

Bearded Dragons at Play: YouTube videos and the haptic interface of Ant Smasher

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Abstract

Animals have long appeared as the subjects and characters in digital games, but game studies scholars have rarely considered animals as players of digital games. This paper examines the mobile digital game Ant Smasher and YouTube videos of bearded dragons playing the game. This article advocates for the inclusion of these bearded dragons in gamerspace as not only a personification of the gamer within the space but as a conduit for play, a channel for gamers to breach the boundaries of gamerspace – the cultural and discursive space surrounding digital games that negotiates the relationship between the digital game and its impact on the world at large. Through an analysis of 50 YouTube videos representing these play experiences, this article considers the place of these videos within gamerspace. The implications of this work serve to better understand the relationships between digital gaming, play, and human and non-human actors in interaction with haptic media. This example also expands upon our understandings of play as a whole.

Keywords: gamerspace; materiality; haptic play; animals; digital games; YouTube; participatory culture; haptic games

Introduction

Animals have long appeared as the subjects and characters in digital games. From early representations of the cartoonish giant ape of *Donkey Kong* to the slithering snakes, scorpions and crocodiles in *Pitfall*, animals have been featured in digital games as designers wished to represent the natural world. As these gaming interfaces have improved graphically and interactively, digital games have sought to replicate the relationships and representation gamers have with these digital animals. Games such as *Nintendogs* and *Kinectimals* act as simulacra for engagement with real animals in digital world.

These animals, whether they are avatars or other characters in the game, are designed for interaction with human gamers. Amongst the thousands of digital games produced each year for the last 40 years, less than a handful have been designed for animals to in fact play. One casual mobile game, however, called *Ant Smasher*, has become popular with bearded dragons, and their owners often film and upload videos of the lizards playing the game on YouTube. *Ant Smasher*, by Brazilian-maker Best, Cool & Fun Games, has been downloaded over 100 million times. With a simple touch user interface (TUI), *Ant Smasher* urges the player to ‘smash ants with your finger in this great game!’ (Best, Cool & Fun Games, 2013). Studies performed on *Ant Smasher* have included an investigation of the touch-based architecture of digital games (Mansfield-Devine, 2012), and touch-spam detection in mobile applications (Vani et al., 2014). None of these studies are concerned with the actual content of *Ant Smasher* nor its gameplay, however. This paper will examine a viral phenomenon that has outgrown from the game; the over-11,000 YouTube videos of bearded dragons playing *Ant Smasher*, and its implications of this gaming experience for our understanding of haptic play, defined here as tactile and gestural play.

The YouTube videos present the actions seen on screen as play, though the bearded dragons are simply trying to eat the six-legged creatures they see fluttering and scampering across the screen. The YouTube videos of this quite unique gaming experience, I argue, have a great deal to tell us about haptic play. This paper considers this act of play through the means of the haptic interface. In these videos, I contend in this article, human gamers use the bearded dragon as a virtual controller to play the digital game. While the lizard is engaged with the screen of the mobile device, the gamer uses that lizard as a means through which to play with the haptic interface. This situation demonstrates the expanded influence of the digital game into a space I call gamerspace, the discursive space around digital games.

This article advocates for the inclusion of these bearded dragons in gamerspace as not only a personification of the gamer within the space but as a conduit for play, a channel for gamers to breach the boundaries of gamerspace. By gamerspace, I mean the cultural and discursive space surrounding digital games that negotiates the relationship between the digital game and its impact on the world at large. In this article, I seek to 1) examine the haptic interface of the mobile game and 2) conceptualize the role of the bearded dragon in the haptic play activity. Through an analysis of YouTube videos representing these play experiences, I consider the place of these videos within gamerspace. The implications of this work serve to better understand the relationships between digital gaming, play, and human and non-human actors in interaction with haptic media. This example, then, also expands upon our understandings of play as a whole.

Literature Review

Animals & Play

The little scholarship that exists on animals and digital play has focused on cats and digital gaming experiences (Noz & An, 2011). In a very real sense, these games are meant to simulate the play of animals in the natural world. Noted historian and cultural theorist Johan Huizinga argued that play, even amongst animals, has a significant function beyond physiology or psychology. He suggested that for some, play could be more than just an 'imitative instinct.' In other words, all play is meaningful, even for animals. In defining play, I rely on Huizinga's (1955) definition: 'a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding' (p. 28).

