Instead, this model is designed as a tool for analysing the ways game designers implement different methods aimed to form rapport between players and their virtual companions via the player-character.

Tickle-Degnen and Rosenthal's theory proved to be a beneficial and functional model for this purpose. First, both formulations examine interactions that take place between "individuals," a broad enough definition which allows its application in a variety of cases. As mentioned, all interactions performed by players are evinced by the player-character functioning to mediate between the player and companion, meaning that this multilayered dynamic is formed equally by all three individuals in the process of rapport.

Such interaction between individuals can also mean rapport towards amorphous forms. Barbara Klinger, for example, in relation to film culture, talks about the significance of "unimpeded rapport with the screen" (Klinger 2006: 24), demonstrating how technophilia is made possible "by acts of consumption that enable collectors to experience such rapport with machines and mass cultural artifacts" (ibid.: 85). Similarly, it expands our perspective of exploration to include rapport beyond players and human companions. As games present diverse companions to interact with, from mythical creatures to artificial life forms, the concept of an individual provides us with plenty of freedom to explore unlimited cases. Second, Tickle-Degnen and Rosenthal emphasize that while "an individual may be particularly adept at developing rapport in certain situations" (Tickle-Degnen and Rosenthal 1990: 286), rapport is not a personality trait but a positive experience between individuals, the result of "a combination of qualities that emerge during interaction"[17] (ibid.). Such approach supports the examination of tools available for the player when interacting with a virtual character[18] and proves to be practicable in video game analysis. This model would be less useful if we were trying to evaluate virtual characters (of which not all are human companions) based on their "personality", as opposed to their reaction and behavior during interaction which can be defined and mapped. Lastly, nonverbal behavior as presented in Tickle-Degnen and Rosenthal's study helps to explain the exclusion of games with multiple dialogue options from this model.

As a result, founding the ludo-rapport model components on a theory from a different discipline and adjusting it appropriately is a gateway that allows us to deepen our understanding of the medium. Video games encompass elements from a vast variety of disciplines and media, as well as elements that are unique to the medium. When considering the relationship between games, gameplay mechanics, and narrative, we can refer to Wolf and Perron's statement from nearly two decades ago, of the need to consider video games as "everything from the ergodic (work) to the ludic (play); as narrative, simulation, performance, remediation, and art" (Wolf and Perron 2003: 2).

Application

To demonstrate how the model helps us understand the relationship between players and companions, it is necessary to isolate events and sequences in applicable video games that can illustrate and interpret how the various components of building rapport come together. To do so we can apply in-depth, close reading (or close playing) of games, addressing their fictional language, ludic language, psychological language, or visual language, while identifying the various meanings to be found in each sequence. Also, we should consider the game's design choices using several sources such as design docu-

ments and comments made by the creators.

For this purpose, I will be discussing 2018 *God of War*, developed by Santa Monica Studio, and directed by Cory Barlog. It is a third-person action-adventure game, which tells an intimate tale between father and son and is presented in a single, unbroken shot, which allows it to seamlessly shift between cut scenes, storytelling, and gameplay. With its slow pace and intimate narrative, *God of War* draws inspiration from Cormac McCarthy's *The Road* (2006), a story about the journey of a father and son in an unforgiving post-apocalyptic America, as they make their way south towards the coast in search of food and shelter. *God of War* presents an expertly crafted exposition, a dense escalating plot, and a grounded exploration of the relationship between its main characters, the father Kratos and his son Atreus. Kratos is the player-character, a well-established protagonist with a rich and detailed history who appeared first in a 2005 game bearing the same name. This is an important aspect to consider when analyzing *God of War*, since the narrative is not confined to the latest iteration but is spread across multiple games involving Kratos, and his background heavily influences his relationship with Atreus, the companion character. Atreus is Kratos' adolescent son, whom players meet for the first in this current title. The two embark on a journey throughout the realms of Norse mythology to spread the ashes of Kratos' deceased wife and Atreus' mother from the highest peak in all the realms. As players are presented with this goal from the opening sequence, they are quickly thrown into an unfamiliar setting, responsible for guiding and protecting a character they know nothing about. Kratos, at the center of the model, is mediating between the players and Atreus, as our feelings towards the boy are shaped alongside Kratos as the two interact. Through gameplay in the form of exploration, quests, allocating resources, and combat, players gradually learn the game mechanics related to the interaction with Atreus.

