Acta Ludologica

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Theory
Education
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Marketing
Experience
Criticism
Psychology
Social
Aspects
Future

Journal
Orientation

Acta Ludologica is a scientific journal in the field of games and digital games. The journal contains professional scientific reflections on digital games; it also offers academic discourses on games, especially media and digital competencies, creation, design, marketing, research, development, psycho-logy, sociology, history and the future of digital games and game studies.

Acta Ludologica is a double-blind peer reviewed journal published twice a year. It focuses on theoretical studies, theoretical and empirical studies, research results and their implementation into practice, as well as professional publication reviews.

Acta Ludologica

Editorial

"You will learn about a person during the game and on the road." – Russian quote

The game is as old as humanity itself. Research shows that it 'resides' in the evolutionarily 'older' parts of the human brain that are responsible for survival. It is not typical just for humans, it can also be observed in the animal kingdom. In a person's existence, it can be recorded at different stages of life, where it performs various functions. We are able to play at any age, in any environment, with everything and without anything. It plays a very important role in childhood. The first simple interpersonal game takes place between the 3rd – 6th months after birth. The adult looks at the child, then hides for a moment and looks at them again. The child shows joy whenever a familiar face appears. Through this game, the child builds the ability to preserve certain information and recognize the human face that is important. Games intensively accompany the child throughout their development, into adulthood and form an important part of personal development – games help to build various skills and abilities, develop the imagination, give pleasure, but also helps to process various emotional situations, which can prepare a young person for real life. In the game, the child is free and expresses attitude to the world and to itself. The game is a language. It is a way of interpreting reality. For a child, a symbolic game is an opportunity, at least symbolic, to fulfil wishes and satisfy the needs of real life. This is how children can deal with emotional situations. The themed game is used to practice various skills and future roles, even negative ones, which attract the child and which otherwise they would not be allowed to express. The game allows child to be good and bad and learn to distinguish many personalities. It has also significant socializing effects - through games children learn to trust and interact with individuals or groups. Lack of play can have serious consequences. Research shows that gaming deprivation can lead to irritability, sometimes to more aggressive behaviour, and can be associated with various mental disorders. The game is also very important in adulthood or old age. Many of its functions are needed through the life of a person in order to build or renew abilities. It is also an important part of relaxation.

From their very beginnings, games developed their forms and versions. The new digital era with the use of augmented and virtual reality has multiplied their diversity. Their diversity and their importance in the life of society are also proven by studies in the latest issue of Acta Ludologica. In the first study, the authors N. Navarro-Sierra, J. A. Carrillo, V. S. Gómez-García deal with a very important topic – cancer. Through the environment of nine digital games the designers show how the game conceptualizes this topic as a part of society. In the second study, D. Jukić emphasizes the importance of projecting real elements into the game environment. It deals with the importance of image and brand identity in virtual reality with regard to consumer needs. The next study deals with the educational function of games. The authors R. C. Rodriguez and V. Marone present how the multimodal properties of user interactions in the online affinity space dedicated to digital play can contribute to the expansion of their educational potential. The author of the last study, M. Foxman, reveals the roots of gamification and states why the invasion of non-gaming companies and entities into this area was perceived as a threat. In the journal you will also find an interesting interview with Alfie Bown about his book *The PlayStation Dreamworld* and other topics, scientific reviews of current games and monographs, as well as news from the gaming world. A. Hayes concludes the issue with her design for a gamified immersive virtual library in the Add-ons section.

I wish you inspirational reading.

assoc. prof. PhDr. Zora Hudíková, PhD.
Acta Ludologica's Advisory Board

Contents

Cancer on the Holodeck: Metaphors and Cultural Construction of a Disease through Digital Games

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ABSTRACT:
A study from the OECD published that Cancer is one of the main causes of mortality in developed societies, with remarkably high prevalence, incidence and mortality rates for both sexes. This study closely examines nine digital games to elucidate how they conceptualize a disease like cancer around a narrative concerning the sickness, patients, treatments and outcomes. Discourse and content analysis techniques were applied to the message contained in the games looking to illuminate the connection between the narrative core, the audio-visual representation and the interactive aspects of the game, within the parameters of values-conscious design applied to digital games. This provides some evidence about the cultural and visual aspects of how game designers conceptualize the disease as a part of society. This research uncovers culturally embedded themes and reveals the prevalence of metaphor use in cancer discourse which relied on science, social support and spiritual convictions for social empowerment, building empathy and identification.

KEY WORDS:
cancer, cultural industries, digital games, serious games.

Introduction

In her well-known book *Hamlet on the Holodeck,* Janet H. Murray[1] discussed how literary universes evolve and become virtual reality environments as represented by *Star Trek's* holodeck. This technology consisted of an empty room in which a computer simulated real-life situations and was used to train the characters of the series (following the same logic used for the X-Men in the *Danger Room*). The use of this metaphor illustrated the immersive and interactive potential of the new media for their users, who were able to interact with a fictional world without being aware of their surrounding environment. Portraying games as a narrative spatial model of interactive fiction that proposes virtual worlds is currently one of the most popular analytic approaches to digital games. This article aims to address how this approach has become crystallized in the cultural construction of one of the most tragic diseases of our time: cancer. Cancer is one of the main causes of mortality in developed societies, with remarkably high prevalence, incidence and mortality rates for both sexes.[2] The World Health Organisation (WHO) estimated that cancer was responsible for 8.8 million deaths in 2015. The most common causes of cancer-related death are (lung, liver, colorectal, stomach and breast) and the main risk factors include high body mass index, low fruit and vegetable intake, lack of physical activity, tobacco use and alcohol use.[3]

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1   MURRAY, J. H.: *Hamlet en la holocubierta: El futuro de la narrativa en el ciberespacio*. Barcelona : Paidos, 1999, p. 36-37.
2   Health status. In *Health at a Glance 2017: OECD Indicators*. Paris : OECD Publishing, 2017, p. 52. [online]. [2020-06-29]. Available at: <https://doi.org/10.1787/health_glance-2017-8-en>.
3   *Cancer.* Released on 12th September 2018. [online]. [2020-06-29]. Available at: <http://www.who.int/news-room/fact-sheets/detail/cancer>.

The tragic nature of this disease explains its strong presence in traditional media, which usually concentrate on news, risk factors and prevention,[4] and tend to over-represent the information.[5] This focus on cancer is reflected in popular media such as movies, television and comics,[6] which have offered visions adapted to their differing audiences and their respective discursive features. It has had an increased presence in popular culture in the context of new media through virtual communities,[7] social networks, like Facebook[8] and narratives broadcast through YouTube,[9] for example. The involvement of the media in the social imaginary related to cancer entails a wide range of interlinked issues and approaches. A non-exhaustive overview of these covers different areas. The first addresses the dissemination of prevention strategies on two levels: primary (by promoting healthy habits), and secondary (related to early detection). These efforts have not been as successful as they could be, since cancer mortality would be reduced by 70%[10] if the media role were to be optimized.[11]

A second point of interest is the process of empowerment in the face of cancer, analysed through a broad set of strategies, notably including positive thinking fostered by family ties[12] and the use of the media.[13] The most recurrent metaphor used by the media is the 'war against cancer'[14] to represent the attitude towards the disease.[15] A two-way reading of this empowerment process indicates, on one hand, the benefits of this formulation – having a good understanding of the disease and standing in one's power – and, on the other hand, its main drawbacks – excessive responsibility of the patient for the effectiveness of the treatment, frustration, undermining of preventive behaviours and a simplistic perception of the disease.[16] An interest in identifying the types of relationships that emerge between the actors involved (patients, family members, health professionals, environment, etc.) has also been observed, which includes their interactions and the consequences that cancer has on the bonds created between them. This provides a social dimension that has been approached from perspectives that are as multi-faceted as the phenomenon itself.[17]

4   ELIOTT, J., FORSTER, A. J., McDONOUGH, J., BOWD, K., CRABB S.: An examination of Australian newspaper coverage of the link between alcohol and cancer 2005 to 2013. In *BMC Public Health*, 2018, Vol. 18, No. 47, p. 2-12. [online]. [2020-06-29]. Available at: <https://doi.org/10.1186/s12889-017-4569-0>.
5   JENSEN, J. D., MORIARTY, C. M., HURLEY, R. J., STRYKER, J. E.: Making sense of cancer news coverage trends: a comparison of three comprehensive content analyses. In *Journal of Health Communication*, 2010, Vol. 15, No. 2, p. 141.
6   NAVARRETE-CARDERO, L., VARGAS-IGLESIAS, J. J.: The ability of video games to depict cancer as a dramatic experience. A comparative study with literature and cinema. In *Communication & Society*, 2019, Vol. 32, No. 3, p. 1-2. [online]. [2020-06-29]. Available at: <https://doi.org/10.15581/003.32.3.1-15>.
7   For more information, see: WEN, K. Y., MCTAVISH, F., KREPS, G., WISE, M., GUSTAFSON, D.: From diagnosis to death: A case study of coping with breast cancer as seen through online discussion group messages. In *Journal of Computer-Mediated Communication*, 2011, Vol. 16, No. 2, p. 331-361. [online]. [2020-06-29]. Available at: <https://doi.org/10.1111/j.1083-6101.2011.01542.x>.
8   FERNÁNDEZ-GÓMEZ, E., DÍAZ-CAMPO, J.: Communication about cancer on Facebook. Organizations of Argentina, Chile, Colombia and Spain. In *Cuadernos.info*, 2016, Vol. 26, No. 1, p. 36-37.
9   CHOU, W-Y. S., HUNT, Y., FOLKERS, A., AUGUSTSON, E.: Cancer Survivorship in the Age of YouTube and Social Media: A Narrative Analysis. In *Journal of Medical Internet Research*, 2011, Vol. 13, No. 1, p. 2-8. [online]. [2020-06-29]. Available at: <https://www.jmir.org/2011/1/e7/>.
10   SONG, M., VOGELSTEIN, B., GIOVANNUCCI, E. L., WILLETT, W. C., TOMASETTI, C.: Cancer prevention: Molecular and epidemiologic consensus. In *Science*, 2018, Vol. 361, No. 6409, p. 1317-1318.
11   MAY, B.: Targeted Social Media Initiatives for Cancer Prevention in Young Adults. In *Oncology Times*, 2018, Vol. 40, No. 19, p. 18.
12   WILKINSON, S., KITZINGER C.: Thinking differently about thinking positive: a discursive approach to cancer patients' talk. In *Social Science & Medicine*, 2000, Vol. 50, No. 6, p. 799.
13   For more information, see: WAKEFILED, M. A., LOKEN, B., HORNIK, R. C.: Use of mass media campaigns to change health behaviour. In *The Lancet*, 2010, Vol. 376, No. 9748, p. 9-15.
14   SONTAG, S.: *La enfermedad y sus metáforas. El sida y sus metáforas*. Barcelona : Taurus, 2003, p. 5.
15   WILLIAMS-CAMUS, J. T.: Metaphors of cancer in scientific popularization articles in the British press. In *Discourse Studies*, 2009, Vol. 11, No. 4, p. 492-493.
16   HANAHAN, D.: Rethinking the war on cancer. In *The Lancet*, 2014, Vol. 383, No. 9916, p. 559-563.; HAUSER, D. J., SCHWARZ, N.: The war on prevention: Bellicose cancer metaphors hurt (some) prevention intentions. In *Personality and Social Psychology Bulletin*, 2015, Vol. 41, No. 1, p. 75.
17   KLEINKE, A. M., CLASSEN, C. F.: Adolescent and Young adults with cancer: aspects of adherence – a questionnaire study. In *Adolescent Health, Medicine and Therapeutics*, 2018, Vol. 9, No. 1, p. 82.

A third approach is based on the interpretation of disease and death in contemporary societies, combined with the tragic role of this genetic disease that has involved new forms of treatment in modern medicine. This emphasizes trust in medical resources, but also the patient's own religious convictions as a way of successfully dealing with the disease, or from a palliative perspective.[18] The article uses these approaches to analyse the representations of cancer through the qualitative study of one of the most important media in the 21th century: *digital games*.[19] The research question, then, is what digital games have contributed to the social imaginary in connection with cancer. In other words, in the same way as other popular media have contributed to the social perception of this disease, this work tries to highlight the most popular vision conveyed by the digital games that have addressed this issue.

Method

The research material includes games with narrative elements directly linked to cancer as a disease. The sample was found by conducting searches using the keywords 'cancer' and 'video games' in the main digital game distribution platforms (Steam, Apple Store and Google Play), databases (Moby Dick, EuroGamer and Serious Games Database), and academic databases (WoS, Scopus and Google Scholar). The selection criteria were that the product description had to explicitly refer to cancer and it had to be presented as a game. Those which referred to cancer but did not address a process of symbolic construction of the disease were discarded. This was the case of the advergame *Rooftop Runner*[20], the questionnaire *Help Fight Breast Cancer*[21] or crowdsourcing projects such as *Play to Cure*: *Genes in Space*[22] and *Reverse the Odds*[23]. These games did not offer a proper storytelling or metaphoric story about cancer, but a more pragmatic and basic approach like questionnaires or some kind of divulgation. The final sample consisted of nine digital games, all of which had a connection between the narrative core, the audio-visual representation and the interactive aspects of the game, within the parameters of values-conscious design stated as how "games express and embody human values. From notions of fairness to deep-seated ideas about human conditions, games provide a compelling arena where humans play out their beliefs and ideas".[24] The analytical model (Picture 1) is based on the digital game's contribution to the social imaginary and its cultural influence in contemporary societies,[25] and on different models of narrative analysis[26] that have been connected with cultural constructions of cancer.[27] The analysis, therefore, revolves around a series of key elements, namely the disease, patients, treatments and ways to combat the condition, and the outcomes that arise, and how these relate to the discursive characteristics of the digital game.

18   KASTBOM, L., MILBERG, A., KARLSSON, M.: A good death from the perspective of palliative cancer patients. In *Supportive Care in Cancer*, 2017, Vol. 25, No. 3, p. 937.
19   DOVEY, J., KENNEDY, H. W.: *Games Cultures: Computer Games as New Media*. Maidenhead : Open University Press, 2006, p. 84.
20   MATMI: *Rooftop Runner*. [digital game]. London : Cancer Research UK, Matmi, 2009.
21   SILVER DOLLAR GAMES: *Help Fight Breast Cancer*. [digital game]. Burlington : Silver Dollar Games, National Brest Cancer Foundation, Inc., 2011.
22   CANCER RESEARCH UK: *Play to Cure*: *Genes in Space*. [digital game]. London : Cancer Research UK, 2014.
23   CANCER RESEARCH UK et al.: *Reverse the Odds*. [digital game]. London : Cancer Research UK, 2014.
24   FLANAGAN, M., NISSENBAUM, H.: *Values at play in digital games*. Cambridge : MIT Press, 2014, p. 3.
25   MURIEL, D., CRAWFORD, G.: *Video games as culture: considering the role and importance of video games in contemporary society*. London : Routledge, 2018, p. 18-20.
26   PÉREZ-LATORRE, O., OLIVA, M., BESALÚ, R.: Videogame analysis: a social-semiotic approach. In *Social Semiotics*, 2016, Vol. 27, No. 5, p. 591.
27   For more information, see: STACEY, J.: *Teratologies: A Cultural Study of Cancer*. London : Routledge, 1997.
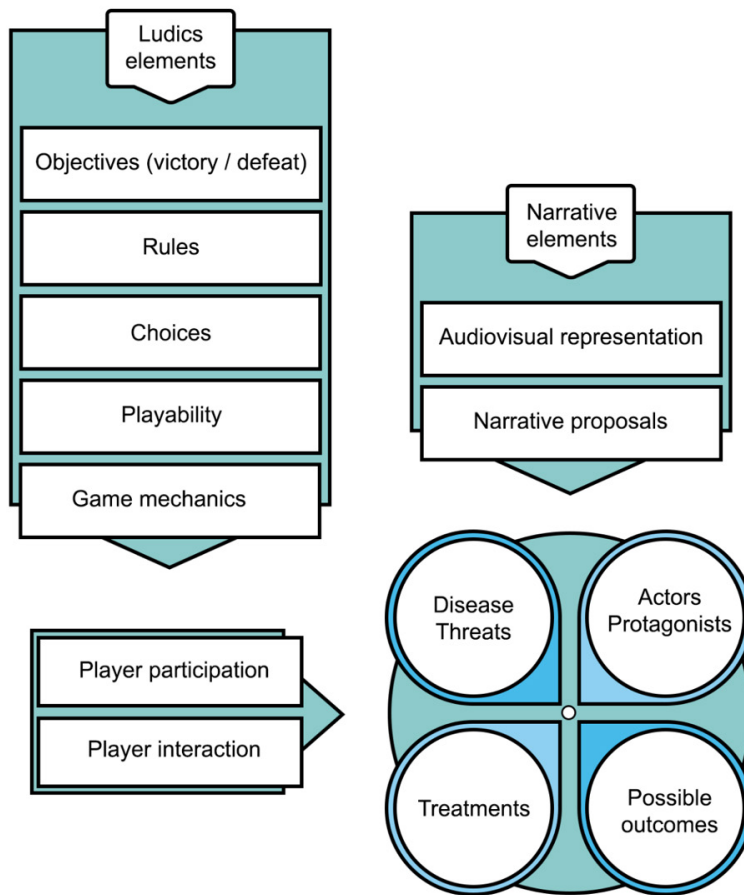
Picture 1: Analytical Model
Source: own processing

Narrative-audio-visual Approach

The narrative, aesthetic, ludic and technological approach to the games analyzed matched their evolution (2003-2018). The basic premises of each game are presented below:

- *Ben's Game*[28] – a child and his skateboard are miniaturized inside his own body in order to destroy cancer cells and collect the seven shields that will protect him against the side effects of chemotherapy. This idea came from the *Make-A-Wish* foundation, which made it possible for Ben Duskin, a nine-year-old child with leukemia, to collaborate with *Lucas Arts* on the design of a game based on his experience and disseminate it to hospitals in order to improve the motivation of their youngest patients.[29] This game does not specify its target audience, but it could be estimated that it is aimed at a young audience, about 8-9 years old, like Ben.

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28   JOHNSTON, E.: *Ben's Game*. [digital game]. Phoenix : Make-A-Wish Foundation, 2004.
29   *Ben's Video Game Fights Cancer.* [online]. [2020-10-31]. Available at: <https://northwestwishes.org/wishes/wish-stories/i-wish-to-be/ben-video-game-creator>.