For Huizinga, animals can engage in play and do not need to be taught how to do so. Pons et al. (2015) note that humans have created and evolved tools in order to make play both more rewarding and more stimulating, and this process has left other species behind in the creation of digital devices for play experiences. These scholars draw attention to the ways in which individuals have adapted these devices to allow animals to play with them, including electronic balls for dogs and an organization called Apps for Apes that creates iPad applications and games for orangutans in zoos. As noted above, there are few games designed for animal play or for humans/animal collaborative play, including *Cat Cat Revolution* (2011), which is an iPad game that allows adjustment settings to better match a cat's vision. Pons et al. (2015) also discuss a few other available games with collaborative play elements, including *Metazoa Ludens* (2011) where human gamers play in collaboration with hamsters; *Playing with Pigs* (2012) that pairs an electronic ball that pigs move with an iPad interface;

and *Felino* (2014) which is designed for cats to play with humans and catch fish and other sea life on an iPad screen.

Pons et al. (2015) argue that gaming interfaces designed for non-human animals need to encourage the following elements: playfulness, intelligence, reactivity and interaction, and animal-centered design (p. 14). Baskin et al. (2015) note, however, that in many of the behaviors encouraged by these games are predatory in nature, as cats and other animals catch fish, run, and generally chase a prey-like avatar. While it can be difficult to distinguish 'predatory behavior' from 'predatory play,' the authors argue that the practices encouraged by animal-based games are often 'similar to the first stage of predation without consumption' (Pons et al., 2015, p. 478). The implications of animal play within these games and with our conceptions of play as a whole are significantly undertheorized.

Haptic Media

When considering games like *Ant Smasher*, it's important to take into account the haptic nature of the mobile interface. Orozco et al. (2012) describe a haptic interface as one that provides tactile feedback: 'The interaction can embrace the entire body or only the tip of a finger, giving the user information about the nature of objects inside the world. The introduction of haptics permits one to enhance a vast spectrum of human tasks in a virtual environment' (p. 217). Richardson notes that the important aspects of the mobile interface are not just the screen:

Describing the particular 'screen-ness' of mobile phones must also involve an account of how the mobile is not just, or even primarily, a screen; it enacts both separately and combined visual, haptic and acoustic incursions into our corporeal schema, and demands variable and oscillating modes of somatic involvement. (Richardson, 2007: 210)

The *Ant Smasher* game invites tactile play in smashing the insects on the screen, and these elements are crucial to the play experience. Chesher (2004) uses the term 'glaze' to describe the experience of engagement with the screen: 'The glaze is a liquid adhesion holding players' eyes to the screen. Players are held to the game in two ways, with their hands on the controller, and their eyes on the screen.' He describes console games by their 'stickiness' where players are connected to the screen and have a haptic attachment to the controller through 'a quasi-visceral immersion in depth-perspective virtual space.'

As a casual, mobile game, *Ant Smasher* achieves this effect through the haptic nature of the play and the graphics on the screen. The insects,

depending on the screen size, appear almost to scale, and the screen as well as the haptic gameplay create engagement for the player. This dynamic shifts when the bearded dragon is added to the interaction. For the humans in this bearded dragon-interface feedback loop, the reptile becomes the hand-controller providing the haptic attachment to the game. While the bearded dragon is interacting with the haptic interface, the dragon is engaged in what Baskin et al. (2015) call 'predatory behavior,' and is not engaged in an act of play, so to speak. The activity is for the pleasure and enjoyment of the human in Chesher's (2004) 'glazespace.'

Gamerspace

We can understand the relationship between the player and the bearded dragon in this situation as existing within gamerspace. In an effort to describe the cultural and discursive space surrounding digital games wherein the relationship between the digital game and its impact on the world at large is negotiated, Plothe (2017) builds upon the work of Mactavish (2002) and Jørgensen (2012), defining *gamerspace* as the larger space of influence surrounding digital games. This concept demonstrates the ways in which the space of digital games transcend the console and the interface itself. Huizinga (1955) has used the term 'magic circle' to describe this space in a way that draws boundaries between conversations and actions considered game activity and those that are not. Ensslin (2011) has also described the magic circle as 'the psychological sphere players are immersed in during gameplay' (p. 99). It is a space where 'the normal rules don't apply' (Schut, 2013: 64), and 'in-game actions are completely different from out-of-game actions' (*ibid*). Morris (2002) has also pointed out that speech that is acceptable within the magic circle, such as taunting and trash talk, would not be acceptable outside of that circle.