As mentioned, it is also important to include in our analysis the designer's perspective that can provide us with a better understanding of the stages of development and the reasoning behind them. Early in the design phase of *God of War*, Barlog based the design on the following play pyramid that defines the moment-to-moment experience:

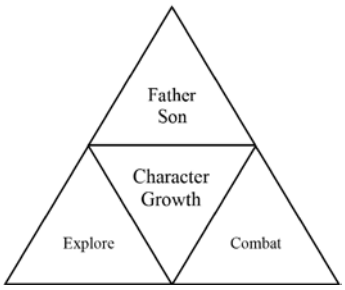

Figure 5: *God of War* Play Pyramid (Barlog 2019b, 21:00)

Every element added to the game in its design phase had to contribute to one of the core concepts of combat, exploration, and narrative (in the form of the relationship between father and son),[19] while all correlate to the ludo-rapport model components as will be presented shortly. The central piece is focused on character growth, meaning that no matter which concept of the game the player is engaged with, they all feed into character growth, helping to further the arcs of the characters (ibid.). Consequently, players can define how Kratos acts within the context of the game world, but he is also bound to his established character. Across seven games in the series, Kratos has been a tormented and selfish character, with his main drives being anger and revenge. He went through an extremely limited character growth in previous titles, and the way 2018 *God of War* approached this limitation from a storytelling perspective was by having him care for another character. Atreus was primarily designed for this purpose, but in addition to the narrative transformation, the inclusion of the son also enabled the designers to reinvent the series' gameplay and mechanics aspects, all while supporting character growth and rapport building in various ways. Applying the model to *God of War* results in the following chart:

Figure 6: *God of War* player - companion interaction.

Narrative (father and son)

The established background and characteristics of both Kratos and Atreus heavily impact their relationship. Atreus, native to the Norse lands, can translate Norse runes scattered in the world, and ciphering them is crucial for progression. Kratos on the other hand is a foreigner who found refuge in the Norse lands and cannot read such runes, making him, and the player, dependent on Atreus for exploration. Players experienced Kratos' origins in Greek mythology as the fallen god of war while playing as him in past games, and just like Kratos are now detached from their previously familiar setting, trying to adjust to a new environment and understand its peculiarities. Early in the game, Atreus is the only link between both Kratos and the players and their new environment, introducing it and explaining its mysteries. This is an important sequence in maintaining rapport between players and Atreus, as it connects to the concept of teaching embedded in the narrative. Kratos teaches his son what it means to be a god, a notion the players experienced in

previous games, and in turn, Atreus is teaching Kratos what it means to be a human, something he has forgotten long ago and a state that players rarely encountered before when playing as Kratos. This element is expressed not only narratively but also mechanically, and eventually affects the gameplay itself, demonstrating the flow of the model and the interrelatedness of the components. The designers gave Atreus a separate upgradeable skill tree, where the player/Kratos can "teach" him new abilities and upgrade his defensive or offensive skills in combat by investing in skill points and resources. This responsibility for teaching deepens the parental rapport the game is designed to evoke (following the core concept of father and son), as it asks players to spend skill points and resources on new abilities, weapons, and armor for Kratos, or his son. This decision is then materialized in gameplay, and so players can base their decision on gameplay-related factors: aggressive or defensive playstyles, number of resources available or full completion playthroughs being some of them. A unique factor to consider in *God of War*, however, is the state of rapport with Atreus when making such choices. During most sequences, the answer might seem simple and rely mainly on practical gameplay consideration. Yet in later sequences, Atreus becomes rude and frustrated with his father and his attitude is extremely negative, resulting in offensive comments towards Kratos and defying the players' commands. At this stage where Atreus' behavior is hard to bear, players must ask themselves if they are willing to invest hard-earned resources on a character that defies and insults them, regardless of how these decisions will impact gameplay.