- *Re-Mission*[30] – the player embodies a nanobot, Roxxi, designed to fight cancer and infections at a cellular level after being introduced into the human body. The player engages in a series of missions to help adolescents with cancer to overcome the disease. This game was also used in healthcare contexts to analyse its effects on patient behaviour.[31] This game's audience is described as 'children with cancer and for their relatives'.[32]
- *Cancer Game*[33] – a graphic adventure featuring a journey through different parts of the human body (lungs, liver, stomach and intestines). Each of these organs is associated with a puzzle screen. Solving the puzzle helps to understand pernicious habits associated with this disease like tobacco, alcohol, heavily processed foods, etc. Cancer Game, as it is written on the website, was 'created as a game for the general public'.[34]
- *Re-Mission 2*[35] – a collection of mini games with a simplified narrative premise with respect to its predecessor, in which players embody *nanobots* that fight cancer with the help of the immune system, antibiotics and chemotherapy. Same target audience as the previous game.
- *NanoDoc*[36] – an online strategy game developed by the Laboratory of Multiscale Regenerative Technologies to crowdsource nanomedicine. Its objective is to look for patterns that help eliminate tumours thanks to nanotechnology. *NanoDoc* ideal age groups are 'families, graduate students, adults, elementary school (6-10 years) and college'.[37]
- *AlphaBeatCancer*[38] – a simple game for mobile devices aimed at a child audience in which a teddy bear faces various mini games related to cancer treatment (blood drawing, medication, nutrition, etc.). This game is PEGI3 rated.
- *That Dragon, Cancer*[39] – the most popular and award-winning game in the research material. A hybrid project halfway between a documentary movie and a graphic adventure developed by Ryan Green. He has a son called Joel, a 5-year-old boy affected by a strange and very aggressive type of cancer. The player participates in a tour of the family's experience in the fight against the disease through the game's twelve scenes. This game is PEGI3 rated and ESRB 'Everyone'.
- *Help Me to Cure Nadia's Cancer*[40] – the player must discover and use different treatments to cure Nadia's cancer. Each treatment proposal corresponds to a mini-game and several explanatory videos about the disease in Nadia's bloodstream. For this case, the audience is not specified. However, young people can be assumed to be the main target according to what the games proposes.
- *I, Hope*[41] – a young girl named Hope sees her island home attacked by a monster called Cancer. Guided by her grandpa, she starts a quest to find the weapons and knowledge she needs to defeat the monster and restore peace to her home. This game is PEGI7 and ESRB 10+ rated.

30   REALTIME ASSOCIATES: *Re-Mission*. [digital game]. San Francisco : Hope Lab, 2006.
31   KATO, P. M., COLE, S. W., BRADLYN, A. S., POLLOCK B. H.: A video game improves behavioural outcomes in adolescents and young adults with cancer: a randomized trial. In *Pediatrics*, 2008, Vol. 122, No. 2, p. 314.
32   HOFFMANN, S., WILSON S.: The role of serious games in the iManageCancer project. In *ecancermedicalscience*, 2018, Vol. 12, No. 850, p. 2-13. [online]. [2020-10-31]. Available at: <https://doi.org/10.3332/ecancer.2018.850>.
33   WEI, W.: *Cancer Game*. [digital game]. [2020-06-29]. Available at: <http://veevia.com/playgame/cancergame.html>.
34   *Cancer Game: Interactive Narratives through Explorational Storytelling*. [online]. [2020-06-29]. Available at: <http://veevia.com/project/Cancer_Game/index.html>.
35   REALTIME ASSOCIATES: *Re-Mission 2*. [digital game]. San Francisco : Hope Lab, 2013.
36   LRMT MIT: *NanoDoc*. [digital game]. [2020-06-29]. Available at: <http://nanodoc.org/>.
37   *NanoDoc*. [online]. [2020-10-31]. Available at: <https://scistarter.org/nanodoc>.
38   MUKUTU GAME STUDIO: *AlphaBeatCancer*. [digital game]. São Paulo : Mukutu Game Studio, 2016.
39   NUMINOUS GAMES: *That Dragon, Cancer*. [digital game]. Indianola : Numinous Games, 2016.
40   *Help Me to Cure Nadia's Cancer*. [digital game]. [2020-06-29]. Available at: <https://www.xplorehealth.eu/en/media/help-me-cure-nadias-cancer>.
41   ROY, K.: *I, Hope*. [digital game]. Irvine : GameChanger Charity, Kenny Roy, ++Good Games, 2018.

All these games share some common features. The first one is how the user experience is addressed. They are all either short games or allow players to break up game time. Therefore, they are products targeting both traditional and casual players in order to facilitate the dissemination of their discourse in a wide range of audiences. Another remarkable aspect is the genre to which these games belong, which determines their discourse and mechanics. In particular, the games that prevail are the most popular ones among young people (action and adventure), featuring high playability: *shoot 'em up*, graphic adventure games and platforms.[42] The animated aesthetics and narrative premises are also fitting for a young audience.

Results

The representation of cancer as a threat has different degrees of abstraction, which are analysed below:

a. When cancer is shown as a single tangible threat (Picture 2) – the most simplified mode of representation – it is characterized as a monster or a grotesque being whose vileness is represented in its own image; it ranges from a very abstract concept of cancer, to the physical image of a monster (I, Hope), to concrete manifestations such as liver or lung cancer (Cancer Game).

Picture 2: Cancer as a single tangible threat
Source: authors' screenshots; ROY, K.: *I, Hope.* [digital game]. Irvine : GameChanger Charity, Kenny Roy, ++Good Games, 2018.; WEI, W.: *Cancer Game.* [digital game]. [2020-06-29]. Available at: <http://veevia.com/playgame/cancergame.html>.

This type of construction is associated with games that do not provide specific answers about the causes of the condition or its development, but present an avoidable situation, either through healthy lifestyle habits (Cancer Game) or by empowering younger people faced with the disease (I, Hope).

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42   Remark by the author: The taxonomy used is based on specific features (WOLF, M. J. P.: Genre and the video game. In RAESSENS, J., GOLDSTEIN, J. (eds.): *Handbook of computer game studies*. Cambridge : MIT Press, 2005.): *shoot 'em up* (or *shooters*) are games that "involve shooting at, and often destroying, a series of opponents or objects"; graphic adventure games are "set in a world usually made up of multiple, connected rooms or screens, involving an objective" (p. 202), [...] "although completion of the objective may involve several or all of these that must be solved after several steps, for example, finding some keys and opening doors in other areas" (p. 196); and platforms are games which move "through a series of levels, by way of running, climbing, jumping, and other means of locomotion [...] [They] also involve avoiding dropped falling objects, conflict with (or navigation around) computer-controlled characters" (p. 201).

b.	Cancer as a set of tangible multiple threats (Picture 3) is associated with medical aspects of the disease. There is also an abstract representation related to some aspect of cancer or its treatment, such as in Ben's Game, where the side effects of chemotherapy (colds, vomiting, chicken pox, fever, bleeding, hair loss and rashes) take the form of the enemies to be defeated (Iceman monster, Robarf monster, Big Chicken monster, Fire monster, Vamp monster, Qball monster, and the Tornado monster).
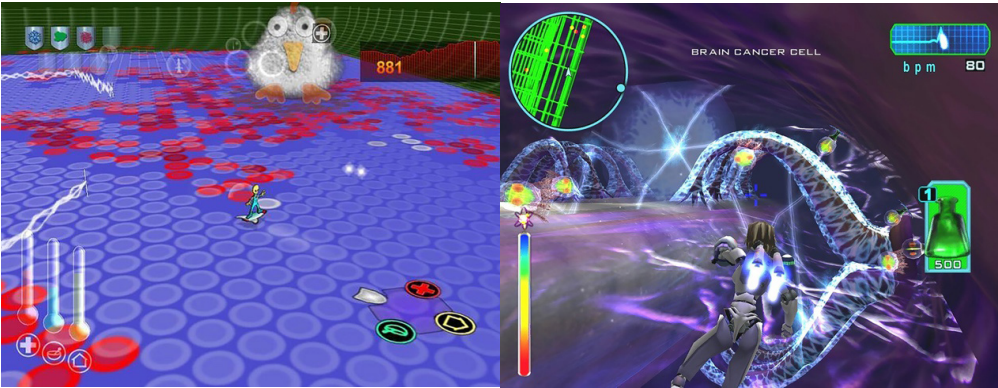
Picture 3: Cancer as multiple threats
Source: authors' screenshots; JOHNSTON, E.: Ben's Game. [digital game]. Phoenix : Make-A-Wish Foundation, 2004.; REALTIME ASSOCIATES: Re-Mission. [digital game]. San Francisco : Hope Lab, 2006.

Re-Mission, Re-Mission 2 or Help Me to Cure Nadia's Cancer opt for a scientific representation showing both bacteria and cancer cells: leukemia, lymphomas and osteosarcoma, among others. The design choice is intended to meet the therapeutic and educational objectives of the game to help understand the nature of the disease. It presents the features of the scientific discourse associated with the disease along with the mechanisms to fight it.

c.	Finally, That Dragon, Cancer articulates a relationship with the disease which is never specifically or tangibly formulated (Picture 4). Cancer itself is not specifically represented in visual terms; instead, the game depicts the effects on the Green family; the parents (Ryan and Amy) and their four children, one of whom (5-year-old Joel) suffers from a rare type of cancer that is extremely aggressive. The twelve scenes that make up the game show some aspects of the Green family's daily life with Joel's disease, interspersed with dream scenarios that reflect inner desires, thoughts and anxieties.

Picture 4: Cancer as an intangible presence
Source: authors' screenshots; NUMINOUS GAMES: That Dragon, Cancer. [digital game]. Indianola : Numinous Games, 2016.

The ambiguity of That Dragon, Cancer's representation of the disease is seen in the absence of specific objectives or the requirement to 'win'. The game is conceived as being part of the Green family's testimony, and is consistent with the current representations of cancer, which avoid presenting it as a conflict. In this way, the aim of the game is not to obtain optimal results; rather, the interest lies in establishing a connection with Joel's family, in line with his father's statement: "so much of life is not about knowing the answers, but to walk next to others without knowing them".[43]

The ideas outlined above allow concluding with the reflection and the persistence of the symbolic construction of cancer as a scourge regardless of their representation formula; "it was, metaphorically, the barbarian within".[44] A fact that is reflected in both the way the personalization of cancer determines the rest of the elements in the discourse – ways of dealing with the condition, outcome, etc. – and the ability to specify its effects.

Us on the Screen: Players, Spectators and Patients

Most of the digital games feature some figures that are related to emblematic characters from other digital games. These include Roxxi (Re-Mission), who is a young *nanobot* that enters the blood plasma to fight the disease and resembles Lara Croft, the protagonist of the well-known saga *Tomb Raider*[45]; the 'teddy bear' aesthetic of Alpha (AlphaBeatCancer); Hope (I, Hope), a warrior teenager reminiscent of Link, the protagonist in *The Legend of Zelda*[46], one of Nintendo's most famous sagas; and, Ben, who travels on his rocket skateboard (*Ben's Game*) and is inspired by the popular sports digital game franchise *Tony Hawk's*[47]. At last, robots and spaceships are the avatars used in Re-Mission 2 and Help Me to Cure Nadia's Cancer. The utilization of avatars that are easily identifiable due to their popularity in the world of digital games means that they are readily accepted by those familiar with this culture as well as by a young audience.

That Dragon, Cancer and Cancer Game employ a different logic. In That Dragon, Cancer, Joel's parents narrate the experience of those who support the patient. Cancer Game employs an anonymous character who travels through different organs of the human body and faces threats to its health. This is the only one game focused on prevention, in order to "present a playful way to engage people in exploring symptoms and causes",[48] in the words of its creator. The construction of protagonists is complemented by other actors who participate in the narrative. These can be categorized into three major roles: moral guides, medical authorities, and elements of the human body.

a. Hope's grandpa falls into the first category. He entrusts his granddaughter with the mission of obtaining weapons and knowledge to face the disease. It is a family member who guides the player's efforts and objectives.

43 SCHOTT, G.: That Dragon, Cancer: Contemplating life and death in a medium that has frequently trivialized both. In CARTER, M., GIBBS, M. R., O'DONNELL, C. (eds.): *DiGRA '17 – Proceedings of the 2017 DiGRA International Conference*. Melbourne : Digital Games Research Association, 2017, p. 8. [online]. [2020-06-29]. Available at: <http://www.digra.org/wp-content/uploads/digital-library/30_DIGRA2017_FP_Schott_Dragon_Cancer1.pdf>.
44 SONTAG, S.: *La enfermedad y sus metáforas. El sida y sus metáforas*. Barcelona : Taurus, 2003, p. 88.
45 CORE DESIGN et al.: *Tomb Raider (series)*. [digital game]. London, Tokyo : Eidos Interactive, Square Enix, 1996-2018.
46 NINTENDO et al.: *The Legend of Zelda (series)*. [digital game]. Kyoto : Nintendo, 1986-2019.
47 NEVERSOFT et al.: *Tony Hawk's (series)*. [digital game]. Santa Monica : Activision et al., 1999-2020.
48 *Cancer Game: Interactive Narratives through Explorational Storytelling*. [online]. [2020-06-29]. Available at: <http://veevia.com/project/Cancer_Game/index.html>.

b.   The medical authority is represented as an honest but inflexible source of information (That Dragon, Cancer), and also as an enabler of support for the human body to eliminate cancer (Re-Mission and AlphaBeatCancer). In this case, the effect of the treatments is flagged by a behavioural message to ensure patients' compliance with their drug regimens, one of the main challenges in medicine presently.[49]

c.   Some games present different elements of the human body: organs, as well as components of the bloodstream, including platelets, red blood cells, etc. Their role is mainly to be cancer targets, battlefields (in the case of organs), or as sites that bear witness to the player's efforts to combat the threat.

Playing Is Winning: Mechanics and Actions

The arguments put forward by the characters are completed by the ludic elements of the game. These mechanics are associated with activities that are essential for a human being's survival and development:[50]

a.   The principle of harvesting mechanics resides in the collection and provision of food to ensure survival. The search for objects within the game is identified with the prevention of, or the fight against, the disease. In Ben's Game the different shields that grant protection against the side effects of chemotherapy are the target, while the protagonist of I, Hope undertakes a quest for knowledge and weapons (magic goggles, strength gauntlets, a gong for courage and horn of support) that enable her to defeat the monster that threatens her island home.

b.   The capture mechanics are linked to "hunting animals and confronting enemies, eliminating them or being eliminated".[51] The use of combat in the different manifestations of cancer highlights the player's struggle for survival when facing the disease. This is particularly reflected in Re-Mission, Re-Mission 2, Ben's Game and in I, Hope. The very visual construction of the tools and weapons to combat the disease uses classic elements of action games such as Roxxi's multi-purpose med blaster in Re-Mission and other generic uses.

c.   The mechanics challenge the player's skill throughout the narrative (Picture 5). This is integrated into a progressive learning curve to ensure interest is maintained. These mechanics are adapted for the target audience. In this way, the skill requirements of AlphaBeatCancer involve simple mechanics that contrast with more demanding games such as I, Hope and NanoDoc (which is intended for an adult audience). Finally, the minimalism in That Dragon, Cancer is notable for the way in which it reinforces the testimonial and narrative character of this game as opposed to the other digital games discussed.

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49   BLOOM, B. S.: Daily regimen and compliance with treatment: fewer daily doses and drugs with fewer side effects improve compliance. In *BMJ: British Medical Journal*, 2001, Vol. 323, No. 7314, p. 647.
50   PÉREZ-LATORRE, O.: From Chess to Starcraft. A Comparative Analysis of Traditional Games and Videogames. In *Comunicar*, 2012, Vol. 19, No. 38, p. 122-123.
51   Ibidem, p. 123.
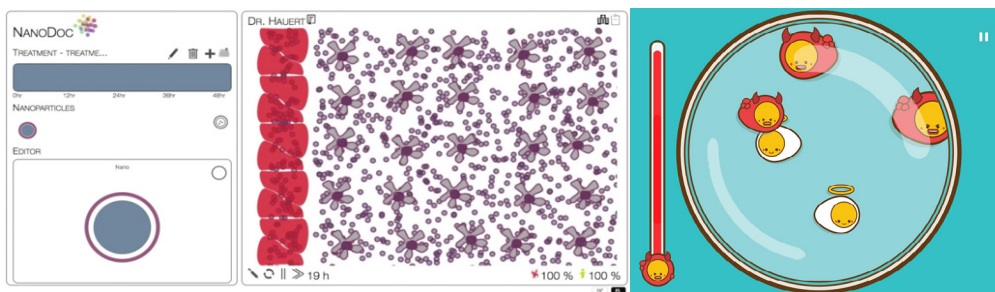
Picture 5: Skill mechanics with increasing difficulty

Source: authors' screenshots; LRMT MIT: *NanoDoc*. [digital game]. [2020-06-29]. Available at: <http://nanodoc.org/>.;
MUKUTU GAME STUDIO: *AlphaBeatCancer.* [digital game]. São Paulo : Mukutu Game Studio, 2016.

d. Finally, configuration mechanics – typical of strategy and resource management games – are less common. For example, in Re-Mission 2 they are reduced to minor expressions (you can only customize some weapons before each mission); however, they are predominant in the NanoDoc online game. This game was based on solving puzzles based on patterns (actual configurations of tumour cells) to enable users to provide solutions that would be tested later with real tumours.[52]

That Dragon, Cancer:
The Testimonial Role
of Digital Games

That Dragon, Cancer offers an experimental audio-visual and interactive narrative that is well suited to its commemorative purpose. The player's action is focused on exploring the virtual environment without receiving specific indications about what to do. For example, to start with, the player controls a duck that wanders around a pond and can find some pieces of bread thrown by Joel; this allows the conversation between Joel's parents about the child's disease to be heard and the limitations that cancer imposes on his cognitive development. From that point onward, the player's identity changes in the different scenes (doctor, father, mother or a casual observer who keeps the child entertained at the hospital). This is aimed at orchestrating a number of different views about the suffering of the patient and his family that is similar to the testimonies that could be seen in a documentary. The construction of this virtual experience prioritizes the immersive and virtual recreation of speed or optimal performance during the game. Joel's father, developer of That Dragon, Cancer, explained this purpose in the following way: "videogames unlike any other mediums allow you to linger in spaces ... looking back at the time we spent with Joel it wasn't what he said, or it wasn't the event that we remember but those spaces between ... I think videogames allow you to rest in that space better than anything else".[53]

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52 HODSON, H.: *Gamers unleash swarms of nanoparticles on tumours.* Released on 11th September 2013. [online]. [2020-06-29]. Available at: <https://www.newscientist.com/article/mg21929344.600-gamers-unleash-swarms-of-nanoparticles-on-tumours/>.

53 SCHOTT, G.: That Dragon, Cancer: Contemplating life and death in a medium that has frequently trivialized both. In CARTER, M., GIBBS, M. R., O'DONNELL, C. (eds.): *DiGRA '17 – Proceedings of the 2017 DiGRA International Conference*. Melbourne : Digital Games Research Association, 2017, p. 6-7. [online]. [2020-06-29]. Available at: <http://www.digra.org/wp-content/uploads/digital-library/30_DIGRA2017_FP_Schott_Dragon_Cancer1.pdf>.