The concept of the magic circle is still contested by a number of game researchers because of its permeable nature. For a number of researchers, the notion of the magic circle is a contested one. Castronova (2005) and Consalvo (2007) have critiqued the concept because of its permeable nature. Castronova (2005) noted that it 'can be considered a shield of sorts, protecting the fantasy world from the outside world' (p. 147), but this perspective often does not consider the ways that this boundary is porous. Giddings (2014) instead used the term 'gameworlds' to describe the ways that digital gameplay and offline content combine; they have a sense of their own universe but are not bound by the edges of the virtual environment or TV screen (p. 14). He described this process as 'the transduction of images and forms from the virtual game worlds of video games across actual spaces of the home and playground, and their shaping of new games' (Giddings, 2014: 14). Gamerspace acts as a viable and

valuable lens that recognizes the technological, social, and cultural influence of digital games. It is a discursive space that contains not only the game world but the cultural space around the game. Fan-created videos, video instruction walkthroughs, even t-shirts and stuffed animals of digital gaming characters all live within this fan space. Within gamerspace, digital game players construct their own content and meanings from digital gaming content. Plothe (2017) argues that this content is still a type of play that lives within the larger world of the digital game.

For the purposes of this analysis, the videos of bearded dragons playing *Ant Smasher* live within gamerspace. YouTube serves as a folk archive of gaming experiences and knowledge, from walkthroughs, remix videos, and other content, millions of gamers upload representations of their gameplay in order to share that content with other gamers. The videos of bearded dragons playing *Ant Smasher* are no different. The rest of this article considers the ways in which these videos represent bearded dragons and their owners through haptic play.

Methodology

As a user-generated archive, YouTube represents an ideal way to study the representations of bearded dragons at play. The videos portray somewhat planned encounters between the bearded dragons and the gaming interface, as shaped by their human owners. These are also gaming moments that the human gamers found significant enough to upload to share with others. YouTube has also been used by other researchers to study animals' encounters with digital gaming interfaces. Baskin et al. (2015) analyzed YouTube videos to study the ways that dogs play games on tablet devices as well.

For this study, I searched YouTube for the terms 'bearded dragon Ant Smasher.' 50 videos were chosen at random for analysis in this study. I numbered each video and used a randomized number generator to select the videos for analysis. The videos were uploaded between 2011 and 2018, and each video averaged 3,718 views. The majority of these videos are unedited, short videos of bearded dragons playing the *Ant Smasher* game. Some videos show a bearded dragon playing on a tablet, but the majority show the lizard playing on a mobile phone. Most of these videos are filmed from behind the bearded dragon so that the viewer can see the screen. The people in the video occasionally talk to the dragon, either encouraging the pet or celebrating smashed bugs.

Each video was analyzed for content to examine the relationships among the gaming interface, the bearded dragon, and the human owner, paying particular attention to how the bearded dragon began its play session. I

categorized each video by the role of the bearded dragon in the play session. While each video had a bearded dragon present in front of the screen, some videos had the bearded dragon play an active role, where in others, the owner touched the screen and played the game. These videos were then classified by how active a role each bearded dragon had in the play session. Each video served as a unit of analysis and was assessed qualitatively and holistically rather than mined for particular content or specific theme.

Findings and Analysis

I will now describe the nature of several representative videos on YouTube, in order to examine the nature of these relationships in haptic play. YouTube user Insensis's (2011) video titled 'Bearded Dragon playing Ant Crusher' shows a juvenile bearded dragon playing the game on a cell phone propped up against a fabric throw pillow, perhaps on the owner's sofa or bed. The dragon taps the screen with his tongue in an attempt to devour the ants marching down the screen. The video is scored using the 'SuperMario Bros' soundtrack; the viewer can only hear the faintest of 'squishing' noises from the dragon smashing the ants on the screen emanating from the video. Insensis writes in the description, 'My Bearded Dragon showing her mad skills :)' implying that their dragon is a protagonist playing the game. But we see the owner's hand tapping the various modes and choices in order to start the game; the dragon cannot start the game on its own. As the action progresses, the dragon looks at the owner. At one point, a 'Game Over' screen appears, and the owner reaches in and starts a new game. The dragon dutifully waits looking at the owner wondering what will happen next. The game restarts with the owner's impetus, and the bearded dragon immediately turns back to the screen to again smash ants scurrying down the screen.