Mechanics (combat)

Atreus contributes unique skills that are vital to progression and are tied to the narrative, as the game shows a strict adhesion to the logic of its own world by employing mechanical conceits. One such mechanic tied to Atreus which is in support of rapport is his archery skills in combat sequences. Atreus' deceased mother trained him to use a bow and arrow, a narrative element that is translated mechanically to Atreus ability to shoot enemies on the player's command. While Atreus is independent in battle even without the player's input, this mechanic is a valuable gameplay tool as commanding Atreus to fire arrows draw the enemies' attention, giving Kratos an opening to strike while opponents are distracted. As mentioned, in later sequences Atreus becomes rude and does not always execute the commands made by the player to use his arrows, reflecting the troubled father-son relationship experienced throughout the journey. Another mechanic that is related to combat is healing: when Kratos falls in battle, Atreus has a limited ability to revive him using a healing-stone that players can craft and assign to him. This mechanic once again highlights Kratos' dependency on Atreus, yet it also reveals Atreus' dependency on his father, which is clearly expressed in the case of players failing in battle,

resulting in Kratos' death. When this happens, Atreus will rush to his dying father, crying "*No, don't leave me alone here!*", a cry directed at Kratos, but also at us the players, emphasizing the player-character's parental role and evoking guilt for failing to fulfill our responsibility to protect him. In other sequences, Atreus falls ill and Kratos must travel alone to Helheim, the realm of the dead in Norse mythology, to save his son. On the one hand, this sequence disrupts the model, as the companion is not present, but on the other hand, it reinforces it, since the absence of the companion emphasizes its significance. Narratively, it is expressed by Kratos' distress and anxiety, a genuine dread for the life of his son shared in the players' sense of urgency. Mechanically, the absence of Atreus strips away valuable elements in combat and leaves Kratos vulnerable without Atreus' healing abilities, significantly cripples gameplay and limits the player for the duration of these sequences. Such events demonstrate the player's dependency on the companion, and vice versa, forming both a functional as well as emotional rapport.

Gameplay (exploration)

The final core concept of *God of War,* exploration, is also in support of rapport between players and Atreus. As in many games featuring companions, the two are codependent in exploration. Kratos can boost Atreus to high ledges where ropes can be dropped down, allowing Kratos to climb up. Atreus' ability to use his bow is also crucial in exploration, as his arrows are the only method of clearing toxic barriers from the environment, allowing Kratos to access previously inaccessible locations. These are extremely valuable gameplay elements, but *God of War* expends the exploration concept further as Atreus becomes a surrogate for the players' desires, while still being a fully independent agent. On several occasions, players have the option to explore locations outside the main storyline and complete optional "side quests" such as aiding lost spirits or searching for ancient treasures. Kratos—never being the explorer type—is reluctant whenever Atreus suggests they embark on such side quests, to explore uncharted locations, or help those in need, all activities that most players, much like Atreus, are eager to pursue. Embarking on a side quest is a mechanic introduced by Atreus, while the exploration itself is the gameplay sequence performed by the players. By implementing such a system and providing Kratos/players the choice to accept or decline Atreus' suggestions, *God of War* can maintain its narrative cohesiveness, avoids dissonance in Kratos character, and allows players to project their own feelings towards Atreus at different points in the game and according to his behavior. Accepting or declining such activities influences Atreus' reaction in the sequence, yet if players choose to pursue any optional activities, they are relying on the mechanic discussed earlier that allows Atreus to read maps containing Norse runes that Kratos is not familiar with. When completing these activities, Kratos is rewarded with

better gear or resources, but more important is the strengthening of rapport between players and Atreus who encouraged and enabled them to lead Kratos to discover new experiences.

Barlog and the team at Santa Monica Studio masterfully designed a companion that players genuinely care about, even though Atreus can never die in battle. The initial design, however, only allowed Atreus to engage in battle upon the player's command, which would also place him in danger of getting hurt. This mechanic of risk-reward dynamics was abandoned since the team felt it comes at the expense of the core concept in *God of War*, which in the words of Barlog is "the onus of raising a child." (Barlog 2019a). The team shifted the design to reflect the autonomy of Atreus while emphasizing the parental role:

> "I can never take over as my kid. I can't suddenly hit a button and be my kid so I can go to school for him so he can have a good day at school. I can arm him the best I can when he's not in school, with the best tools and the best knowledge so that he can survive at school by himself. And that was the drive with Atreus, that he's autonomous. He's gonna run around, he's gonna do things, and the more I do to prepare him, and that partially is the ability of upgrading certain things, but it's also interacting and talking and participating in the story, the more I teach him and the better he becomes"
>
> (ibid. 08:52-09:30).