Finally, the documentary purpose of this digital game reflects the Christian convictions of its creators. In this sense, the game expresses a dialectic between medicine and faith as a way of managing pain and accepting dramatic situations[54]. This approach is reflected in several scenes where recourse to prayer alleviates the suffering of the character and proposes an exclusive spiritual dimension. This device is used to express the ways in which disease and death are interpreted in contemporary societies.[55]

Outcomes: Losing a Battle Is Not Losing the War

The construction of the conditions that determine the end of game experience—and its interpretation as a victory or defeat—contribute to the meaning of the discourse. The research material recreates classic formulations based around victory by achieving objectives (eliminating threats, completing a route or solving a series of puzzles) that are complemented by other indicators (secondary points or achievements). The gaming experience is consistent with the usual affective purposes associated with digital games: frustration and anger management, motivation, gaining perspective, empowerment and relaxation.[56] The interest in reaching these objectives explains the low level of difficulty of the games, in order to maintain the attention of children or a casual audience. In addition, games like Re-Mission use the device of earning advantages such as invulnerability or unlimited weaponry; while these reduce the game's challenge for a traditional player, they make it possible to enjoy the gaming experience in a much more relaxed way and make it easier for the discursive objectives to be met successfully. Victory is associated with defeating the representation of cancer by reinforcing the idea of empowerment and the logic of positive thinking intended by the creators: "by inspiring positive thinking to obtain the knowledge through the explorational storytelling, players are challenged to gain the 'keys' to good health within a creative narrative and reality".[57] Clinical studies using games like *Re-Mission* have shown that they enhance players' perception of the risks associated with the disease and are more prone to request information related to it.[58]

The other side of the coin of any game is defeat due to not fully understanding its mechanisms, or to the inability of the player to meet the challenges involved. The most significant aspects of the games were that they empowered the player by minimizing the negative consequences of players' failures; and that they relied on a virtual respect for life and death, which is markedly paradoxical in this medium, as it has trivialized both concepts.[59] There was a set of games in the sample, which includes Cancer Game and

54   SEREGNI, M., TONIOLO, F.: That Dragon, Cancer: tecniche narrative del vissuto ludico. In *Critical Hermeneutics*, 2020, Vol. 4, No.1, p. 157-158.
55   DE LA HERA CONDE-PUMPIDO, T.: The persuasive roles of digital games: The case of cancer games. In *Media and Communication*, 2018, Vol. 6, No. 2, p. 104.
56   Ibidem, p. 105-106.
57   *Cancer Game: Interactive Narratives through Explorational Storytelling*. [online]. [2020-06-29]. Available at: <http://veevia.com/project/Cancer_Game/index.html>.
58   KHALIL, G. E.: When losing means winning: The impact of conflict in a digital game on young adults' intentions to get protected from cancer. In *Games for Health: Research, Development, and Clinical Applications*, 2012, Vol. 1, No. 4, p. 284.
59   SCHOTT, G.: That Dragon, Cancer: Contemplating life and death in a medium that has frequently trivialized both. In CARTER, M., GIBBS, M. R., O'DONNELL, C. (eds.): *DiGRA '17 – Proceedings of the 2017 DiGRA International Conference*. Melbourne : Digital Games Research Association, 2017, p. 4. [online]. [2020-06-29]. Available at: <http://www.digra.org/wp-content/uploads/digital-library/30_DIGRA2017_FP_Schott_Dragon_Cancer1.pdf>.

Nanodoc, in which the player cannot fail, as there are no winners or losers. The player can only move forward at different speeds, obtaining a higher or lower score. Ruling out defeat in this way creates a positive discourse.

The games that penalize the errors made by players involve an active learning process. The player is encouraged by being offered a new opportunity to achieve victory. This could be done by temporarily deactivating the *nanobot* in Re-Mission (as a mere mishap) or by using simpler resources such as the 'Try it again' option in Ben's Game and Re-Mission 2. A more euphemistic enunciation was that found in I, Hope, in which players returned to what they were doing a few seconds before the failure, proposing an alternative narrative with a laconic 'This is not how the story goes'. That Dragon, Cancer again is different from the rest of the games, due to the absence of victory and the omission of any kind of progression indicator beyond the strictly narrative aspect. The purpose of the game was to allow the player to contemplate and recognize/admit the losses and gains that the game presents,[60] reflected in the idea that: "Our journey has been characterized by hope and many small miracles, a community of faith and a set of amazing physicians. And even in the event we lose him, our desire is that our hope remains".[61]

Conclusions

This study on the contribution of digital games to the symbolic and social framework related to cancer is framed within the scholarly tradition that sees gaming as a cognitive strategy intended to explain and understand the world.[62] The original question about the ability of new representation technologies, embodied in digital games, to address the construction of a cultural imaginary, still remains. These digital games provide some of the possible answers from different angles: empowerment, testimony, medicine, and the internalisation of preventive habits.[63] Therefore, they share the perception that this medium can offer more than entertainment in connection with significant issues such as this. This feature is confirmed in the objectives stated by the developers, the design of the digital games themselves, the involvement of institutions and their media relevance.

The creators' viewpoint reflects their conviction that digital games have considerable potential, as they capture the interest of young people, can be replayed (thus reinforcing the message conveyed), they have an immersive potential, and they involve a cooperative aspect that creates spaces of dialogue on complex aspects of cancer. Ultimately, there is an interest in obtaining and subscribing to the findings that suggest that a carefully designed digital game can have a positive impact on the health habits of young people afflicted with chronic diseases.[64] The analysis reveals some interesting insights into the types of action found in digital games to promote empowerment processes, build empathy and identification, and in general terms, the potential of digital

60 SCHOTT, G.: That Dragon, Cancer: Contemplating life and death in a medium that has frequently trivialized both. In CARTER, M., GIBBS, M. R., O'DONNELL, C. (eds.): *DiGRA '17 – Proceedings of the 2017 DiGRA International Conference*. Melbourne : Digital Games Research Association, 2017, p. 4. [online]. [2020-06-29]. Available at: <http://www.digra.org/wp-content/uploads/digital-library/30_DIGRA2017_FP_Schott_Dragon_Cancer1.pdf>.
61 GREEN, R.: *Why We're Making "That Dragon, Cancer"*. Released on 10th April 2013. [online]. [2020-06-29]. Available at: <http://www.thatdragoncancer.com/thatdragoncancer/why-were-making-that-dragon-cancer>.
62 FRASCA, G.: Juego, videojuegos y creación de sentido. Una introducción. In *Comunicación*, 2009, Vol. 1, No. 7, p. 43.
63 AUXIER, J. W.: That Dragon Cancer Goes to Seminary: Using a Serious Video Game in Pastoral Training. In *Christian Education Journal*, 2018, Vol. 15, No. 1, p. 112-113.
64 KATO, P. M., COLE, S. W., BRADLYN, A. S., POLLOCK B. H.: A video game improves behavioral outcomes in adolescents and young adults with cancer: a randomized trial. In *Pediatrics*, 2008, Vol. 122, No. 2, p. 314.

games in contexts not linked to mere entertainment or escapism. However, it should be borne in mind that none of the games in this sample have obtained the volume of sales achieved by the most popular ones, and the interest they have generated has come from their exceptional nature within the field, rather than from the desire to know more about the disease.

The narrative and ludic ideas in digital games advocate a vision of cancer that enables players to culturally recode the disease, regardless of whether this results from their own experience or from mediated construction. Narratives have been adapted to an epic construction of combat or riddle solving that encourages extrinsic motivation in relation to the disease or the treatments to be followed. The support of other narrative resources has to do both with their themes and with their originality to explore the documentary logic of this medium and the spiritual dimension around cancer. In short, what has emerged is the potential of digital games to encourage reflection or mediation on complex experiences. Future research will need to take into consideration how, as opposed to other media, the immersive capacity of these digital games to offer a fully detailed emotional discourse about the people affected by cancer and the circumstances they must face. This work lays the foundation for the identification of the cultural construction of cancer in the interactive entertainment of digital games through its own and particular language and standards.

The interactive capacity of digital games promotes a focus on the discourse, as it demands immediate actions and reinforces empowering interpretations, while proposing immediate and concrete solutions to the threat. By simplifying gaming objectives, rules and mechanisms, and using a positive design, a vicarious experience of growth is enabled. In addition, the cause-and-effect relationship is explored as users are identified as the main architects in their own healing. The immersive capacity of digital games reinforces this formulation and renders them as privileged media within the natural communicative ecosystem of digital natives.

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ACTA LUDOLOGICA

To Brand or Not to Brand: The Perception of Brand Image in the Digital Games Industry

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ABSTRACT:
The paper presents, discusses and analyses the role of building brand image in digital games. The purpose of this paper is to analyse and discuss in-game marketing in cultural spheres from the aspect of brand image. The aim is to explore, identify and present the relationship between brand image, consumer self-image and digital games as a brand. The contribution of this study is manifested in an interdisciplinary approach to work through marketing, psychology, sociology, and media theory. Consumers project their desires through digital games, and the brand's entry into the digital game itself enhances the gaming experience and reality of the digital game. It was concluded that consumers want a realistic experience while playing digital games and they want to see famous brands within the game as this enhances their experience and projects the reality of the digital world. The core of brand image is consumers' perception. In recent years, the digital game industry dominates this segment of the global entertainment economy. The paper analyses in-game marketing from the aspect of branding and sociology of culture. It is based on J. N. Kapferer's theory of brand building and Huzinga's theory of game. The article explores the meaning of the phenomenon of brand image and identity in virtual reality. The emphasis in this paper is put on the influence of brand image and digital game as a model of popular culture. This article adopts an integrated knowledge inquiry approach through thematic analysis to explain the concept of brand image. From the consumer's point of view, the brand represents a symbol built on impressions, associations, metaphors and archetypes in the digital gaming industry. Brand loyalty is a key factor in building brand equity. The problem of brand loyalty appears as a reflection of brand symbol and its image. However, the oxymoron of in-game marketing starts from the hypothesis that consumers want to see brands in virtual reality.

KEY WORDS:
brand, culture, digital game, image, in-game marketing.

Introduction

If we paraphrase Shakespeare's comedy *As You Like It*, more precisely the quote *"All the world's a stage, And all the men and women mere players"*[1] with cultural game theory,[2] we can portray the future in the context of a digital game. According to the Entertainment Software Association (ESA), the average gamer is 35 years old[3] and 26% of them are 50+. Given the progression of the digital game industry, with today's percentage of players who will represent middle-aged players in about ten years, Shakespeare's prognosis seems to have come true. The paper is not about acting, at least not in terms of theatre theory[4] or literature theory,[5] but the need to adapt acting to win *someone* or *something*. This need to acquire someone or something, i.e. consumers and brand, brings us to brand identity, but not from the aspect of literature theory, but from the aspect

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1   SHAKESPEARE, W.: *As You Like It*. London : The Arden Shakespeare, 2006, p. 227.
2   HUIZINGA, J.: *Homo Ludens*. Kettering : Angelico Press, 2016, p. 11-32.
3   *2016 Annual Report 2016*. 2016. [online]. [2020-11-05]. Available at: <https://www.theesa.com/wp-content/uploads/2016/12/ESAAnnualReport2016.pdf>.
4   BALME, B. C.: *The Cambridge Introduction to Theatre Studies*. Cambridge : Cambridge University Press, 2011, p. 65-78.
5   CULLER, J.: *Literary Theory: A Very Short Introduction*. Oxford : Oxford University Press, 2011, p. 19-43.

of marketing,[6] consumer behaviour[7] and brand theory.[8] The paper asks several research questions: can we view digital games as a brand, is the main character in digital game a brand extension, and do users want to see brand products in the digital world? To answer these questions, we used J. Huzinga's theory, cultural object theory,[9] and brand identity theory.[10] We presented the game in the context of psychoanalysis[11] and in the context of integrated marketing communication.[12] Then we linked brand image with the image of the main character in a digital game with the concept of real, existing brands. We will show the brand through several aspects. First, as a game itself that becomes the market leader or represents a market segment like *God of War*[13] or *The Last of Us*[14], secondly the brand as an actual brand that consumers want to see in a game because it increases the reality of choosing brands like *Need for Speed: Payback*[15] and finally, we understand brand extension as these main characters from digital games who become the promotion of a corporate brand like Geralt of Rivia from *The Witcher 3: Wild Hunt*[16] and guest Geralt in *Soulcalibur VI*[17].

The construction of identity elements in the digital game industry, i.e. in-game marketing, includes the theory of narratology[18] that creates the brand story. Creating the plot, game developers reach for archetypal heroes who create a specific brand identity. There is something paradoxical about the way the game is created in the digital game industry. Initially, the appearance of brands in the game was paid for, and today publishers are paid for the appearance of brands. The digital game industry or interactive entertainment is one of the fastest growing industries of the past decade. The evolution of digital games enables a wider and faster base of users, greater and easier access and ultimately a huge communication channel. If we know that the digital game industry has generated a record 36 billion USD and 19% growth rate, a dilemma from the title, brand or not to brand imposes several *existential* questions. Can we think of a digital game as a brand with all its features? Does the protagonist act as a brand extension? Does the theory of corporate identity and corporate marketing apply equally to the digital marketing and virtual worlds? And what about brands in games, or brands in game genres? And finally, can we influence the perception of brand image in the digital game industry?

Virtual World and Consumers

The problem of virtual worlds is controversial and has given rise to many controversies. On one hand, there is research describing the effects of games on addiction and

6   KOTLER, P., KELLER, K. L.: *Marketing Management*. Upper Saddle River : Pearson Prentice Hall, 2006, p. 27.
7   SOLOMON, M., BAMOSSY, G., ASKEGAARD, S., HOGG, M. K.: *Consumer Behavior, European Perspective*. London : Prentice Hall, 2009, p. 118.
8   KAPFERER, J. N.: *The New Strategic Brand Management*. London : Kogan Page, 2008, p. 171-197.
9   GRISWOLD, W.: *Cultures and Societies in a Changing World*. London : Sage Publications, 2013, p. 4-18.
10 KAPFERER, J. N.: *The New Strategic Brand Management*. London : Kogan Page, 2008, p. 171-197.
11 FREUD, S.: *Massenpsychologie und Ich-Analyse. Die Zukunft einer Illusion*. Frankfurt am Main : Fischer Verlag, 2005, p. 74.
12 KESIĆ, T.: *Integrirana marketinška komunikacija*. Zagreb : Opinio, 2003, p. 28-34.
13 SANTA MONICA STUDIO: *God of War*. [digital game]. Santa Monica : Sony Interactive Entertainment, 2018.
14 NAUGHTY DOG: *The Last of Us*. [digital game]. Santa Monica : Sony Interactive Entertainment, 2014.
15 GHOST GAMES: *Need for Speed: Payback (PlayStation 4 version)*. [digital game]. Redwood City : Electronic Arts, 2017.
16 CD PROJEKT RED: *The Witcher 3:Wild Hunt (PlayStation 4 version)*. [digital game]. Warsaw : CD Projekt, 2015.
17 BANDAI NAMCO STUDIOS: *Soulcalibur VI*. [digital game]. Tokyo : Bandai Namco Entertainment, 2018.
18 FLUDERNIK, M.: *An Introduction to Narratology*. New York : Routledge, 2009, p. 46.

depression.[19] At the same time studies show how digital technology brings great benefits.[20] Recent research suggests that digital gaming positively influences cognitive, emotional and social development.[21] Of course, the problem of virtual worlds is not only the problem of an aggressive subject but also of a passive subject. The term subject is understood here as a culture of media that is axiomatic and denotes contemporary existence through perception. So we take the subject as a postmodern consumer. But since the topic of this paper is the perception of brand image in the virtual world and brand analysis in games, we will limit the discussion to two aspects. The first aspect relates to the phenomenon of the game as a media, as a new cultural phenotype that opens the market to a growing number of consumers. The second aspect relates to brand influence, i.e. identity and image analysis. This raises two important questions. Can we view the game as a cultural object[22] if we accept the model of *Homo Ludens*, and can we apply brand identity[23] and personality[24] to the archetypes of heroes in virtual reality? At its core, virtualization of reality contains a paradox. The virtual world imitates the real world and takes on economic, social, psychological and ethical issues. The paradox is manifested in the dichotomy of addiction to games and games without addiction.

Cyberspace is a degraded copy of reality[25] that characterizes a fundamental loss of orientation. Cyberspace is a new form of perspective, i.e. a tactile perspective. In this sense, the tactile perspective represents a new consumer paradigm because seeing at a distance, hearing at a distance – such was the basis of the visual and acoustic perspective that is now shifting to a new field of communication. We are fast approaching a point where one third of the global population will play digital games on a regular basis. As such, digital gaming ought to become a serious object of philosophy, not least because of its impact on players' perception.[26] After all, the term gamer, that most contemporary of subjects, alludes to the psychoanalytical reading of the position of the gamer in the relation to the gaming dreamworld.[27] We turn the inner world outwards,[28] and the outer (real) world becomes the inner. Therefore, the development of virtual reality means that reality becomes like games. Subconscious desire is not so much fulfilled by technology[29] as it is shaped by it. Which came first, play or game?[30] If the game is a dream world and the gamer is just a traveller,[31] let's analyse the structure of the simulation. Virtual reality represents the dark

19   CLARK, N., SCOTT, P. S.: *Game Addiction: the experience and the Effect*. London : McFarland Company, 2009, p. 91-115.; COVER, R.: Gaming (Ad)diction: Discourse, Identity, Time and Play in the Production of the Gamer addiction Myth. In *Game Studies*, 2006, Vol. 6, No. 1. [online]. [2020-11-03]. Available at: <http://gamestudies.org/06010601/articles/cover>.; GRIFFITHS, M. D.: Does internet and computer "addiction" exist? Some case study evidence. In *CyberPsychology & Behavior*, 2000, Vol. 3. No. 2, p. 216-217; CHAK, K., LEUNG, L.: Shyness and locus of control as predictors of Internet addiction and Internet use. In *CyberPsychology & Behavior*, 2004, Vol. 7, No. 5, p. 562-567.; KIM, J. H., LAU, C. H., CHEUK, K.-K., KAN, P.: Brief report: Predictors of heavy Internet use and associations with health-promoting and health risk behaviours among Hong Kong university students. In *Journal of Adolescents*, 2010, Vol. 33, No. 1, p. 218.
20   BARANOWSKI, T., BUDAY, R., THOMPSON, D., BARANOWSKI, J.: Playing for real: video games and stories for health-related behaviour change. In *American Journal of Preventive Medicine*, 2008, Vol. 34, No. 1, p. 74-76.
21   GRANIC, I., LOBEL, A., ENGELS, R.: The Benefits of Playing Video Games. In *American Psychologist*, 2014, Vol. 69, No. 1, p. 71-73.
22   GRISWOLD, W.: *Cultures and Societies in a Changing World*. London : Sage Publications, 2013, p. 16.
23   KAPFERER, J. N.: *The New Strategic Brand Management*. London : Kogan Page, 2008, p. 172-187.
24   AAKER, J. L.: Dimensions of Brand Personality. In *Journal of Marketing Research*, 1997, Vol. 34, No. 3, p. 352.
25   VIRILIO, P.: Red alert in cyberspace!. In *Radical Philosophy*, 1995, Vol. 74, No. 1, p. 3.
26   WATSON, M.: Lucid dreaming. In *Radical Philosophy*, 2019, Vol. 48, No. 1, p. 112. [online]. [2020-10-14]. Available at: <https://www.radicalphilosophy.com/reviews/individual-reviews/lucid-dreaming>.
27   BOWN, A.: *The PlayStation Dreamworld*. Cambridge : Polity Press, 2018, p. 61-94.
28   WARK, M.: *Gamer Theory*. Cambridge : Harvard University Press, 2007, p. 57-74.
29   WATSON, M.: Lucid dreaming. In *Radical Philosophy*, 2019, Vol. 48, No. 1, p. 113. [online]. [2020-10-14]. Available at: <https://www.radicalphilosophy.com/reviews/individual-reviews/lucid-dreaming>.
30   WARK, M.: *Gamer Theory*. Cambridge : Harvard University Press, 2007, p. 68.
31   BOWN, A.: *The PlayStation Dreamworld*. Cambridge : Polity Press, 2018, p. 61-125.

side of the collective subject and it is a place of the unconscious, where there is no censorship. According to personality theory[32] it is the *Id*, the dark part of the psyche. It is a field of pure instinct, a place of energy release (*Besetzung*). This energy is suppressed due to the effect of censorship in the conscious state, but due to the relaxation of inhibitions in virtual reality, it is available to consumers. Therefore, games can be seen as versions of narratives that encompass associations that, according to S. Freud's,[33] are unconscious. This means that brand identity elements interact with consumers at two levels: the conscious and the unconscious. The first level includes the desired brand in games that serves as an *immersion* in reality, or the so-called simulation of reality, the second level includes the neuromarketing category, that is, starting from unconscious elements.