In 'Bearded Dragon playing Ant Smasher' (2015) uploaded by Jason Reynolds, another juvenile bearded dragon plays Ant Smasher on his owner's phone. Reynolds writes, 'Our beardy playing Ant Smasher' in the description, but throughout the video, the owner actually plays the game in concert with his dragon, catching the odd ant that escapes the wrath of the bearded dragon. Interestingly, most of these ants are smaller in nature, meaning they probably do not appear as satiating to the dragon, so passing them up is a better choice. The video has no music track and only the barest of environmental audio as the dragon smashes the ants with no accompanying sound from the game. The owner strokes his dragon in positive reinforcement and occasionally pushes the over-eager little fellow back from physically standing on the phone in the ant smashing frenzy he finds himself in.

JamesPipsetr's (2014) video, 'arded Dragon Playing Ant Crusher Action Replay version,' shows a female dragon watching the ants of *Ant Smasher* skittering across a mobile phone. The bearded dragon watches for nearly 20 seconds before finally attempting to eat several of the ants. It appears a cooking show is on a television in the background, but there's no indication anyone is in the room other than the person behind the camera who remains unseen. The dragon, for her part, makes several valiant attempts at smashing the ants, and we see replays of two of these strikes against the ants on the phone. There's no added production quality here, no sound effects, no dramatic music, just the bearded dragon licking the screen. The video ends with a stark blue background and white text emblematic of the Windows Movie Maker program, scrolling to a 'Level Complete' message.

YouTuber and death metal connoisseur Corporal Clegg (2011) reposted user Insensis's video 'Bearded Dragon playing Ant Crusher' but replaced the Super Mario Bros. audio track with a heavy screaming and a grinding guitar riff, 'Spirit Crusher' by American death metal band, Death. No other edits are made by Corporal Clegg than to add music, which was the only alteration from the original video.

'Bearded Dragons Play Ant Crusher App' (2013) by SebsExotics pits two bearded dragons against each other in a battle for ant crushing supremacy. Replete with competitive title cards and a blaring techno dance version of the Super Mario Bros themes, Ms. Beardie and Fred fight it out in separately filmed gameplay scenes. Each dragon is scored by how long they lasted in play, and the points are tabulated by SebsExotics for the number of ants they smashed. Interestingly, SebsExotics' title cards speak directly to the dragons, as if to reinforce that they are in fact playing the game. 'Your total score is 25' states one such screen, but we do see the owner holding the phone in position for the dragons to play. From a haptic interface perspective, the dragon can only play with the phone held in such a way, or to have the owner key in the appropriate commands for the dragon to begin play. Again, it's not as if the dragon can tap the screens button purposefully on its own to start the game.

Some bearded dragons needed some modeling in order to display the appropriate behavior in the Ant Smasher videos. For example, in YouTube user elmarc56's (2013) video, 'Lizard Playing Ant Smasher,' a young bearded dragon is shown sitting on his owner's thigh playing the game. We can see the owner's hands in the video, holding their Motorola in place at an angle for the dragon to attack the screen, but this little dragon doesn't appear all that interested in the digital goings-on. He seems to follow the movement of the owner's thumb as he smashes the ants on-screen and rests to the side of the phone when not. It's not until his owner

models gameplay by smashing the ant with his thumb and the rubs the dragon's head in affection but also slightly pushing his head down and toward the screen before the dragon picks up on his owner's wishes. Even then, after enthusiastically attacking two ants, the dragon, realizing he is sans the reward of a juicy insect as a treat, stops in confusion. He allows two to scurry past him, and he follows them visually as the owner moves the screen to the right, following the path the ants seem to be on towards the right of the screen. The dragon watches as his owner squishes them as to continue the game but continues to look to the right even as the owner readjusts the phone to a central position on his leg. In fact, the owner picks up the bearded dragon and readjusts him to continue the play session on the following level. Eventually, the dragon taps a bee which ends the game by spinning out towards the player whilst screaming 'Yeee-owch!' The dragon, rather disconnected and taken aback by this action, steps back and tilts his head in discombobulation as the game ends with the video ending shortly thereafter.

Again, it is the owner's desire for a play that drives the action in the video, despite the confident 'Lizard Playing Ant Smasher' title. Without the owner smashing a number of ants before and after the dragon comprehends play, the game would have been over in a much quicker manner. Additionally, he has to both model the gameplay and at times, physically spur the bearded dragon to action or move him into a position to play accordingly.