Conclusion

To summarize, as demonstrated from *God of War* sequences presented, the main strength of the ludo-rapport model is that it allows us to isolate the components and evaluate the interaction dynamics on each level while maintaining the holistic structure of the game. While the field of video game studies is not short of analysis tools and evaluation models, the current model is extremely useful in its design to examine games centered around companionship, hence its embedded limitation; it works better with some games than with others, while with some it is not applicable at all, as that is not its purpose. For the field to evolve, however, we must have models that reflect the richness of the medium and enable us to address different phenomena in game studies. Calleja and others share this sentiment, saying that "it makes little sense to refer to games as a whole as if there is a unified set of entities that we could make blanket statements about. Difference between various types of games can be so wide that any argument we try to make for one will variably not apply to others" (Calleja 2012, 00:50-01:06), adding elsewhere that "the

differences between them (games) are so significant that any discussion that considers them as equivalent media objects is prone to make generalizations that impede analytical rigor" (Calleja 2011: 2). Isbister is also in support of this approach, saying that "To have a rich and meaningful discussion about how games fit into our lives, how they work on us as human beings, we need to get beyond shadowboxing with a monolithic notion of "games," and delve into the elements that make up the game experience in all its facets" (Isbister 2016: XV)

My goal in introducing the 'ludo-rapport model for player-companion interaction' is to highlight a unique interaction to be found in video games which is at times overlooked or addressed under more general terms. Video games that emphasize an intuitive emotional response via player-companion rapport are plentiful but are rarely identified by these qualities[20] or analysed specifically from that perspective. As we expand the available tools in our possession to read, discuss, and analyze video games, creations centered around rapport should receive appropriate attention.

Endnotes

1 See for example McGonigal (2011), Isbister (2016), and Kowert and Kaye (2018).

2 Yoshi from *Super Mario World* (Nintendo 1990) and Tails from *Sonic the Hedgehog 2* (Sega 1992) are examples of well-known video game companions.

3 Among these are Anderson and Dill (2000), Fisher (1994), Kinder (1991) and Schutte et al. (1988).

4 Coulson and Ferguson (2016), Griffiths (2016).

5 Something that perhaps was never fully realized. See Colin Campbell's Polygon cover story "How Electronic Arts Lost its Soul."

6 Consider Isbister's ludography of 34 games: 16 from the 2010s, 14 from the 2000s, three from the 1990s, and only one game from the 1980s.

7 Indie games dominate Isbister's list of case studies.

8 Examples are numerous and varied: from experimental indie titles such as *Train* (Romero 2009), where players solve a puzzle of how to get a train towards its destination, only to realize that the destination of the train is Auschwitz, to high budget titles like *Far Cry 2* (Ubisoft Montreal 2008) and *Spec Ops: The Line* (Yager Development 2012), in essence modernized adaptations of Joseph Conrad's *Heart of Darkness* (1899) that forced players to question their own morality.

9 In video games, the question of realism and the "illusion of life" goes beyond visual expression and is arguably more challenging compared with other media, due to the ability of players to interact with and affect the game world. As technological progression enables game designers to create larger, non-linear, and fully realized open worlds for players to explore, freedom can become a double-edged sword when considering realism and believability. On the one hand, enabling players to inhabit a sandbox-like game world and freely interact with its elements

adds to the sense of immersion, agency, and ownership. On the other hand, there is a risk of players exploiting this freedom and breaking the illusion. A well-known example can be found in the popular open-world game *The Elder Scrolls V: Skyrim* (Bethesda Game Studios 2011), where players can freely explore the world and interact with its NPCs inhabitants. While interacting with shopkeepers in the game, players discovered they can place a basket or a pot on shopkeepers' head, block their view and rob their store, all the while the NPCs do not react in any way, reminding players of the game's limitations and breaking the illusion of a world with real characters they should care for.

10 See, for example Coulson et al. (2012), Chowanda et al. (2016), Bogdanovych et al. (2016), Demeure et al. (2010), El-Nasr et al. (2009), Isbister (2016), Lebowitz and Klug (2011), Livingstone (2006), Nilsson (2010) and Tence et al. (2010).

11 Joseph Campbell suggests a pattern of a literary hero's adventure. This type of journey, as analyzed by Campbell, includes specific stages such as the initial call for adventure, receiving a supernatural aid, overcoming struggles and adversaries, and gaining various boos, before the hero completes the journey as well as his/her transformation.

12 There are some exceptions, as in the cases of Ellie in *The Last of Us* (Naughty Dog 2013) or Sam in *Uncharted 4: A Thief's End* (Naughty Dog 2016), where players gain control of these characters for limited sections in support of a specific narrative sequence.