From a psychoanalytic point of view, digital games are free. The game itself allows relaxation of inhibitions, a prerequisite for unconscious content. In this way, we can understand the gamer community as a kind of mass in which individuals acquire a sense of power that enables them to experience instincts that they would otherwise restrain. These feelings allow the individual to act as a mass, but also to gain security in the mass.[34] Also, communication in games is suitable for the collective subject and is therefore comparable to psychoanalysis. The game can therefore reproduce the sender-recipient relationship, similar to the metaphor of a living organism,[35] where the sender is the brand identity and the recipient is the brand image. Because of this characteristic of the media, we can talk about the breakthrough of unconscious content in digital games. The role of the brand as a particular simulation of reality, as a simulacrum,[36] opens the space to the creation of consumer desires. Virtualization of reality tends to emulate, and therefore consumers want a reality simulation just as they want hero archetypes[37] as the initiator of that simulation. When a game's popularity reaches such a level that it starts to influence the games market, it might become a model, an archetype, giving rise to more games based on it.[38] In postmodern society,[39] consumers connect with brands, and the world market is no longer a seller's market, but a consumer market. Society is based on the production and exchange of images, and consumers have nothing to do with the reality that these images signify. By doing so, everything becomes simulated. This is also a criticism,[40] because then games as such simulations, together with brands, can present behaviour patterns and even replicate certain attitudes. Digital games are not a text to read but a dream to be dreamt. In a dream, unlike a book or movie, the individual dreamer experiences 'desires, anxieties, passions, and effects', yet they are also generally governed, to some greater or lesser extent, by the wishes of an external actor.[41]

Let's analyse virtual reality from a simulation perspective. Figure 1 shows the aspects of in-game marketing simulation. On the abscissa we observe progression and exposure, while on the ordinate we distinguish between reality and delusion. It is evident

32 FREUD, S.: *Gesammelte Werke in Einzelbänden, Band 15, Neue Folge der Vorlesungen zur Einführung in die Psychoanalyse.* Frankfurt am Main : S. Fischer Verlag, 1940, p. 80.
33 FREUD, S.: *Die Traumdeutung. Studienausgabe Band 2*. Frankfurt am Main : Fischer Taschenbuch Verlag, 1982, p. 577.
34 FREUD, S.: *Massenpsychologie und Ich-Analyse. Die Zukunft einer Illusion*. Frankfurt am Main : Fischer Verlag, 2005, p. 78.
35 KAPFERER, J. N.: *The New Strategic Brand Management*. London : Kogan Page, 2008, p. 12.
36 BAUDRILLARD, J.: *Simulacra and Simulation.* Ann Arbor : University of Michigan Press, 2017, p. 121-129.
37 VAN ECK, R.: *Gaming and Congnition: Theories and Practice from the Learning Science*. Hershey : Information Science Reference, 2010, p. 146.
38 MAGO, Z.: The Concept of Timelessness Applied to Advergames. In *Acta Ludologica*, 2018, Vol. 1, No. 2, p. 21.
39 BEST, S., KELLNER, D.: *Postmodern Theory*. New York : Guilford Press, 1991, p. 16.
40 BOWN, A.: *The PlayStation Dreamworld*. Cambridge : Polity Press, 2018, p. 61-94.
41 WATSON, M.: Lucid dreaming. In *Radical Philosophy*, 2019, Vol. 48, No. 1, p. 113. [online]. [2020-10-14]. Available at: <https://www.radicalphilosophy.com/reviews/individual-reviews/lucid-dreaming>.

that what is experienced in digital games manifests itself through image and therefore represents the consumer perspective, which ultimately makes for real brand knowledge. However, the elements of brand identity are viewed from an illusory point of view as they are constructive for the manufacturer perspective. The first aspect that the simulation refers to is the content problem, that is, the semblance that precludes introduction to the structure necessary to shape the game. An entity that plays the role of an e-athlete in the real world deepens brand loyalty. The consumer selects brands, designs, compares, and ultimately downloads behaviours that are similar to buying a brand. His stimuli, emotions, positive impressions, interaction in the game, deepen brand knowledge[42] and create identification. The purchase of a brand, therefore, represents certain social symbols for gamers that express the consumer's self-image. Such simulacrum[43] opens the space to the creation of consumer desires and is an extension of self-image.
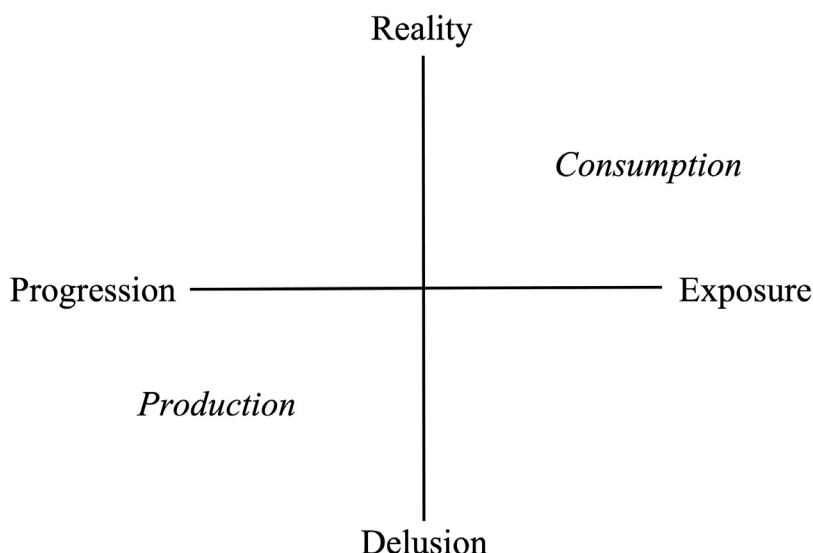
Figure 1: Brand simulation and in-game marketing
Source: own processing

Another aspect of virtual world simulation concerns the problem of manipulation that arises from the status of popular culture. First, the notion of understanding culture[44] through its division into elite, higher and lower, and finally, displaying culture as an open culture[45] that cuts across borders, raises dilemmas. If we associate culture with civilization, or equate it with art, the third aspect views culture as a plurality that multiplies cultural identities.[46] Games then become cultural creations of a postmodern society, and the media faces of the subject open up a place for the interpretation of the postmodern consumer. Criticism of the culture of virtual reality primarily results from the fundamental understanding of active and passive subjects[47] and manipulation

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42   KELER, K. L.: Building Customer-Based Brand Equity. In *Marketing Management*, 2001, Vol. 10, No. 2, p. 15-17.; KELLER, K. L., APÉRIA, T., GEORGSON, M.: *Strategic Brand Management : a European perspective.* Harlow : Financial Times Prentice Hall, 2008, p. 58.
43   BAUDRILLARD, J.: *Simulacra and Simulation.* Ann Arbor : University of Michigan Press, 2017, p. 121-129.
44   GIDDENS, A.: *Sociology.* Oxford : Blackwell Publishers, 2001, p. 22.
45   EAGLETON, T.: *Culture.* London : Yale University Press, 2016, p. 15.
46   Ibidem, p. 38-52.
47   PEOVIĆ VUKOVIĆ, K.: *Medij i kultura: ideologija medija nakon decentralizacije.* Zagreb : Jesenski i Turk, 2012, p. 187.

of popular culture. Accordingly, the criticisms[48] resent the narrative aspect of the game. The algorithm problem is a key entity in the analysis of digital game content.[49] Digital games are algorithmic narratives where the code determines the final performance given consumer choices. The ordinate is where we distinguish between reality and delusion (Figure 1). This is where the problem of active and passive subject arises. What does the term passive subject mean? Are the games interactive[50] without thinking of interactive dramas such as *Heavy Rain*[51]*, Beyond: Two Souls*[52] and *Detroit: Become Human*[53]? If we understand the concept of interactivity as a form of participation in the game, unlike other media, such as music or film, where the consumer is only an observer / listener, then the gamer is really active. However, if we assume from the hypothesis that the gamer is not essentially *free* but limited by algorithms, then we see that the consumer is passive here and subject to the elements of brand identity. Their self-perceptions, perceptions and impressions are closely linked to the brand image. The brand's true value lies in the consumer's thoughts,[54] associations, beliefs and emotions, that is, in the mindshare. From a sociological point of view, such a share in the consumer's mind is a construct of social activity.

Game as a Brand

According to J. Huizinga's theory,[55] we view the game as an independent category. Therefore, if the action in the game seems insignificant, trivial or childish to us,[56] then it is because of the thought content of the game itself. Playing at its core is not just fun. It rests on the idea of free will and the economy of experience.[57] The game is opposed to reality. The opposite of the game itself is a dilemma: is the game at its core older than culture,[58] or is the game *folie et sens*? We perceive the concept of the game as the emergence of culture, not as a play *per se*.[59] The game phenomenon does not find its full interpretation in the space of need and its value does not measure its usefulness for others. The game is impossible to deny. We can deny abstraction, but we can't deny the game. The game is at its core between the opposition of the conscious and the unconscious, between reason and emotion, just like a brand. A brand is a perceptual creation of consumers. Brands are

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48 CLARK, N., SCOTT, P. S.: *Game Addiction: the experience and the Effect*. Jefferson, London : McFarland Company, 2009, p. 91-115.; GRIFFITHS, M. D.: Does internet and computer "addiction" exist? Some case study evidence. In *CyberPsychology & Behavior*, 2000, Vol. 3, No. 2, p. 217.; KIM, J. H., LAU, C. H., CHEUK, K.-K., KAN, P.: Brief report: Predictors of heavy Internet use and associations with health-promoting and health risk behaviours among Hong Kong university students. In *Journal of Adolescents*, 2010, Vol. 33, No. 1, p. 215-216.

49 AARSETH, E. J.: *Cybertext: Perspectives on Ergodic Literature*. Baltimore : John Hopkins University Press, 1997, p. 17-23.; JUUL, J.: *Half-real: video games between real rules and fictional worlds*. Cambridge : MIT Press, 2005, p. 23-54.; WARK, M.: *Gamer Theory*. Cambridge : Harvard University Press, 2007, p. 57-74.

50 AARSETH, E. J.: *Cybertext: Perspectives on Ergodic Literature*. Baltimore : John Hopkins University Press, 1997, p. 51-58.

51 QUANTIC DREAM: *Heavy Rain.* [digital game]. San Mateo : Sony Interactive Entertainment, 2010.

52 QUANTIC DREAM: *Beyond: Two Souls.* [digital game]. San Mateo : Sony Interactive Entertainment, 2013.

53 QUANTIC DREAM: *Detroit: Become Human.* [digital game]. San Mateo : Sony Interactive Entertainment, 2019.

54 ARVIDSSON, A.: *The Logic of the brand*. Milano : Università degli Studi di Milano, quaderno 36, 2007, p. 7-11.

55 HUIZINGA, J.: *Homo Ludens*. Kettering : Angelico Press, 2016, p. 11-32.

56 GUNTER, B.: *Kids and branding in a digital world.* Manchester : Manchester University Press, 2006, p. 79-90.

57 SOLOMON, M., BAMOSSY, G., ASKEGAARD, S., HOGG, M. K.: *Consumer Behavior, European Perspective*. London : Prentice Hall, 2009, p. 38.

58 HUIZINGA, J.: *Homo Ludens*. Kettering : Angelico Press, 2016, p. 1.

59 JUKIĆ, D.: Advergaming: Identity Brand Analysis in the Virtual World. In *International Journal of Marketing Science*, 2019, Vol. 2, No.1, p. 84.

much more than products: they are networks of information and prescription,[60] emotional and rational, playful and serious. A brand is an added value that enriches products and services. Brand value[61] can be reflected in how consumers react, feel, think and act with respect to the brand.[62] More recent studies confirm that brand experience in the virtual world has a strong influence on the world of purchasing decisions.[63] These virtual world brand experiences may affect a consumer's decision to purchase. Personality theory also confirms this[64] according to which associations in play, as versions of the narrative,[65] are a way into the unconscious. Consistent self-images of consumers are projected through brands that match the self-perception.

This means that if the brand image matches the consumer image, it creates a precondition for brand loyalty. In essence, consumers tend to reflect their self-image through brands.[66] Looking at the axis of abscissa, playing a game in which brands are exposed to consumers, when brands are on the consumer's perspective, brands influence the formation of consumer self-image and the consumer responds to marketing stimuli that allude to the consumer's images. The same is stated in consumer behaviour theory, where brand choice is viewed as an attempt to retain consonance, or avoid dissonance. In today's postmodern marketing,[67] the role of brand loyalty is becoming crucial. It becomes crucial to attract and retain the consumer, and it is the brand that is crucial in appealing because it reflects the promise that consumers expect. The brand is a very complex symbol. Brand positioning needs to be viewed through the full marketing mix of benefits we call the proposed brand value.[68] The way consumers make their purchasing decisions is not always the same.[69] We divide patterns of behaviour according to the degree of consumer involvement. Consumers seek and use information as part of their own rational problem solving, but their decision-making may not always be rational. Consumers choose products that are consistent with their self-image, and discard those that are inconsistent. As we view self-image in the context of personal consumer factors, we can conclude that self-image interacts. Of course, the product purchased influences the formation of the consumer image[70] and the above hypothesis serves as one of the roles of the consumer's impressions.

Self-image does not have to be realistic, nor are brand images an indication of the true value of the brand. This means that consumers evaluate their experiences in relation to self-image, but also in relation to brand experiences. A brand can be viewed through the context of a person,[71] and this approach imposes a model of studying associations. Consumers buy brands because they feel better and 'align their values'.[72] Accordingly,

60   KAPFERER, J. N.: *The New Strategic Brand Management*. London : Kogan Page, 2008, p. 390.
61   KELLER, K. L., APÉRIA, T., GEORGSON, M.: *Strategic Brand Management : a European perspective.* Harlow : Financial Times Prentice Hall, 2008, p. 42-87.
62   KOTLER, P., KELLER, K. L.: *Marketing Management*. Upper Saddle River : Pearson Prentice Hall, 2006, p. 276.
63   BARNES, S., MATTSSON, J.: Brand Value in Virtual Worlds: An Axiological Approach. In *Journal of Electronic Commerce Research*, 2008, Vol. 9, No. 3, p. 200-202.; GABISCH, J. A., GWEBU, K. L.: Impact of virtual brand experience on purchase intentions the role of multichannel. In *Journal of Electronic Commerce Research,* 2011, Vol. 12, No. 4, p. 312.
64   FREUD, S.: *Die Traumdeutung. Studienausgabe Band 2*. Frankfurt am Main : Fischer Taschenbuch Verlag, 1982, p. 577.
65   FLUDERNIK, M.: *An Introduction to Narratology*. New York : Routledge, 2009, p. 21-39.
66   SCHIFFMAN, L. G., KANUK, L. L.: *Ponašanje potrošača*. Zagreb : Mate, 2004, p. 111.
67   BROWN, S.: Postmodern Marketing?. In *European Journal of Marketing,* 1993, Vol. 27, No. 4, p. 22.
68   KOTLER, P., ARMSTRONG, G.: *Principles of Marketing*. Harlow : Prentice Hall, 2007, p. 231-238.
69   KHAN, M.: *Consumer Behaviour and Advertising Management*. New Delhi : New Age, 2006, p. 5.
70   FOXALL, G. R., GOLDSMITH, R. E., BROWN, S.: *Consumer Psychology for Marketing*. London : Internation Thomson Business Press, 1998, p. 55.
71   AAKER, J. L.: Dimensions of Brand Personality. In *Journal of Marketing Research*, 1997, Vol. 34, No. 3, p. 352.
72   CONLEY, L.: *Obsessive Branding Disorder.* New York : Public Affairs, 2008, p. 76.

brand personality can be viewed from the perspective of the gaming platform[73] and from the perspective of the player's perception. In modern society, consumer behaviour is characterized by consumer desires that are created and need not be based on real needs. Needs are created and transformed into images that become real desires for the consumer. We present the formal characteristics of the game and the narrative structure of the brand and the consumer in Table 1.

Table 1: Comparison of digital games simulation in relation to the brand and the consumer

Game Features	Brand Features	Consumer Characteristics
Freedom	Brand Promise	Unconsciousness
Culture	Brand Cult	Affiliation
Time	Brand Service	Loyalty
Repetition	Brand Resonance	Self-image
Character	Brand Personality	Identification

Source: own processing

As can be seen, the first and main feature of the game is the simulation of freedom. The digital game, as well as the game *per se*, is an exit from reality into the virtual world, into the only temporary sphere[74] with the consumer's own aspiration. We regard this aspiration as the consumer's unconscious desire, that is, in the context of the brand,[75] the promise the brand makes. Another feature is the culture of the game, which serves here as a postmodern conception of consumers. It is a culture that satisfies the ideals of living together,[76] while deleting the boundaries of traditional understanding of culture[77] and constituting consumer identification through cult brands that are inherent in the masses. The time category is similar to a service brand feature because it is limited by location and duration. The digital game takes place at a specific time and place, and its duration, as well as the product life cycle, can be used in the context of loyalty. This is especially emphasized in digital game upgrades, content additions, or revitalization. The replay of the game is one of the most important features of the game in general. Digital game is the ideal medium for marketing communication because once played, it remains in memory as an impression and brand association. In essence, all elements of the game's narratology form the very basis of the game. And finally, the character in the game is the protagonist and also the main character of the game itself. Its importance represents the consumer's personification; it is an archetype of subconscious prejudices, desires and preferences.[78] Also, it is a construct of brand personality, but also ultimately of consumer identification with the brand.