Discussion

What is notable in the representation of these videos is the notion of co-play. A total of 10 videos showed collaborative play between bearded dragons and humans. In some of these videos, people modeled the play activity for bearded dragons to teach them how to play, while in others, the human acted as a co-player and caught the insects the beardie missed. The haptic nature of the bearded dragons' play is the element of these videos that make them compelling. It is interesting and novel to see a lizard lunge at a screen with its tongue out in an attempt to catch an insect crawling across the screen. In everyday life, lizards such as bearded dragons run toward and lunge at actual insects, but to watch a lizard interact with a screen is a new phenomenon. While humans play the game with their fingers, bearded dragons use their tacky tongues on the screen. The bearded dragon, however, is not really participating in play, but instead in what Baskin et al. (2015) describe as predatory behavior.

But as Sanders (2003) suggests, perhaps this is to be expected, as in play as a social activity, players understand there are rules, goals of play to attain, and 'appropriate moves and counter-moves (that) constrain the means of achieving this goal' (p. 414). Furthermore, citing Mitchell (1990), Sanders (2003) notes that participants in play should be 'frivolous or

pleasurable' (p. 200–204). While our human players in these videos appear to find this activity fun, certainly the dragons (expecting a tasty insect treat for their effort) do not. To the dragon, this is unrewarded labor, harkening back to the predatory behavior mentioned previously, and not within the bounds of play. That few reptiles participate in what animal behaviorists would describe as play is secondary here and unrelated to the argument. Instead, Sanders (2003) might suggest what is going on here as 'mutual play' which he positions in contrast to human-with-human play where players centrally engage in competition. Instead, 'human-animal play does not have winners or losers since keeping the play interaction going is the primary shared goal' (p. 414). *Ant Smasher* is a rather simple, and frankly, non-challenging game, quickly relegated outside Csikszentmihalyi and Csikszentmihalyi's (1992) notion of *flow*. 'Flow' is defined as a state of mental focus that allows for immersion and productivity. While many digital games evoke this particular state, as a simpler game, *Ant Smasher* does not. Without the inclusion of the dragons, the replay value of the game is greatly limited. The dragons have a great degree of additive value.

That humans and animals have varying levels of cognitive capabilities, the human players in mutual play must moderate and compensate these mental and physical abilities in order to keep play going (Beck & Katcher, 1996: 31–33). Meaning, both person and pet must, in an elementary fashion, switch roles and adjust their actions on the basis of this movement (p. 15-16). It follows that the space in these particular videos, is in fact, non-collaborative and thus not 'mutual play.' The dragon is not a participant in play, although the owners posting the videos frame their participation otherwise, perhaps through anthropomorphizing their pets as willing participants, or that reptiles are capable of the very notion of player we previously dismissed. In the video titled *Bearded Dragon playing Ant Crusher* uploaded November 7, 2011, the account holder Insensis writes in the description, 'My Bearded Dragon showing her mad skills :)' implying that it is not only the dragon solely playing the game but that the dragon is cognitively aware enough to know that it has, in fact, *mad skills*. Acknowledging this description is somewhat tongue in cheek, it does imply that this is a shared *play space*. The videos are arguably within gamerspace; they are an extension of the game world into another medium. In filming the gameplay, unloading it to YouTube, and sharing it with others, these individuals are extending the world of the game into another space. Yet it is only the human players who participate.

The human is the one gaming. By shooting and uploading these videos, these individuals say, 'hey, look, my pet is playing this game.' This experience, of course, is different for the bearded dragon, who is expecting a meal as a reward. This phenomenon, then, shows that the player is human all along. It is the person that is using the bearded dragon

essentially as a controller, creating gamer space, behaving with the rules of the game, and drawing the bearded dragon into that space. Human gamers upload these videos to YouTube as they would with other examples of their gaming exploits, like posting a highlight reel on YouTube of one's best wins, or a speedrun to show your mastery of Super Mario Brothers.

Conclusion

Through this activity, these gamers place the bearded dragon within gamer space, which is social, collaborative, and participatory. While these videos are a bit novel, they demonstrate not only new implications for haptic play but also a new area of research concerned with ways that play and game space extend to participatory media. As more animals interact with their owners on mobile games, this study points to some important implications for our understanding of digital games as a whole.