13 Gordon Calleja, for example, proposes a different conceptualization from classical notions of narrative to discuss games, suggesting a taxonomy of kinaesthetic narrative involvement, spatial narrative involvement, shared narrative involvement, and so forth (Calleja 2011).

14 Some of the leading discussions on the topic include Robin, LeBlanc and Zubek's MDA model (2004), Fabricatore's design of gameplay and mechanics (2007), Sicart's analysis of game mechanics (2008), Adams and Dorman's advanced game design guidebook (2018), and Hofmann's review of current theories on the topic (2018).

15 Hendrick is basing his argument on David Olson's 1977 study on insiders' and outsiders' views of relationships.

16 We have seen these or similar components in other frameworks from the early days of game studies. In 2003 Espen Aarseth suggested a tripartite model that characterizes every game in virtual environments as containing gameplay (focused on the players' actions, strategies, and motives), game-structure (dealing with the rules of the game, including the simulation rules), and game-world (the fictional content, topology/level design, textures, etc.). Note also: the 2004 MDA model by Hunicke, LeBlanc, and Zubeck, which divides games into three separate dimensions: mechanics, dynamics, and aesthetics and attempts to bridge the gap between game design and development, game criticism, and technical game research; and Hofmann's (2018) argument that gameplay is the tangible interface between player experience and game mechanics, which is based on the taxonomy of game experience, gameplay, and game mechanics.

17 Such qualities are extremely subjective and can range from warmth to dominance, depending on the interactants. The emphasis then is on the interaction and its expression, and not necessarily specific characteristics, which can be seen in the ways people say they "click" with each other or referring to "chemistry" as the reason for positive interaction. Tickle-Degnen and Rosenthal highlight this by stating that "the interaction itself during the experience of rapport

becomes an entity not easily divisible into characteristics that each party brings to the interaction" (Tickle-Degnen and Rosenthal 1990: 286).

18 Such tools can vary greatly between games. In *The Last Guardian* (Gen Design 2016) the interaction is manifested through physical contact between the boy (player-character) and Trico (companion), and the creature's reaction to touch conveys its emotional state. In *Uncharted 4: A Thief's End* (Naughty Dog 2016) interaction is expressed mainly via cut scenes and conversation between Nathan (player-character) and his brother Sam (companion) during gameplay, while *God of War* (Santa Monica Studio 2018) makes use of upgradable skills and cooperative combat and exploration to convey the relationship between Kratos (player-character) and his son Atreus (companion).

19 By setting "father and son" as one of the core concepts, Barlog and his team highlighted that the entire game story is about the relationship between these two characters.

20 *Death Stranding* (2019) and its innovative "strand genre" approach being the exception.

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Gen Design (2016) *The Last Guardian*. Directed by Fumito Ueda. Published by Sony Interactive Entertainment.

Hofmeier, Richard (2011) *Cart Life* (freeware).

Kojima Productions (2019) *Death Stranding*. Directed by Hideo Kojima. Published by Sony Interactive Entertainment and 505 Games.

Matt Makes Games (2018) *Celeste*. Directed by Maddy Thorson. Published by Matt Makes Games.

Naughty Dog (2013) *The Last of Us*. Directed by Bruce Straley and Neil Druckmann. Published by Sony Computer Entertainment.

Naughty Dog (2016) *Uncharted 4: A Thief's End*. Directed by Bruce Straley and Neil Druckmann. Published by Sony Computer Entertainment.

Nintendo (1990) *Super Mario World*. Directed by Takashi Tezuka. Published by Nintendo.

Romero, Brenda (2009) *Train* (exhibit).

Santa Monica Studio (2018) *God of War*. Directed by Cory Barlog. Published by Sony Interactive Entertainment.

Sega (1992) *Sonic the Hedgehog 2*. Developed by Aspect. Published by Sega.

Team ICO (2001) *ICO*. Directed by Fumito Ueda. Published by Sony Computer Entertainment.

Thatgamecompany (2012) *Journey*. Directed by Jenova Chen. Published by Sony Computer Entertainment and Annapurna Interactive.

Ubisoft Montreal (2008) *Far Cry 2*. Directed by Clint Hocking. Published by Ubisoft.

Yager Development (2012) Spec Ops: The Line. Directed by Cory Davis and Francois Coulon. Published by 2K Games.