In-game marketing can influence brand information, it can increase brand awareness[79] and positive brand attitudes.[80] Accordingly, gamers develop a specific form of virtual

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73   PALOMBA, A.: Brand Personalities of Video Game Console. In *American Communication Journal*, 2016, Vol. 18, No. 1, p. 73.
74   HUIZINGA, J.: *Homo Ludens*. Kettering : Angelico Press, 2016, p. 17.
75   KELLER, K. L., APÉRIA, T., GEORGSON, M.: *Strategic Brand Management : a European perspective.* Harlow : Financial Times Prentice Hall, 2008, p. 42-87.
76   EAGLETON, T.: *The Idea of Culture*. Oxford : Blackwell Publishers, 2002, p. 8.
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brand personality[81] that has personality dimension characteristics,[82] starting with emotionality towards brands in digital games. According to research,[83] gamers experience the brand in accordance with the dimensions of personality, identical to reality. Also, brand experience in digital games has a strong influence on purchasing decisions.[84] According to the theory of psychoanalysis,[85] we can conclude that in-game associations are a form of narrative that finds its way into the unconscious of the consumer. On a symbolic level, brands are cultural products, especially when analysed from the point of view of a cult brand[86] or a brand attachment construct.[87] Brand loyalty starts from the construct of attachment,[88] and includes three key features: contact with an object, an object as a refuge, and protest at separation from the object. A digital game object becomes associated with the consumer's self-image (cultural object). We emphasize that consumer illusions, in relation to brand simulation in digital games, do not stem from the fact that the consumer is subordinate because they are not aware of the virtual character of their identification. Exactly the opposite. The consumer wants to participate in the game. Their game is a struggle and a play,[89] and thus becomes symbolic because they communicate on the associations which are the ideal basis for brands. Therefore, brand image does not come in the form of an imaginary identification of a virtual character (archetype), but at the moment of symbolic identification that is identical to the identity prism model.[90] As confirmation, it is enough to remember the famous commercial for the Sony PlayStation 4, in which we play model gamers at narrative and symbolic levels with Lou Reed's song Perfect Day.

Conclusion

In order to answer the three questions we posed in the introduction, namely the key question of brand perception in digital games, we must first accept the game industry as very important in postmodern society. It is important for several reasons. First, the digital game industry generated a record 36 billion USD and a growth rate of 19%. According to the latest ESA data,[91] as many as 75% of households have at least one gamer. In-game

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91 *2018 Sales, Demographic, and Usage Data. Essential Facts About the Computer and Video Game Industry*. 2018. [online]. [2020-11-05]. Available at: <https://www.theesa.com/wp-content/uploads/2019/03/ESA_EssentialFacts_2018.pdf>.; *2019 Essential Facts About the Computer and Video Game Industry*. 2019. [online]. [2020-11-05]. Available at: <https://www.theesa.com/wp-content/uploads/2019/05/2019-Essential-Facts-About-the-Computer-and-Video-Game-Industry.pdf>.

marketing must therefore be viewed through integrated communication of the game as a culture and society in which the game has become a very serious category.[92] Second, consumers want to see brands in the virtual world because they make it easier to identify and transition from the real to the virtual world. Also, digital games allow relaxation of inhibitions, which is a prerequisite for unconscious content. Consumers recognize this content at the symbolic level inherent in the sender-recipient relationship as per J. N. Kapferer.[93] The brand identity is on the side of progression and delusion as shown in Figure 1. The image is on the side of gamers, which we understand as the recipient of the message. From the above it follows that identity precedes image, therefore identity is understood as the desired image (message) that we send to the consumer. This means that brand identity elements in a digital game with gamers communicate at two levels: the conscious and the unconscious. The first level comprises the desired brand in games, which is a simulation of reality,[94] while the second level involves psychoanalysis, that is, starting with the unconscious elements referred to by S. Freud.

Consumers seek and use information as part of their own rational problem-solving. However, their decision making is not always rational. Consumers choose products that are consistent with their images of themselves, and discard those that are inconsistent. Therefore, identity can be seen as both personal and imposing.[95] The personal tends to be more creative, and the imposed tend to be more abstract. This means that the emotional meaning of the brand must evolve from imposed to personal. In particular, those brands that are based on the so-called imposed brand identity model implies a passive consumer, while the personal model brand identity is based on contact, which implies a closer, two-way connection. With this understanding, personal identity starts from contact, which is why a brand sign is actually designed to bridge the corporate brand from the consumer, and meanings are added to it through images and image. However the passive consumer is not the same as the passive consumer of the game. More recent research confirms that brand experience in the virtual world has a strong influence on real world purchasing decisions. These virtual world brand experiences may affect a consumer's decision to purchase. This means that if the brand image matches the consumer image, it creates the precondition for brand loyalty. Gamers develop a specific form of virtual brand personality that has characteristics of a brand personality dimension. And finally, let's answer the questions in the introduction. Digital games can be brands. They are brands, which is also confirmed by many franchises. Digital game protagonists can also be carriers of brand identity. They are an identity. A game developer is also a brand. Admittedly, the corporate brand reflects on image perception in the digital game industry and generates 43.4 billion USD in sales.

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Learning Beyond the Game: A Multimodal Analysis of Rocksmith Users' Interactions

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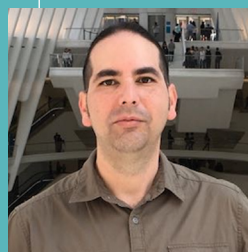
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ABSTRACT:

In the context of games for learning, rich multimodal conversations online can contribute to extending the educational potential of digital games. In this study, we analyzed the multimodal features of user interactions in an online affinity space dedicated to the Rocksmith digital game. This game allows users to connect a traditional electric guitar to a Sony PlayStation 4 console and interact with the game while improving their guitar playing skills. Findings show that users include several multimodal elements in their online conversations in order to support guitar learning beyond the digital walls of the game. Emoticons, emoji, pictures, YouTube videos, and user-generated videos are all part of a constellation of audiovisual modes that support social learning practices in an interest-driven online space. By understanding how users incorporate these modes in their interactions, game designers, game developers, and educators can make informed decisions on how to design and improve these features within the games themselves and in online communities of learning dedicated to such games. The findings of this study can also help these stakeholders and decision-makers create more engaging and more effective connections between games and online platforms.

KEY WORDS:

affinity spaces, games and learning, multimodality, online learning, Rocksmith.

Introduction

For centuries, learning to play a musical instrument has been tied to formal music education, which is widely based on face-to-face instruction. Even today, face-to-face lessons are a significant component of formal music education programs within traditional four-year universities and community colleges. In-presence one-on-one lessons are also common outside of traditional school settings, such as local music stores or a music teacher's home.[1] Given the steady advancement in technology, the concept of learning to play a musical instrument has allowed alternative avenues for music learning.[2] In this context, the video game industry has developed digital games that offer music learners a playful platform for music learning that includes input devices modeled after digital musical instruments, music-based games, and related online communities.[3] Moreover, these playful platforms provide unique opportunities for interactive teaching and learning.[4]

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In the context of guitar-related games,[5] some of the most notable are (in order of release):

1. *Guitar Hero*;[6]
2. *Rock Band*;[7]
3. *Rocksmith.*[8]

These guitar games engage the player through both their interactive features and their ability to model facets of the musical instrument.[9] Due to the fact that the first two games in the list (Guitar Hero and Rock Band) both use controllers that only vaguely resemble a guitar, the transferability of what is learned from the game to the traditional electric guitar is not necessarily relevant.[10] Even if one would consider these controllers as 'musical instruments', they still do not reflect the functional characteristics of a traditional electric guitar (e.g., they lack strings). Rocksmith, on the other hand, allows players to use a traditional electric guitar in lieu of a plastic controller equipped with levers and buttons to interact with the game, thus providing a more authentic learning experience.[11] Considering that these tools are relatively new, research on how people learn to play guitar through technology is limited.[12] Furthermore, the learning that takes place within digital games is often complemented and enriched by online communities that serve as a space for learners to communicate, share, and collaborate.[13] In this context, J. P. Gee[14] defines 'affinity spaces' as informal places in which people interact, socialize, and learn together because of a common interest or passion. This study focuses on how people interact and learn to play guitar by using Rocksmith with the support of multimodal communication in an affinity space, namely the official Ubisoft (the developer of the game) online discussion forum. Specifically, through a multimodal analysis, the study will attempt to answer the following research question: What multimodal resources do people use when they interact about learning to play the guitar with the Rocksmith digital game in an online affinity space?

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Methodology

Multimodal analysis is a methodological approach that draws on the multiplicity of modes of human communication.[15] It considers multiple ways people communicate and interact with one another, such as gestures, body language, sounds, music, and space. C. Jewitt, J. Bezemer, and K. O'Halloran[16] argue that there are three key premises of multimodality:

1. Meaning is made with multiple semiotic resources (materials, actions, and artifacts we use for communicative purposes), each one offering distinct limitations and potentialities.
2. Meaning making involves the production of multimodal wholes (how different kinds of meaning making tools are connected; for example: image with writing, speech with gesture).
3. It is important to attend to all semiotic resources (social, cultural, or material resource) being used to communicate.

Furthermore, according to C. Jewitt,[17] the theoretical assumptions of multimodality and multimodal analysis are:

1. Language is part of a multimodal ensemble assuming that communication and representation draw upon a multiplicity of modes that all contribute to meaning making.
2. Each mode within the ensemble is understood to realize different communicative work that is socially shaped over time and contributes to meaning making. Modes are shaped through historical, cultural, and social uses to realize social functions.
3. People's interests and motivations within a certain social context influence the meanings of multimodal semiotic signs.

From these perspectives, multimodality deals with and at the same time questions the 'division of labour' regarding meaning making.[18] It does this assuming that different means for meaning making often appear together. For example, "speech with gesture, image with writing, and math symbols with writing"[19] can take place at the same time. These modes concurrently contribute to meaning making, and often complement one another.[20] C. Jewitt and G. Kress agree that multimodal analysis is appropriate for interdisciplinary research because of its flexibility for the collection and analysis of multimodal and digital data that occur naturally.[21] For example, some of the data suitable for a multimodal analysis include closed circuit television (CCTV) recordings, visuals on a digital display, or logs from online games. A few examples of studies that utilized multimodal analysis include course activities on the online social networking site Pinterest,[22] technology-mediated

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15   JEWITT, C.: *The Routledge handbook of multimodal analysis.* 2nd Edition. London : Routledge, 2014, p. 14.; KRESS, G.: *Literacy in the new media age.* New York : Routledge, 2003, p. 37.; KRESS, G.: *Multimodality: A social semiotic approach to contemporary communication.* London : Routledge, 2010, p. 5.
16   JEWITT, C., BEZEMER, J., O'HALLORAN, K.: *Introducing multimodality.* New York : Routledge, 2016, p. 3.
17   JEWITT, C.: *The Routledge handbook of multimodal analysis..* London : Routledge, 2014, p. 15-17.
18   JEWITT, C., BEZEMER, J., O'HALLORAN, K.: *Introducing multimodality.* New York : Routledge, 2016, p. 4.
19   Ibidem, p. 2.
20   BEZEMER, J., MAVERS, D.: Multimodal transcription as academic practice: A social semiotic perspective. In *International Journal of Social Research Methodology*, 2011, Vol. 14, No. 3, p. 191-192.
21   JEWITT, C.: *The Routledge handbook of multimodal analysis.* London : Routledge, 2014, p. 14-17.; KRESS, G.: *Multimodality: A social semiotic approach to contemporary communication.* London : Routledge, 2010, p. 5-6.
22   SONG, K. et al.: Students as pinners: A multimodal analysis of a course activity involving curation on a social networking site. In *The Internet and Higher Education*, 2017, Vol. 33, No. 2, p. 39. [online]. Available at: <https://doi.org/10.1016/j.iheduc.2017.01.002>.

learning on Facebook,[23] online authoring and engagement with digital spaces,[24] and educational math games.[25] In the context of digital games, multimodal analysis has been used to examine social interactions of students within the autism spectrum disorder (ASD) within the online multiplayer game Minecraft.[26] On-screen data generated by students were analyzed through repeated viewing and listening sessions. The coding of collected data was organized by multimodal features and themes that included "written/visual, visual-images, gestural-virtual, oral-speech, gestural-physical, written text, gestural-virtual and physical, visual-image, gestural-virtual, and oral-speech".[27] Multimodal analysis as a method fits the context of this study in that it supports the collection and analysis of digital data in an online environment. Multimodal data can be stored and analyzed on a single platform, through the use of Computer Assisted Qualitative Data Analysis Software (CAQDAS), such as *Nvivo*.[28] Nvivo supports different data formats, including PDF files, Excel files, researcher notes, multimedia, images, websites and content from social media such as Facebook, Twitter, and YouTube. Considering its extensive use in qualitative research and multimodal studies, Nvivo was selected as a digital tool for collecting and analyzing data in this study.

Data Collection and Analysis

Using Nvivo's NCapture tool, (a) videos, (b) images, (c) graphics, (d) emojis, and (e) emoticons from the Ubisoft discussion forum dedicated to Rocksmith were collected, coded, managed, and stored in appropriate nodes (storage bins for data). Only threads that explicitly focused on learning the guitar were selected for the analysis. These threads included a total of 784 posts, which represents the sample size and all the posts analyzed in this study. The coding process involved placing multimodal data within top level nodes during the collection phase and then coding them according to the multimodal criteria and steps described below:[29]

1. Mode (Step 1: data examined and appropriately categorized into modes).
2. Semiotic Resource (Step 2: connections to meaning making first coded by sign or symbol type).
3. Modal Affordance or "Meaning Potential" (Step 3: categorize by what image/resource is "best" for and what words, and what other modes/arrangements are "best" for in a particular context).

23   BARDEN, O.: Winking at Facebook: Capturing digitally mediated classroom learning. In *E-Learning and Digital Media*, 2014, Vol. 11, No. 6, p. 554.
24   HANSFORD, D., ADLINGTON, R.: Digital spaces and young people's online authoring: Challenges for teachers. In *Australian Journal of Language and Literacy*, 2009, Vol. 32, No. 1, p. 1.
25   DERBOVEN, J. et al.: Playing educational math games at home: The Monkey Tales case. In *Entertainment Computing*, 2016, Vol. 16, No. 1, p. 2-3.
26   STONE, B. G., MILLS, K. A., SAGGERS, B.: Online multiplayer games for the social interactions of children with autism spectrum disorder: A resource for inclusive education. In *International Journal of Inclusive Education*, 2019, Vol. 23, No. 2, p. 209-210.
27   Ibidem, p. 214.
28   ANTONIADOU, V.: Collecting, organizing and analyzing multimodal data sets: The contributions of CAQDAS. In MOORE, E., DOOLY, M. (eds.): *Qualitative approaches to research on plurilingual education*. Dublin, Voillans : Research-publishing.net, 2017, p. 440.
29   JEWITT, C.: *The Routledge handbook of multimodal analysis*. 2nd Edition. London : Routledge, 2014, p. 14-17.; JEWITT, C., PRICE, S.: Multimodal approaches to video analysis of digital learning environments. In *Proceedings of BCS HCI 2012 Workshops: Video Analysis Techniques for Human-Computer Interaction*. Birmingham : BISL, 2012, p. 2-3. [online]. [2020-11-11]. Available at: <https://www.scienceopen.com/document_file/e4453aee-043d-413f-843c-eb9b7ee14798/ScienceOpen/001_Jewitt.pdf>.; KRESS, G.: *Multimodality: a social semiotic approach to contemporary communication*. London : Routledge, 2010, p. 5-8.

4. Intersemiotic Relationships (Step 4: relationships between modes appropriately coded into separate nodes/categories displaying the relationship type).

Employing these steps and criteria allowed for a structured coding process and assisted with making sense of the data (meanings, relationships, and emerging themes). Images and videos embedded or posted as external URLs within the collected posts were analyzed according to the procedure described by C. Jewitt and S. Price:[30]
1. Collecting and logging data (log and descriptive synopsis of each thread).
2. Viewing data (videos viewed multiple times, second by second analysis; audio listened to multiple times; images viewed multiple times in detail).
3. Sampling data (video and audio excerpts of significance to the research questions time stamped and categorized).
4. Transcribing and analyzing data (data categorized by their corresponding modes).

Data excerpts presented below are cited employing the method used by Marone[31] and are numbered sequentially in braces labelled as:

{sequential number of the excerpt in the chapter} [year-month-day of the post-(unique number assigned to the thread/position of the post in the thread)-nickname of the user]

For example:

{01} [2017-03-11-(01/01)-Staree69]

Shorter excerpts are presented within the text in double quotation marks. Examples of multimodal data are presented as figures. All data excerpts presented in this study are cited verbatim, as they appear in the discussion forum, without corrections. To protect the confidentiality and anonymity of the users of the discussion forum, their usernames have been substituted with second level nicknames (pseudonyms).

Findings

The analysis of the posts collected from the official Ubisoft discussion forum shows an extensive use of multimodal communication. The first cycle of coding (initial codes and categories) included: emoticon types; emoji types; artist pictures; modified pictures; guitar products; YouTube videos; video links; Twitch links; and user created videos. The second cycle of coding narrowed down the categories to: emoticons; emojis; pictures; graphics; and videos. Finally, data were categorized into two main themes: iconic resources; and audio-visual resources. This coding and theme-generating process is displayed in Table 1.

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30   JEWITT, C., PRICE, S.: Multimodal approaches to video analysis of digital learning environments. In *Proceedings of BCS HCI 2012 Workshops*: *Video Analysis Techniques for Human-Computer Interaction.* Birmingham : BISL, 2012, p. 2-3. [online]. [2020-11-11]. Available at: <https://www.scienceopen.com/document_file/e4453aee-043d-413f-843c-eb9b7ee14798/ScienceOpen/001_Jewitt.pdf>.
31   MARONE, V.: Online humour as a community-building cushioning glue. In *The European Journal of Humour Research*, 2015, Vol. 3, No. 1, p. 65.

Table 1: Coding of Multimodal Data

1ˢᵗ Cycle of Coding	2ⁿᵈ Cycle of Coding	Theme
• Punctuation smiley • Persevering face • Smiley • Grinning face • Winking grinning face • Face savoring food • Frowning face • Grinning face with sunglasses • Pouting face • Question face • Neutral face • Rolling eyes smiley	Emoticons Emojis	Iconic resources
• Artist pictures • Modified pictures • Guitar products • *YouTube* videos • Video links • Twitch links • User created video	Pictures Graphics Videos	Audiovisual resources

Source: own processing

The analysis of the posts displayed the following forms of multimodal communication: (1) the use of emoticons and emojis as a way of communication and expression; (2) embedded pictures, charts, and graphics used to display concepts related to learning to play the guitar; (3) the use of embedded videos, web pages, and pictures; and (4) user-generated videos that demonstrate guitar techniques.