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References

- Baskin, S., Anavi-Goffer, S., & Zamansky, A. (2015). Serious games: Is your user playing or hunting?. In *International Conference on Entertainment Computing* (pp. 475-481). Springer, Cham.
- Baudrillard, J. (1994). *Simulacra and simulation*. Trans. Sheila Faria Glaser. Ann Arbor, MI: U of Michigan P.
- Beck, A. M., & Katcher, A. H. (1996). *Between pets and people: The importance of animal companionship*. Purdue University Press.
- Castronova, E. (2005). *Synthetic worlds: The business and culture of online games*. Chicago: University of Chicago Press.
- CorporalClegg. (2011). Reptile playing ant crusher (death version). YouTube.com. Available at: <https://www.youtube.com/watch?v=B-3tyLusIDY> [Accessed: 28 October 2019].
- Csikszentmihalyi, M., & Csikszentmihalyi, I. S. (Eds.). (1992). *Optimal experience: Psychological studies of flow in consciousness*. Cambridge University Press.
- Consalvo, M. (2007). *Cheating: Gaining advantage in videogames*. Cambridge: MA: MIT Press.
- Chesher, C. (2004). Neither gaze nor glance, but glaze: relating to console game screens. *SCAN: Journal of Media Arts Culture*, (1)1. Available at: http://scan.net.au/scan/journal/display.php?journal_id=19 [Accessed: 28 October 2019].
- elmarc56. (2013). Lizard playing Ant Smasher. YouTube.com. Available at: <https://www.youtube.com/watch?v=mAUAl-1eSfs> [Accessed: 28 October 2019].
- Ensslin, A. (2011). *The language of gaming*. Palgrave Macmillan.
- Giddings, S. (2014). *Gameworlds: Virtual media and children's everyday play*. New York: Bloomsbury.
- Huizinga, J. (1955). *Homo Ludens. A Study of the Play-element in Culture*. [Translated by RFC Hull.]. Routledge & Kegan Paul.
- Insensis. (2011). Bearded dragon playing Ant Crusher. YouTube.com. Available at: <https://www.youtube.com/watch?v=WTpldq3myV0> [Accessed: 28 October 2019].
- JamesPipsetr. (2014). Bearded dragon playing ant crusher action replay version. YouTube.com. Available at: <https://www.youtube.com/watch?v=MThIsqjIPu0> [Accessed: 28 October 2019].
- JasonReynolds. (2015). Bearded dragon playing ant smasher. YouTube.com. Available at: <https://www.youtube.com/watch?v=GpabFDrxgdg> [Accessed: 28 October 2019].
- Jørgensen, K. (2012). Between the game system and the fictional world: A study of computer game interfaces. *Games and Culture*, 7(2), 142-163.
- Mactavish, A. (2002). Technological pleasure: The performance and narrative of technology in Half-Life and other high-tech computer games. In G. King & T. Krzywinska, (Eds), *Screenplay: cinema/videogames/interfaces* (pp. 33-49). Wallflower Press.

- Mansfield-Devine, S. (2012). Android architecture: attacking the weak points. *Network Security* 2012.10 (2012): 5-12.
- Morris, S. (2002). First-person shooters – A game apparatus. In G. King & T. Krzywinska (Eds.), *ScreenPlay: Cinema/videogames/interfaces* (pp. 81–97). Wallflower Press.
- Noz, Frank & Jinsoo An. (2001). Cat Cat revolution: An interspecies gaming experience. *CHI '11: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. Vancouver, BC. 2661-2664.
- Orozco, M., Silva, J., El Saddik, A., & Petriu, E. (2012). The role of haptics in games. In A. El Saddik (Ed.). *Haptics rendering and applications* (pp. 217 – 234). London: Intech Open.
- Pons, P., Jaen, J., & Catala, A. (2015). Envisioning future playful interactive environments for animals. In *More Playful User Interfaces* (pp. 121-150). Singapore: Springer.
- Plothe, T. (2017). Not actual game play, but is it real life?: Live-action footage in digital game trailers and advertising as gamerspace. *Kinephanos Journal*, 7(1), 226 – 245.
- Richardson, I. (2007). Pocket technospaces: the bodily incorporation of mobile media. *Continuum*, 21(2), 205-215.
- Sanders, C. R. (2003). Actions speak louder than words: Close relationships between humans and nonhuman animals. *Symbolic Interaction*, 26(3), 405-426.
- Schut, K. (2013), *Of games and God: A Christian exploration of video games*. Baker Books.
- SebsExotics. (2013). Bearded dragons play ant crusher app. YouTube.com. Available at: <https://www.youtube.com/watch?v=rpuOthM1bGw> [Accessed: 28 October 2019].
- Vani, M. SREE, et al. "Tui based touch-spam detection in mobile applications to increase the security from advertisement networks." *IJACCC: International Journal of Advanced Computer Communications and Control* 2.01 (2014): 17-22.

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