Iconic Resources: Emoticons and Emojis

In his book, M. Danesi[32] places emoticons and emojis into descriptive categories: (1) the visual (representing image); (2) the meaning (what the image is representing); and (3) the function (what the image is conveying). Accordingly, emoticons and emojis found in the analyzed data were identified and categorized as: (1) Emoticon/Emoji (visual used in the post); (2) meaning (what it means); and (3) function (what it is doing), as illustrated in Tables 2 and 3. The analysis of collected data shows the use of both emoticons and emojis as a form of meta-linguistic communication through which users expressed themselves in their posts. In previous studies, H. Alshenqeeti and M. Danesi distinguish between what is considered an emoticon and what is considered an emoji. Emoticons, more formally known as ASCII (American Standard Code for Information Interchange) emoticons, are visual representations solely constructed from keyboard characters and/or punctuation marks that resemble facial expressions and have been widely used in emails and websites. An emoji differs from an emoticon because it is an actual image instead of a symbol constructed from keyboard characters and punctuation

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32   DANESI, M.: *The semiotics of emoji: The rise of visual language in the age of the Internet*. London : Bloomsbury Publishing, 2016, p. 60.

marks.[33] Created around 1998, the term emoji means a 'picture word' and is an English version of the Japanese word 絵文字, with the 'e' of emoji standing for 'picture' and 'moji' meaning 'letter' or 'character'. The term 'emoji' can be both singular and plural in English, but is commonly pluralized as 'emojis'.[34] Within the analyzed posts, emoticons were used to express a user's emotion following a brief phrase or statement, often posted in response to another user's post. There were two emoticons found in the data set: a punctuation smiley and a persevering face, as shown in Table 2, which also presents M. Danesi's descriptions of the emoticons' meaning and function.[35]

Table 2: Meaning and Function of Emoticons in the Analyzed Data

Emoticon	Meaning	Function	Occurrences	Percentage
:)	Punctuation smiley	Used to convey happiness, joy, or humour	7	87%
>.<	Persevering face	Used to convey skepticism, undecidedness, uneasiness, or being hesitant	1	13%
Total			**8**	**100%**

Source: own processing

The following example shows how a user employed a smiley emoticon as a humourous remark in response to another user in the discussion forum:

{25} [2018-01-10-(10/01)-DerBahHaus]
That's not so long. Is it? :)

Another example of emoticon use within the analyzed posts conveys a completely different meaning by beginning with what could be considered a vulgar acronym followed by an emoticon of a persevering face:

{26} [2017-01-04-(11/01)-PrinceDooKu]
fml if I know >.<

In this context, the use of the persevering face emoticon reinforces emotions of uneasiness, skepticism, and effort of some sort. This was the only occurrence of this emoticon within the analyzed data. Similar to emoticons, but more widely used, the next set of examples displays the uses and functions of emojis in conversations that took place in the discussion forum. The extended use of emojis, if compared to emoticons, may be due to an automatic function of the software that transforms traditional emoticon punctuation into colourful emojis, which is common on social media and discussion forums. The meanings and functions of the emojis[36] found in the analyzed data are presented in Table 3, including their occurrences and percentages.

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33   ALSHENQEETI, H.: Are emojis creating a new or old visual language for new generations? A socio-semiotic study. In *Advances in Language and Literary Studies*, 2016, Vol. 7, No. 6, p. 56.; DANESI, M.: *The semiotics of emoji: The rise of visual language in the age of the Internet*. London : Bloomsbury Publishing, 2016, p. 60-61.
34   DANESI, M.: *The semiotics of emoji: The rise of visual language in the age of the Internet*. London : Bloomsbury Publishing, 2016, p. 66.
35   DANESI, M.: *The semiotics of emoji: The rise of visual language in the age of the Internet*. London : Bloomsbury Publishing, 2016, p. 68.
36   Ibidem, p. 23-24.

Table 3: Meanings and Functions of Emojis in the Analyzed Data

Emoji	Meaning	Function	Occurrences	Percentage
	Smiley	Used to convey positive feelings, support, empathy, happiness, or joy	93	43%
	Grinning face	Used to convey good cheer, general pleasure, or humour	62	29%
	Winking grinning face	Can signals a joke, flirtation, hidden meaning, or positivity through playful, suggestive, or ironic tones	62	29%
	Face savoring food	Used to convey that food is delicious or express that a person is attractive (may also be used to convey effort)	12	6%
	Frowning face	Conveys feelings of disappointment, affectionate sadness, or moderate concern	11	5%
	Grinning face with sunglasses	Used to convey "coolness" or a sense of composure or aplomb	4	2%
	Pouting face	Used to convey anger or aggression, with the colour red bearing the strength of these emotions	4	2%
	Question face	Used to convey a question or confusion	4	2%
	Neutral face	Often used to depict a neutral sentiment, mild irritation, a deadpan sense of humour, or concern	2	1%
	Rolling eyes smiley	Commonly represents the process of thinking, boredom, or confusion	2	1%
Total			**214**	**100%**

Source: own processing

The analyzed posts show that emojis were used to express emotion when placed after short phrases. The smiley emoji, which was the most pervasive one in the analyzed threads (Occurrences = 93, Percentage 43%) was often used to convey positive feelings, happiness or joy. Examples of the smiley's use in combination with short sayings include: "Just keep at it 🙂," "keeping this in mind 🙂," and "Keep on rocking you too! 🙂 ." The meaning of the smiley emoji carries over into these sayings by visually communicating encouragement, a positive attitude, empathy, and support. Similar to the smiley, the grinning face emoji (Occurrences = 62, Percentage 29%) was used to convey good cheer, general pleasure, or humour. Examples from the analyzed posts include short sayings with no more than a few words followed by this emoji, such as "There ya go, then. 😀 ," "Ahhh okay. 😀," and "That's me! 😀," which conveyed a friendly atmosphere of reciprocity, trust, and playfulness. Other short sayings like ""NO STAIRWAY" 😀", and " 😀 LOL 😀" communicate outright hilarious interaction. The grinning face emoji here further emphasizes the playfully exclamatory tone conveyed by the capitalized letters, with the second example featuring two occurrences of the emoji combined with the acronym LOL ("laughing out loud").

The winking grinning face emoji (Occurrences = 20, Percentage 9%) that supported communication through playful, suggestive, or ironic tones had a similar function to the grinning face emoji. For example, participants put it at the end of statements like "When I can do it, you can do it as well 😄," functioning here as a self-deprecating encouragement. The face savouring food emoji (Occurrences = 12, Percentage 6%), which would commonly be used to express that food is delicious or that a person is attractive, took on another meaning within the analyzed posts. Examples of its use include longer sayings such as "Sounds like you got the most out of Rocksmith 😋" conveying humour and virtually saying "you ate the entire cake" (i.e., you got the most out of the game). However, in another context, for example in a sentence like ""Needs some work." 😋," this emoji visually signifies effort and commitment.

The frowning face emoji (Occurrences = 11, Percentage 5%) did convey feelings of disappointment, affectionate sadness, and moderate concern. Used at the end of short sentences this emoji took on the meaning that was most appropriate for the context. The first example ("Good that you pointed it out. 🙁") employs the frowning face as a visualization of direct disappointment. The second example ("Doesn't improve things at all. 🙁") expresses feelings of affectionate sadness. In contrast, the grinning face with sunglasses emoji (Occurrences = 4, Percentage 2%) functioned as an indicator of "coolness," as shown at the end of the sentence "Logged in to give your post a thumbs up! 😎." On a more adverse note, the pouting face emoji (Occurrences = 4, Percentage 2%) was used at the end of shorter and more direct statements like "Anything with arpeggios! 😡." This emoji (applied in this manner) conveyed the user's frustration or anger, with the colour red bearing the strength of the intensity of the emotion. The question face emoji (Occurrences = 4, Percentage 2%), often used to convey a question or confusion, reflected this function within the analyzed posts. The first example of its application ("What should i do. 🤔") means that the user is confused as to what should be done. The second example ("I'm faking it.... 🤔") indicates that the user is questioning his or her own actions in regard to the situation. The neutral face emoji (Occurrences = 2, Percentage 1%) was used at the end of short statements like "it's worse 😐," functioning as mild irritation or concern. Another less commonly used emoji found in the analyzed posts was the rolling eyes smiley (Occurrences = 2, Percentage 1%). This emoji was applied at the end of the statement "And who knew that musicians weren't perfect! 🙄," which conveys a mildly sarcastic commentary about the validity of this statement made by the user.

Audiovisual Resources: Pictures, Graphics, and Videos

The use of various pictures and graphics posted by users shows how different modes can support guitar learning in different ways, with different functions, such as: (1) pictures of and from the Rocksmith game; (2) pictures and graphics related to a guitar skill or technique; (3) pictures related to guitar playing styles; (4) pictures of guitar products; and (5) pictures conveying humour (see Table 4).

Pictures and Graphics	Occurrences	Percentage
Pictures of and from the Rocksmith game	19	58%
Pictures and graphics related to a guitar skill or technique	7	21%
Pictures related to guitar playing styles	4	12%
Pictures of guitar products	2	6%
Pictures conveying humour	1	3%
Total	**33**	**100%**

Source: own processing

Pictures and Graphics Related to Developing New Guitar Skills

The analyzed posts showed users embedding pictures and graphics to explain certain guitar concepts or skills to other users (Occurrences 7, Percentage 21%). The following example from the analyzed posts demonstrates user PowerMoon5000's use of graphics in a discussion regarding how to properly setup guitar intonation. In this example, user PowerMoon5000 uses a graphic that visually demonstrates the 'intonation rule'. This was done by posting a simple black and white graphic that shows the pitch effect of strings when adjusting the guitar bridge saddle. In the post, the user offers this visual representation of the intonation rule that supports the text posted to users who are having trouble keeping their guitar in tune. In posts that preceded the one containing this image, the conversation focused on this rule and how much it would cost to have this setup done by a professional.

In another entry, user MynOr333 posted a picture of a guitar tablature in a conversation focused on how to properly finger chords and arpeggios. The function of this picture (guitar tablature score of Dionisio Aguado's "Study 2") was to present an example of what an arpeggio study looks like in tablature form. It also serves as an option for users to refer to and get familiar with, should they decide to learn how to play an arpeggio study (short exercise intended to improve guitar technique). Even though this example may be intimidating to users who don't know how to read guitar tabs, it exposes them to it within the context of an informal discussion. In this example, user MynOr333 posted this picture to show other users the difference in how guitar arpeggios look like on the guitar tab as opposed to how they are visually displayed in Rocksmith. MynOr333 posted this picture in conjunction with the short phrase "Somebody said arpeggios?? Here you go >> (This music is free of rights)" indicating that this is an example that they could freely download and use. However, the use of this picture did not have a visible impact on the rest of the conversation that followed in the thread. Users proceeded with the discourse as if this was a one-off example and did not discuss it or talk about it in the remaining posts of the thread. Graphics and pictures as used in these first two examples within the analyzed posts mainly served an overall function of supporting the posted text by visually representing the specific concept or guitar technique being discussed.

Moreover, there was also evidence of some users embedding pictures to verify and support their statements. The pictures used in these posts were employed for different purposes: (1) to provide users a visual of how the guitar can be modified to support a unique playing style (occurrences: 4; percentage: 12%); and (2) to clear up any confusion by showing users a particular guitar product (occurrences: 2; percentage: 6%). The first example is a picture used as visual evidence of how the guitar can be modified to accommodate a unique guitar playing style. In a discussion regarding players that play their guitars in ways that are considered as untraditional or unorthodox, user RamJam1 embeds a picture of surf rock guitarist Dick Dale. Other users in the forum referred to players such as Jimi Hendrix, who was also a left-handed player and flipped a right handed Fender Stratocaster upside down with the strings in proper order (6th low E, 5th A, 4th D, 3rd G, 2nd B, 1st high E) for left handed playing. However, in RamJam1's response to these users, it is explained how Dale, who is shown using a left handed Fender Stratocaster, would string his guitar in reverse order starting with the low E string at the bottom (6th high E, 5th B, 4th G, 3rd D, 2nd A, 1st low E). Without a supporting picture such as that of Dale it might have been more difficult to understand this concept. Not only did this picture of Dale function as evidence of his unique playing style to users of the discussion thread, it also assisted in introducing another unique playing possibility, besides what Jimi Hendrix did, to novice players or those not familiar with Dale's technique and style.

The following example from a different discussion thread visually contributes to the discussion by showing the package of a specific product. In a discussion thread regarding different solutions for best achieving low tuning on the guitar, user PowerMoon5000 included a picture of a particular guitar string set to best achieve this. Users participating in the thread posted different methods to drop tune the guitar, such as tuning down a half step (E*b*), a whole step (D), or using a seven string electric guitar. User PowerMoon5000 suggested stringing the guitar with a heavier gauge string set made by Ernie Ball to ensure stability when down tuning. By posting the image of the actual string set packaging, the user conveyed in just one picture what might take several lines of text to describe. This image also serves as a convenient visual reference for users who might want to purchase this particular set of guitar strings. By referencing this picture, they would have confidence that they are purchasing the correct string set. As shown in these examples, using embedded pictures facilitates communication and lessens the potential for misinterpretation or confusion.

Besides short sentences, emoticons, and emojis (as discussed in a previous section), a user (occurrences: 1; percentage: 3%) expressed humour by posting a humourous image in response to another user's post regarding spending an average of 1,000 hours learning to play guitar through Rocksmith. This humourous photomontage (that could have been found on the Internet or modified by someone else) functions not only as a representation of a furry cute cat playing the guitar, much in the way that a human guitar player would, but also as a playful mockery towards the user who spent nearly a 1,000 hours learning guitar through Rocksmith. Humourous pictures such as these convey creativity and also function as playful encouragement to users who might have spent several hours learning guitar through Rocksmith. User SuperFlyV also conveys humour through text and emojis by saying "Having fun is the important part! 😆" and "What do you feel is holding you back now?". The use of the exclamation mark and the winking grinning emoji emphasize the importance of having fun when playing and learning to play the guitar, which promotes a positive atmosphere and encourages users that spend hours upon hours learning to play the guitar with Rocksmith.

Videos

The analysis revealed the use of videos in users' posts, both as videos found on *YouTube* (users embedding or including hyperlinks to non-user created videos) and user-generated content (users creating the videos), as illustrated in Table 5.

Table 5: Videos Found in the Analyzed Data

Videos	Occurrences	Percentage
Embedded *YouTube* videos (not created by users)	19	66%
Links to *YouTube* videos (not created by users)	9	31%
Embedded *YouTube* videos (created by users)	1	3%
Total	**29**	**100%**

Source: own processing

The analysis showed that the online video platform of choice for users of the forum was YouTube. YouTube is a free online video hosting site where anyone can create a free account to upload videos and establish his or her own YouTube channel. There was evidence from the analyzed posts that users almost exclusively embedded (occurrences: 20; percentage: 69%) or posted hyperlinks (occurrences: 9; percentage: 31%) to YouTube videos within their posts. However, not all posts that were analyzed embedded videos or posted hyperlinks, but the ones that did were about existing videos (occurrences: 19; percentage: 66%) from various celebrities and/or teachers taken from YouTube. The choices of YouTube videos used by the participants of the forum ranged from formal to informal guitar lessons with different approaches and techniques, at times presented through humour. The first example is a video that user King_MassAxe selected for an answer to another user in a discussion thread that focused on how to properly apply the sweep picking guitar technique. This video was initially created and posted to YouTube by Rob Chapman, who is considered a YouTube celebrity and currently has approx. 750,000 subscribers to his YouTube channel. In the video, which is approximately twenty-three minutes in length, Chapman is dressed up in a dragon costume, which humourously exceeds the expectations set in the title of his lesson "Enter The Diatonic Sweeping Dragon – Modal Sweeping Guitar Lesson" (Picture 1). This signals to viewers a playful and humourous side to his character, while he still covers the content like a teacher. This video employs humour by introducing viewers to a complicated guitar technique in a playful, yet informative way. Guitar videos like Chapman's have the potential to inspire creativity and critical thinking in guitar performance, composition, and music education.

The following example is a video that user VladSabbod8 embedded in a post in response to other users in a thread regarding the proper way to avoid problems with playing upstrokes on the guitar. This video was originally created and posted on YouTube by Ben Eller, who is a YouTube guitar teacher with currently more than 350,000 subscribers to his YouTube channel. The video is entitled *This is Why You Suck at Guitar, lesson 1: Your picking sucks* and is approximately eight minutes in length (Picture 2). This video was published on YouTube by Eller on November 26, 2013 and has so far drawn more than half a million views.

Picture 1: Rob Chapman dressed as a dragon in the instructional video
Source: author's screenshot; CHAPMAN, R.: Enter the diatonic sweeping dragon – modal sweeping guitar lesson. Released on 7th November 2013. [online]. [2020-11-11]. Available at: <https://www.youtube.com/watch?v=7vIyG4An8ec>.

Picture 2: Ben Eller's picking patterns guitar lesson
Source: author's screenshot; ELLER, B.: This is why you suck at guitar, lesson 1: Your picking sucks. Released on 26th November 2013. [online]. [2020-11-11]. Available at: <https://www.youtube.com/watch?v=kqwpdddKBpQ>.

In contrast to Chapman's video, Eller does not dress up in a costume. Instead, he presents himself to his audience in casual attire. However, Eller does similarly follow in the same footsteps as Chapman by infusing humour into his guitar lesson on proper guitar strumming. While Chapman employed an 'Englishman' style of humour, Eller uses a comedy-like approach to draw in his viewers. In these examples, both videos offer a humourous presentation of complicated and demanding guitar techniques in a non-intimidating way, as opposed to dry formal lessons often found in formal music education settings.

The use of YouTube videos for technology-mediated learning has become more and more popular due to abundant access made possible by the Internet. Because of this, users have the ability to create and upload their videos on YouTube and instantly share them with the world. One of the participants in the discussion forum, MynOr33, created and shared a YouTube video (occurrences 1; percentage: 3%) to demonstrate the raking technique to his fellow users. This video was directly embedded into a post in a discussion forum thread. In contrast to the previously reported YouTube videos posted by other users (video lessons taken from YouTube and made by people who were not users of the forum), this brief video is straightforward, with very little dialogue other than short instructions and brief explanations of the technique. It does not contain any technical elements or editing as found in Chapman's or Eller's video lessons discussed above. The video itself is produced and shot possibly with a lower-end consumer camcorder or with a smartphone. MynOr33 does have other videos that are not posted on the Rocksmith forum and currently has approx. 200 subscribers to his personal YouTube channel. This lesson was published as an unlisted video on YouTube on March 14, 2017 and has since drawn approx. 50 views. The total length of the tutorial is less than 4 minutes, with no edits or cuts. User MynOr33 maintained a low static camera shot angled up, probably by using a small tripod or desk. He did not use any type of zooming in the video. There is no elaborate set or special editing of any kind in this video tutorial. However, this video tutorial allows users to have a clear view of the player's right-hand movements and left-hand fingering on the fretboard.

Discussion

The multimodal analysis revealed a substantial use of multimodal communication within user discussions, which included the use of emoticons and emojis as a way of communication and expression, embedding pictures, charts, and graphics for the purpose of displaying concepts related to learning the guitar, or for humourous encouragement, as well as videos posted on YouTube. These multimodal elements found within the data were used as semiotic resources within posts to connect meanings directly to multiple guitar techniques, various playing styles, guitar examples, and humour. These multimodal elements were in several instances combined to communicate effectively, clarify concepts, and convey meaning. For example, emoticons and emojis were used to communicate playfulness and encouragements to persistence. Overall, this contributed to creating a safe learning environment and fostered genuine collaboration opportunities among users. The findings related to the use of multimodality within the analyzed discussion forum also reflect the multimodal interactions enabled by Rocksmith and other contemporary technologies used for music learning, such as digital games, software, apps, augmented reality, virtual worlds, subscription-based services, and other online communities like Ultimate-Guitar.com, Harmony Central, Second Life, The Fretlight Guitar System, Yousician, Fender Play, MasterClass, Guitar Hero, and Rockband.

The findings also echo those of the M. Salavuo's study, which examined member participation in an online music community. Specifically, in the analyzed posts multimodality can be seen through the use of emoticons, emojis, embedded images, visual guitar resources (e.g., guitar tablatures, sheet music, hyperlinks to other websites), and YouTube videos. In this context, YouTube appeared to be the platform of choice among users of the forum for instructional content that they included in their posts. The majority of these videos were embedded in users' posts (69%), while the rest of the videos (31%) were presented through hyperlinks. There was also substantial evidence of forum users posting YouTube videos created by teachers-celebrities on a variety of guitar techniques, skills, and topics.

The YouTube videos embedded within the analyzed posts employed various modes (e.g., video, audio, symbols, emojis, gesture) and humour (e.g., the videos by Rob Chapman and Ben Eller). In contrast to the videos of YouTube 'celebrities' like Chapman and Eller, who have hundreds of thousands of subscribers to their channels, the one created by the discussion forum user was straightforward and with no elaborate production, editing, or humour. This video shows the commitment and dedication of users to provide valuable feedback in the discussion forum, since recording a video is more complicated and time-consuming, and it requires more organization than just posting a simple link.

The use of YouTube videos on the official forum dedicated to Rocksmith aligned to other studies found in the literature. YouTube videos provide users features that can facilitate learning, including the ability to pause, stop, rewind, fast-forward and re-watch the video as many times as they need in order to fully grasp the concept or technique being taught. This informal learning tool provides guitar players with different levels of skills an outlet to learn at their own pace without the types of restrictions that are often associated with traditional face-to-face guitar lessons, which is also facilitated by the game itself (Rocksmith). YouTube also promotes a participatory culture in which all players, regardless of experience or ability, can learn from one another. Because YouTube videos can be viewed virtually anywhere anytime, users of the forum can learn according to their own personal needs. The inclusion of multimodal elements, such as those found in this study, is part of what keeps learners interested and engaged in the learning process. This reflects J. P. Gee's notion that, for learning to be meaningful and effective, learners need to be engaged within social and cultural practices they value.

Conclusion

Findings show that users of the Rocksmith community informally employed multimodal communication as a way to help users develop their own understandings of the guitar itself, guitar techniques and skills, and several aspects of the game. These findings are valuable to instructional designers who want to integrate multimodal communication through social media like YouTube, including videos, pictures, and graphics within online music courses that can engage formal, informal, and non-formal music learners. The findings offer insight into how learners engage with one another within an online affinity space. Gee's concept of 'affinity space' builds upon J. Lave and E. Wenger's construct of *Community of Practice* (1991). Learning in a community of practice develops through the "relations between persons, activity, and the world" as members negotiate meanings and share knowledge. From this perspective, the connection of the social environment with authentic real world activities, much like in an apprenticeship, encourages learning through individual informal processes of finding, sharing and transferring knowledge. The analyzed discussion forum showed several instances of "authentic real world activities," as expressed in user's accounts of personal experiences and the multimodal resources they shared with the community. This is significant because often users employed multimodal resources to build trust within the discussion threads, which facilitated a safe space for them to collaborate and learn from one another. Moreover, the findings of this study can assist all mentioned stakeholders in recognizing the significance of online communities as a viable platform to support and extend the educational value of games in a social and collaborative dimension. Findings also show that the users of the analyzed discussion forum interacted informally through humourous multimodal communication (e.g., by using emoticons, emojis, pictures, graphics, and videos), which fostered an engaging, friendly, and inclusive learning environment that resonates with the playful nature of the game.

Future research, and future iterations of similar games, may address how the multimodal elements found on the discussion forum may be integrated within the games, as opposed to separate online outlets. The analysis of discussion forum threads, and their multimodal features, may also help game designers improve their creations in response to users' needs, as expressed through their online interactions. In addition, future research may also examine how the use of humourous multimodal communication can encourage informal game-inspired learning, within the game and through online communities. Overall, this study shows that the multimodal interaction featured in a game can continue, through other modes and collaboration, on other platforms, like discussion forums. An integration of these platforms may foster the development of innovative learning environment that expand the playful and educational value of digital games beyond their current boundaries.

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Punctuated Play: Revealing the Roots of Gamification

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ABSTRACT:

Even at the apex of its hype cycle in the 2010s, game studies scholars and designers derided gamification. This article first explores why gamification inspired such vitriol. It finds the incursion of non-game corporations and entities into the field was a threat to those who fought so ardently to legitimize the profession and promote a more playful or ludic 21st century. The article then delves deeper into the literature of play to redefine what occurs when a player engages with a gamified app, such as the social media application *Foursquare*. It rescripts their activity as 'punctuated play', or when the competition, conflict, glory, and other aspects of traditional play pierce a moment but do not necessarily define it.

KEY WORDS:

Foursquare, game design, game studies, gamification, ludology.

Introduction

The rise of the term *gamification*, or „the use of game design elements in non-game contexts",[1] was almost a rhetorical inevitability given the massive growth of games in the 21st century. As digital games pervaded mobile technology and digital game platforms assumed a multitude of functions, it is unsurprising, from an entrepreneurial standpoint, that they might open new avenues for motivating and enticing users. Less expected was the vitriolic reaction to gamification from game studies scholars, who tended to criticize the concept for, among other reasons, its corporate affiliations. However, these same scholars acclaimed the ubiquity of play outside the realm of digital games and their dissemination into all facets of everyday life. They predicted that the 'ludic' or playful quality of games would become integral to contemporary media systems and social order. This article scrutinizes the literature surrounding gamification during the peak of its hype cycle – from 2010 to 2013 – to establish its relationship to game studies and, more specifically, to reveal how the term blurs the lines between frivolous and 'serious' ludic approaches to games. Critics considered gamification as merely an imposition upon their discipline. Since then, gamification has grown into a robust, even 'mature'[2] research area. However, adherents still advocate for further theorization around the concept and more clarity about its place within game studies. I argue this ambiguity is a repercussion of that early moment when gamification seemingly repudiated some foundational game studies concepts espoused by designers, such as the 'magic circle' and the 'frame' of play. These too rigidly account for the type of activity occurring within gamification; instead, it is a form of 'punctuated play' that unexpectedly pierces the everyday experiences of participants with brief, yet meaningful, ludic moments.

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1   DETERDING, S., KHALED, R., NACKE, L. E., DIXON, D.: Gamification: Toward a Definition. In *CHI 2011 Gamification Workshop Proceedings*. New York : ACM, 2011, p. 1. [online]. [2020-07-28] Available at: <http://gamification-research.org/wp-content/uploads/2011/04/02-Deterding-Khaled-Nacke-Dixon.pdf>.
2   NACKE, L. E., DETERDING, S.: The maturing of gamification research. In *Computers in Human Behavior*, 2017, Vol. 71, No.1, p. 452.

Gamification and Its Discontents

Before evaluating the impact and character of gamification, it is necessary to dissect the term's meaning during this seminal period. S. Deterding and his colleagues' often cited definition came from an article meant to establish gamification's place within the context of play and serious games fashioned for instruction about subjects like climate change and history. They characterized game elements as parts of games, while "complete game[s] would be produced by a game designer". Similarly, non-game contexts encompassed situations outside of the "*normal* expected use for entertainment". Additionally, S. Deterding et al. emphasized the voluntary nature that surrounded play in gamification. The difference between 'play' and 'use' for any given player depended on 'perceptions and enactments' of the applications and situations that were gamified.[3] Almost anything can be 'gamified' based on user perception. Are the gold stars meted out in a classroom a type of gamification or a reward? What rewards are 'characteristic' to games?[4] The article's quintessential example, the location-based social networking application *Foursquare*,[5] in which users *checked into* particular locations in order to collect virtual badges and points to compete on an arcade-style leaderboard, might or might not be considered a game, based on who uses it.[6] Tensions between games and gamification have persisted despite the rapid growth of research, particularly by those in human computer-interaction and information systems,[7] as well as professions like business and education.[8] Beyond drawing inspiration from 'fully-fledged games',[9] as well as engaging users, definitions of gamification are inconsistent; for instance, G. Baptista and T. Oliveira identify 'several distinct definitions' that include everything from design to service and product enhancement, and even a driver of user/customer behaviour.[10]

Defining the concept has been problematic from its inception. In 2012, M. J. Nelson, eschewing the design viewpoint, searched for gamification's historical predecessors, beginning with Vladimir Lenin's socialist competitions between factory workers that conferred points and medals, such as the *Order of the Red Banner of Labor*.[11] His second precursor resided in a movement in the 1980s by American businesses to make work like play, which served two interrelated goals: to substitute monetary bonuses with fun and to practice the belief that non-monetary motivations intrinsically make workers happy. This 'funsultant' model supported the conviction that behaviour can be incited or conditioned using the positive reinforcement of games.[12]

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3   DETERDING, S., KHALED, R., NACKE, L. E., DIXON, D.: Gamification: Toward a Definition. In *CHI 2011 Gamification Workshop Proceedings*. New York : ACM, 2011, p. 2. [online]. [2020-07-28] Available at: <http://gamification-research.org/wp-content/uploads/2011/04/02-Deterding-Khaled-Nacke-Dixon.pdf>.
4   Ibidem, p. 3.
5   *Foursquare. Where matters.* [online]. [2020-07-28] Available at: <http://www.foursquare.com>.
6   Remark by the author: The application has subsequently split into *Foursquare* and *Swarm*, the latter of which retains the points, badges and leaderboard.
7   For more information, see: KOIVISTO, J., HAMARI, J.: The rise of motivational information systems: A review of gamification research. In *International Journal of Information Management*, 2019, Vol. 45, No. 1, p. 191-210.
8   RODRIGUES, L. F., OLIVEIRA, A., RODRIGUES, H.: Main gamification concepts: A systematic mapping study. In *Heliyon*, 2019, Vol. 5, No. 7, p. 2-12. [online]. [2020-11-26]. Available at: <https://doi.org/10.1016/j.heliyon.2019.e01993>.
9   SEABORN, K., FELS, D. I.: Gamification in theory and action: A survey. In *International Journal of Human-Computer Studies*, 2015, Vol. 74, No. 1, p. 27.
10 BAPTISTA, G., OLIVEIRA, T.: Gamification and serious games: A literature meta-analysis and integrative model. In *Computers in Human Behavior*, 2019, Vol. 92, No. 1, p. 306.
11 NELSON, M. J.: Soviet and American Precursors to the Gamification of Work. In LUGMAYR, A. (ed.): *Proceedings of the 16th International Academic MindTrek Conference*. New York : ACM, 2012, p. 24. [online]. [2020-07-28] Available at: <http://papers.ssrn.com/abstract=2115483>.
12 Ibidem, p. 24.

Nelson contrasted these models with what he believed was the contemporary justification for the rise of gamification, namely that digital games and game mechanics had become normalized and embedded in everyday life. This divergent concept disclosed the paradox within *gamification* as a term: it at once presumed that play ameliorates the tedium of work, among other functions, while also associating work-based play with digital game history, scholarship, and industry, which generated nearly 75 billion USD in revenue worldwide at that time.[13] In a world saturated by digital games, it was almost impossible to see gamification outside of their shadow.

Perhaps it was the paradoxical affiliation between digital game scholarship and gamification strategy that caused game designers and scholars to bitterly attack the term. Among the most caustic was I. Bogost, who called gamification 'bullshit' in a piece for *The Atlantic* in which he denounced its corporate associations.[14] In a more comprehensive article, he detailed his censure; the gamified program acted as a superficial 'confidence trick'[15] persuading players to make 'winning' choices. Even though this practice might generate favourable results,[16] I. Bogost warned that players required the ability to deliberate over why they were being rewarded. "Otherwise, one code of conduct is as good as another, and the best codes become the ones with the most appealing incentives".[17] While the process designed into traditional games served as lessons for 'how things work', they were absent from the incentivizing systems of gamification.[18] M. Robertson and PJ Patella-Rey expanded on the superficiality and consequences of motivating through incentive-based gamified systems. Robertson, also a game designer, replaced the term gamification with *pointsification* to describe the use of rewards and incentives to induce behaviour.[19] She recognized the potency of such incentive systems, but did not consider gamified applications like *Foursquare* as games and noted that designers were rarely involved in their development. She referred to rewards as something to which corporations 'resort' because they stimulated behaviour.[20]

While both I. Bogost and M. Robertson recognized that games influenced behaviour, a key factor was absent from their arguments. They did not fully account for the actor as an agent who can choose whether they are playing or using a gamified application. What is the user's role in their descriptions? Can they distinguish between rewards and games? How differently might they be motivated by a well-designed game versus the pointsification of their everyday activities? PJ Patella-Rey began to deal with these questions when he characterized gamification's activity as *playbor*, in which "productive activity [becomes] an end in-itself (namely, fun)... The object of production is no longer to create value; instead value becomes a mere byproduct of play".[21] Playbor dissolved traditional notions of economy and the separation of work and play – a bifurcation that PJ Patella-Rey attributed

13 SINCLAIR, B.: *Global Games Market at $74.2 Billion Annually – Superdata*. Released on 20th May 2015. [online]. [2020-11-10]. Available at: <http://www.gamesindustry.biz/articles/2015-05-20-global-games-market-at-usd74-2-billion-annually-superdata>.
14 BOGOST, I.: *Gamification is Bullshit*. Released on 9th August 2011. [online]. [2020-07-28]. Available at: <https://www.theatlantic.com/technology/archive/2011/08/gamification-is-bullshit/243338/>.
15 Ibidem.
16 For a review of gamified applications' efficacy, see: HAMARI, J., KOIBISTO, J., SARSA, H.: Does Gamification Work – A Literature Review of Empirical Studies on Gamification. In SPRAGUE, R. H. (ed.): *Proceedings of the Forty-Seventh Annual Hawaii International Conference on System Sciences*. Waikoloa : IEEE, 2014, p. 3025-3034.
17 BOGOST, I.: *Persuasive Games: Shell Games.* Released on 3rd March 2010. [online]. [2020-07-28] Available at: <http://www.gamasutra.com/view/feature/132682/persuasive_games_shell_games.php?page=1>.
18 Ibidem.
19 ROBERTSON, M.: *Can't Play, Won't Play*. Released on 6th October 2010. [online]. [2020-07-28] Available at: <https://web.archive.org/web/20170122030924/http://hideandseek.net/2010/10/06/cant-play-wont-play>.
20 Ibidem.
21 PATELLA-REY, PJ.: *Gamification, Playbor & Exploitation*. Released on 15th October 2012. [online]. [2020-07-28]. Available at: <http://thesocietypages.org/cyborgology/2012/10/15/gamification-playbor-exploitation-2/>.

to the rise of the industrial age. Playbor through gamification caused play to lose its 'innocence', no longer having 'intrinsic value'.[22] While PJ Patella-Rey focused on the corporate use of game elements to capitalize on players' activities, he did not acknowledge that the digital-gaming industry built itself on the exchange of value and time for the sake of play. Digital games and gamification alike required time and effort to complete. The boundaries between space and play were different in gamification, where game elements pervaded non-game spaces and vice versa. Furthermore, PJ Patella-Rey, like M. Robertson and I. Bogost, did not consider the nuances of players' motivations.[23] Users flocked to and engaged with applications like *Foursquare*, which at the time boasted a subscription base of at least 40 million.[24] Critiques of gamification dwelled more on the fear of exploitation of games by non-game designers for the sake of corporate profit, and less on what impelled players to engage in a gamified application in the first place. This discrepancy is notable because play was simultaneously heralded as a necessary component of 21st-century life through theories like 'ludification' and 'ludicization'.

Living for Ludus

One reason for corporate interest in gamification was suggested in M. J. Nelson's affirmation of the elevated status of digital games in everyday life, and specifically their ludic or playful qualities. A visceral prognostication of this appeal came from Eric Zimmerman. In *Manifesto for a Ludic Century*, he predicted a 21st century in which games were the primary form of literacy in an increasingly digital, networked, and complex world. The specific pillars of this new literacy were play, design, and systems. He argued that information had been 'put at play' within modern systems resulting in communities such as Wikipedia that interacted more playfully than expertly.[25] While E. Zimmerman's manifesto is both western-centric and treats games as a novelty, it represented his worldview as a designer, who developed many games for non-game settings, including corporations and conferences. For him, the world of play had broad applications, particularly if games were thoughtfully designed. V. Frissen et al. promoted a more inclusive view through their exploration of *ludification* or the increasing pervasiveness of play in culture. In *Homo Ludens 2.0*, the three scholars updated Dutch historian Johan Huizinga's conceit that play and playful activity were at the core of civilization. They asserted that play and games fundamentally changed in the postmodern era and no longer had a "clearly demarcated transformational (liminal) period, but have become a never-ending (liminoid) phenomenon".[26] The effect of modern digital and networked technologies altered four fundamental qualities of play: limiting the expression of human freedom that games usually facilitated; hindering the ability to pretend; intermixing the pleasure of play with the boredom of work, reminiscent of PJ Patella-Rey's

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22   PATELLA-REY, PJ.: *Gamification, Playbor & Exploitation*. Released on 15th October 2012. [online]. [2020-07-28]. Available at: <http://thesocietypages.org/cyborgology/2012/10/15/gamification-playbor-exploitation-2/>.

23   Remark by the author: This subject is of particular interest to contemporary gamification scholars who tend to rely on self-determination theory (SDT), which suggests that games and related elements are uniquely able to direct the intrinsic and extrinsic motivations of users.; KOIVISTO, J., HAMARI, J.: The rise of motivational information systems: A review of gamification research. In *International Journal of Information Management*, 2019, Vol. 45, No. 1, p. 193.

24   *About us*. [online]. [2013-12-10]. Available at: <https://foursquare.com/about/>.

25   ZIMMERMAN, E., CHAPLIN, H.: *Manifesto: The 21st Century will be Defined by Games*. Released on 9th September 2013. [online]. [2020-07-28]. Available at: <http://kotaku.com/manifesto-the-21st-century-will-be-defined-by-games-1275355204>.

26   FRISSEN, V., DE MUL, J., RAESSENS, J.: Homo Ludens 2.0: Play, Media and Identity. In THISSEN, J., ZWIJNENBERG, R., ZIJLMANS, K. (eds.): *Contemporary Culture: New Directions in Arts and Humanities Research*. Amsterdam : Amsterdam University Press, 2013, p. 82.

playbor; and dissolving the 'specific limits of time and space' previously inherent to the concept of play.[27] Similarly, S. Genvo's neologism 'ludicization' or 'processes by which situations are transformed into games'[28] was purposefully developed in response to gamification's emphasis on 'fixed characteristics'.[29] Instead, the scholar countered that playful situations are a 'multitude of assemblages'[30] comprised of 'rules', 'a fictional world' and a 'pragmatic context'[31] as well as 'functions (entertainment education, providing information, etc.)'.[32] In other words, gamification establishes socio-cultural parameters by which to orient a player who through the process of ludicization may assume a playful attitude to varying degrees. Both terms resonate with what I will describe as 'punctuated play', but ultimately depict a world in which players continuously shift between what is playful and what is not.

J. McGonigal, a designer closely aligned with serious games, provided an interesting contrast. In *Reality is Broken: Why Games Make Us Better and How They Can Change the World*, she contended that as a society, given the ubiquity of play, we should be more 'gameful' by harnessing the passion that players invest in games.[33] While currently most of this passion was appropriated for entertainment, J. McGonigal claimed that digital games already benefited society, pointing to, among other examples, *Foldit*[34], which used gameplay to unravel the structure of a simian AIDS retrovirus in only ten days, when this puzzle stymied scientists for 15 years.[35] Although it may seem specious to assume that digital games like *Foldit* can solve all of life's complex problems, J. McGonigal was most criticized for not distinguishing between 'gameful' design and gamification, although she never mentioned the latter in her book.[36] However, the rewards disparaged by M. Robertson and PJ Patella-Rey were integral to J. McGonigal's work as a game designer. She attributed them as a way of getting things done by provoking an *'I rock' vibe* or "another way of talking about classic game rewards, such as having a clear sense of purpose, making an obvious impact, making continuous progress, enjoying a good chance of success, and experiencing plenty of fiero [prideful] moments".[37] J. McGonigal took the stance that rewards have vast potential, particularly in work and education – which, as stated earlier, continue to be drivers of gamification research – and even to make life more meaningful in general. She seemed at odds with many fellow designers because her main concern was the use of games to enliven and produce changes in users. As opposed to E. Zimmerman, who foresaw a world that conformed to the principles of game design, J. McGonigal envisioned design adapting to the needs of users, specifically larger educational and commercial institutions.

27   FRISSEN, V., DE MUL, J., RAESSENS, J.: Homo Ludens 2.0: Play, Media and Identity. In THISSEN, J., ZWIJNENBERG, R., ZIJLMANS, K. (eds.): *Contemporary Culture: New Directions in Arts and Humanities Research*. Amsterdam : Amsterdam University Press, 2013, p. 85.

28   GENVO, S.: Looking at the history of video games through the prism of ludicisation processes. In THERRIEN, C., LOWOOD, H., PICARD, M. (eds.): *Kinephanos: Journal of Media Studies and Popular Culture*, *History of Games International Conference Proceedings*. Montréal : Université de Montréal, 2014, p. 120. [online]. [2020-11-26]. Available at: <https://www.kinephanos.ca/Revue_files/2014-Genvo.pdf>.

29   Ibidem, p. 120.

30   Ibidem, p. 130.

31   Ibidem, p. 122.

32   Ibidem, p. 130.

33   McGONIGAL, J.: *Reality Is Broken: Why Games Make Us Better and How They Can Change the World*. New York : Penguin Books, 2011, p. 483.

34   CENTER FOR GAME SCIENCE, DEPARTMENT OF BIOCHEMISTRY: *Foldit*. [digital game]. Seattle : University of Washington, 2008.

35   McGONIGAL, J.: *Reality Is Broken: Why Games Make Us Better and How They Can Change the World*. New York : Penguin Books, 2011, p. 3925.

36   Remark by the author: The term continues to be a point of contention in gamification scholarship, where it is generally considered part of effective gamification.; KOIVISTO, J., HAMARI, J.: The rise of motivational information systems: A review of gamification research. In *International Journal of Information Management*, 2019, Vol. 45, No. 1, p. 193.

37   McGONIGAL, J.: *Reality Is Broken: Why Games Make Us Better and How They Can Change the World*. New York : Penguin Books, 2011, p. 3619.

The debate between J. McGonigal and her detractors reveals a defensiveness by designers about their privileged position. Gamification was attacked based on those advocating for it, namely businesspeople who were frequently portrayed as naive about game design. Both designers and scholars warned about the hazards of poorly designed games. I. Bogost, M. Robertson, and PJ Patella-Rey equated gamification with the appropriation of games by unqualified outsiders. At the same time, both E. Zimmerman and J. McGonigal concurred that games could effectuate societal change when expertly crafted by professionals. Beyond these attacks, it is unclear whether gamification is just a subset of games, or a corporate pseudonym for a 'Ludic turn' as described by V. Frissen et al. and predicted by E. Zimmerman. To better theorize gamification aside from game scholars' assaults, we must examine its connection to the medium, play and design.

For the Greater Game

Ironically, some of the definitions for games were as restrictive as those for gamification during this period. For instance, K. Salen and E. Zimmerman define them as „a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome" in *Rules of Play: Game Design Fundamentals*.[38] The book, in which the two articulated both theory and practice about game design, was archetypical of a branch of game studies where theory was somewhat subordinate to practice and the divulging of techniques to use in development. In academia, game studies programs started as part of design schools and computer science departments, in many cases, with an applied bent. C. Geertz advanced a more holistic theory of the relationship between games and culture in *Blurred Genres*.[39] Written several decades before the rise of game studies, C. Geertz suggested that cultural activity could be discerned through a combination of different approaches to games: namely, the study of *ludology*, attributed to J. Huizinga; *performance*, which he ascribed to E. Goffman; and the *game theory* of J. von Neumann, who used it to predict behaviour, particularly concerning economics and politics. This advocacy for a multidisciplinary field anticipates game studies, but itself is limited. C. Geertz critiqued his own approach for defying a humanist worldview. Rather than being free to make their own choices, when seen as players in a game, individuals' everyday activities were always predetermined. Also, C. Geertz only proposed to use games as a framework for cultural activity. By contrast, game studies scholars were additionally interested in the ontological origins of games, leading to the design-oriented predilection of some theorists. Their positions coalesced from a series of debates through which they aimed to distinguish games from other forms of entertainment and culture, as well as child's play.[40]

Their efforts to cultivate a theoretical lineage around design and play are well illustrated in the debate between *narratology* and *ludology*, which although unconcluded,[41] has been mostly abandoned. G. Frasca lays out the foundation of the dispute in *Ludology Meets Narratology*. Rather than restating both sides, I want to emphasize his proposition of „ludology" as an alternative to narratology, which explained the actions of games as

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38   SALEN, K., ZIMMERMAN, E.: *Rules of Play: Game Design Fundamentals.* Cambridge : MIT Press, 2003, p. 1300.
39   GEERTZ, C.: Blurred Genres: The Refiguration of Social Thought. In *The American Scholar*, 1980, Vol. 49, No. 2, p. 166-178.
40   For more information, see: SUTTON-SMITH, B.: *The Ambiguity of Play.* Cambridge : Harvard University Press, 1997.
41   For more information, see: SIMONS, J.: Narrative, Games, and Theory. In *Game Studies*, 2007, Vol. 7, No. 1. [online]. [2020-07-28]. Available at: <http://gamestudies.org/0701/articles/simons>.

being driven by players through sets of given rules, or 'possibilities', rather than 'chained actions'.[42] It was this ludic activity, 'independent' of digital games, for which G. Frasca advocated. As J. Juul stated in the introduction to *Half-Real: Video Games between Real Rules and Fictional Worlds*, ludology allowed scholars „to carve out video game studies as a separate academic field"[43] by situating play as the primary focus for the discipline. Games are driven by playful activity, as opposed to their content. The experience of play, or how it occurs, would be the domain of game designers. G. Frasca also noted that games were shaped socially, stating that "players need first to be socialized in order to perform" within games.[44] Narrative and content can shape the aesthetics of the game experience, but he placed the action of play as the central concept of study.

The Magic Circle

To support their hypotheses, G. Frasca and other ludologists relied on two earlier works of theoretical scholarship that proposed play was foundational to society. R. Caillois' *Man, Play and Games* provided a somewhat 'tokenized'[45] vocabulary for their discussion of play.[46] R. Caillois, in turn, based his work on J. Huizinga's *Homo Ludens: A Study of the Play-Element in Culture*. In this text, the author proposes that play shapes the behaviour and lifestyle of individuals. Play preceded contemporary culture by providing a safe and rarefied space for conflict, heroism, knowing, and daring. Steeped within ritual and religion, J. Huizinga characterized this space as the now-infamous *magic circle*, a concept attractive to game studies scholars because it denoted the distinction between play and ordinary activity. Designers adopted the concept of the magic circle and repurposed it as a theoretical basis for their work: to construct the 'boundaries' of the magic circle within which the subject plays. It acted as a potent metaphor although J. Huizinga mentioned it sparingly. His larger goal was to show that play and culture were inherently intertwined rather than separated.[47] J. Huizinga described several play spaces – from religious to legal – "temporary worlds within the ordinary world, dedicated to the performance of an act apart".[48] By creating 'order' through a separate set of rules, the magic circle was able to divorce play from the natural world. An example is a boxer, who, when entering the magic circle of the boxing ring, takes actions deemed aggressive and transgressive in regular life, and is granted the freedom to commit them because of the rules imbued within the context of the ring. However, most play spaces are hardly so clearly demarcated. K. Salen and E. Zimmerman themselves confessed in their chapter on the magic circle – in which they fleshed out the concept in terms of game design – that play has permeable boundaries; people passed into and out of it – like a child who plays with a toy, pauses, then returns to his amusement.

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42   FRASCA, G.: *Ludology meets narratology: similitude and differences between (video)games and narrative*. [online]. [2020-11-26]. Available at: <https://ludology.typepad.com/weblog/articles/ludology. htm?fbclid=IwAR0LQ10Tpjmg2c_Gt7VBpJ1A-ulvh8Lo2mISEYhv2L5LQ-qBd-pxwiMGRns>.
43   JUUL, J.: *Half-Real: Video Games Between Real Rules and Fictional Worlds*. Cambridge : MIT Press, 2005, p. 16.
44   FRASCA, G.: *Ludology meets narratology: similitude and differences between (video)games and narrative*. [online]. [2020-11-26]. Available at: <https://ludology.typepad.com/weblog/articles/ludology. htm?fbclid=IwAR0LQ10Tpjmg2c_Gt7VBpJ1A-ulvh8Lo2mISEYhv2L5LQ-qBd-pxwiMGRns>.
45   CARBONE, M. B., RUFFINO, P., MASSONET, S.: Introduction: The Other Caillois: The Many Masks of Game Studies. In *Games and Culture*, 2017, Vol. 12, No. 4, p. 306-308.
46   For more information, see: CAILLOIS, R.: *Man, Play and Games*. Urbana, Chicago : University of Illinois Press, 2001.
47   For a broader critique of the magic circle, see: CONSALVO, M.: There is No Magic Circle. In *Games and Culture*, 2009, Vol. 4, No. 4, p. 408-417.
48   HUIZINGA, J.: *Homo Ludens: A Study of the Play-Element in Culture*. London : Routledge, 1971, p. 10.

Games, by contrast, have defined rules and specific points of entry or exit. Missing in K. Salen and E. Zimmerman's definition were all the moments that preceded the game and the reality that infiltrated it. During a poker game, for instance, the rules prescribe the way it is played. However, a complex series of other factors affect play within the magic circle: bluffing, knowledge of players' 'tells', etc. Furthermore, looking forward to a weekly poker game might colour a person's entire day, making the monotony of work seem endless or go by faster. The game itself might be a form of socializing, peppered with conversations that have nothing to do with poker. In other words, the boundaries of the magic circle are hardly fixed. Ten years later, E. Zimmerman developed the work he did with K. Salen. He signalled that his conception of the magic circle should be interpreted within the context of design, diverging from the traditional views of both J. Huizinga and R. Caillois. However, for E. Zimmerman, this was precisely the point: "When we use one schema to understand, analyze, or design games, other schemas may need to be ignored or repressed".[49] E. Zimmerman appreciated and hoped to foster „contradictory points of view"[50] in his work, so that the magic circle, even if it was a hyperbolic metaphor of the play experience, still informed other practices. While not discounting his predisposition as a game designer, he saw applications for his framework in broader societal contexts. He used the example of chess, rather than poker, to describe the series of interpersonal and social cues that were mediated through the game, concluding that "there's no need to think about the magic circle (a context for meaning creation) as something exclusive to games. Could one think of almost any physical or social space as a magic circle in this way? Probably...".[51] As in his manifesto, E. Zimmerman affirmed the importance of the game designer who can construct the rules and boundaries of not only the magic circle but also realms beyond games.

From Circle to Frames

While useful for development, E. Zimmerman showed that the boundaries of the magic circle were not only porous but intertwined, affected by and linked to other social activities. As he and K. Salen proclaimed in *Rules of Play*, it was a 'frame' through which the actions of the game are viewed, creating a feeling of 'safety'.[52] Frames not only provided an alternative viewpoint to the circle but also tied gameplay to broader social and communicative activity. The idea led J. Juul to appropriate a new metaphor for the study of digital games, puzzle pieces, whose shape allowed them to fit together within a larger picture. Players negotiated the game's boundaries. Within the magic circle, this might be conceived as players navigating along, aware of, and interacting with its borders. In other words, context was significant: "It is meaningless to make an ahead-of-time call about whether games are either supremely dissociated from or integrated with the context in which they are played. The question is in itself subject to continued negotiation between players".[53] One of J. Juul's goals with the puzzle piece metaphor was to re-situate the role of the designer, critiquing his singular and elevated status as part of the digital-game industry.

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49   ZIMMERMAN, E.: *Jerked Around by the Magic Circle – Clearing the Air Ten Years Later*. Released on 7th February 2012. [online]. [2020-07-28]. Available at: <http://www.gamasutra.com/view/feature/6696/jerked_around_by_the_magic_circle_.php>.
50   Ibidem.
51   Ibidem.
52   SALEN, K., ZIMMERMAN, E.: *Rules of Play: Game Design Fundamentals.* Cambridge : MIT Press, 2003, p. 1486.
53   JUUL, J.: The Magic Circle and the Puzzle Piece. In GÜNZEL, S., LIEBE, M., MERSCH, D. (eds.): *Conference Proceedings of the Philosophy of Computer Games 2008*. Potsdam : Potsdam University Press, 2008, p. 62. [online]. [2020-07-28]. Available at: <https://www.jesperjuul.net/text/magiccirclepuzzlepiece.pdf>.

To understand the interface between games and players more intimately, J. Juul, like K. Salen and E. Zimmerman, adopted the idea of frames. He described an inner frame of competition, surrounded by a frame of experience, which, in turn, was framed by social consequences. Each player navigated and experienced these frames differently. J. Juul's use of frames corresponded to that of E. Goffman. Additionally, game studies scholars cite E. Goffman's theory of *rules of irrelevance*[54] in which the particular pieces of games were arbitrary but understood within the mutually agreed frame of the game. More broadly, they appear to have tacitly accepted Goffman's contention that social frameworks organized and governed everyday life, within which individuals performed. While the rules could be broken and reassessed, generally they provided boundaries similar to those of a game.[55] The frame, therefore, offers an alternative to the magic circle for understanding the role of play and games in everyday life, which explains its application to the experience of gamification. However, many gamified experiences do not present clear or coherent playful frames. J. R. Whitson, for instance, referenced the frame to argue about the limits of gamification in terms of surveillance. When gamification was applied to institutional and work settings, such as a call-centre, its effectiveness and enjoyment was diminished, because the gamified activities were 'framed' in a larger sense as work and not play. J. R. Whitson contended: „ play is important to Goffman [...] because its very existence and persistence depends on the participants agreeing to play the game, and in doing so constructing and upholding a shared set of rules that govern the experience".[56] With gamification, the agreement to play was based on particular activities, which digital media were able to quantify and for which they provided immediate feedback, often in the form of visualizations, leaderboards, or charts. "Players interpolate themselves in this data, seeing the messiness of everyday lives and the interiority of their selves as something that can be meaningfully collected into a database to be rendered understandable and actionable".[57] This was evident in examples of self-care, such as losing weight, where gamification had achieved significant success. In these cases, J. R. Whitson argued, we always have gamified to some degree, framing and assessing our long-term goals around "narratives of success and failure, and develop[ing] strategies for attaining victory".[58] Gamification merely facilitated this process and offered a new means of self-surveillance, when we opt into it. When imposed upon institutions like the workplace, where what constituted victory is less obvious, the association between non-game contexts and game elements was less straightforward.

J. R. Whitson's account strikingly contrasts with previously stated criticisms about gamification, while still utilizing a theoretical framework popular among game studies scholars. However, her proposition was inherently narrow. She implied that as a self-surveillance tool, gamification presented a new frame by which to articulate and improve lives and attain a kind of mastery. Her view highlighted gamification's potential to help users obtain skills through games and play. J. R. Whitson pointed out how gamified applications frame exercise socially and personally, driving the activity through the promise of feedback and reward. At its best, this path to mastery is quite liberating and very appealing, affording the possibility of gaining control over any condition, from obesity to climate change. However, her commentary raises two closely related questions: What if we do not know the games we are playing when engaging with gamification? What if we do not know

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54   For more information, see: GOFFMAN, E.: *Encounters: Two Studies in the Sociology of Interaction*. Eastford : Martino Fine Books, 2013.
55   Ibidem, p. 378.
56   WHITSON, J. R.: Gaming the Quantified Self. In *Surveillance & Society*, 2013, Vol. 11, No. 1, p. 165.
57   Ibidem, p. 170.
58   Ibidem, p. 169.

or respect the rules of the game? Gamified applications may offer the means to 'master' the 'messiness' of real life, which paradoxically changes the context of the game. One example comes from accusations of 'cheating' to obtain virtual 'badges' in the application *Foursquare*. R. Glas recounted the controversy over Indonesian *Jumpers*, a small collective of Indonesian *Foursquare* users who used their computers to attain fraudulent badges from the US by checking-in to venues across America from their distant homes.[59] Although there was no monetary benefit for the acquisition of these badges, other subscribers felt slighted. Domestic users were often surprised that they could not receive a particular badge when Indonesian users were being rewarded for something they were pretending to do. Rather than attaining a kind of self-motivated mastery of their daily interactions, they were worried about the intrusion of Jumpers into the game, violating the rules of their everyday lives. As J. Juul suggested, *Foursquare* acted as a boundary, circumscribing not only how people play the game, but conversely, how the game affected them. Unlike J. R. Whitson's description, the 'mastery' over the game, as exhibited by cheating and the Jumpers, does not adhere to the intended rules of the application.

This ambiguity of emotion reflects an inherent issue with frames as a predominant metaphor for the play experience through gamification, and one well expressed decades earlier by G. Bateson in his analysis of play as a meta-communicative process. For G. Bateson, like C. Geertz, play was a contrivance for seeing the world, though Bateson utilized it specifically to look at psychological practices. He illustrated how communicative frames functioned using two analogies. The first was mathematical sets, framed by imaginary lines, and the second was picture frames.[60] G. Bateson criticized the first for being too intangible – play itself often included this type of self-aware meta-communication – and the second for being too concrete. He contended instead that people were both aware of and adherent to frames when they interacted. Players worked, as J. Juul suggested, between what they understood as the context of the game and the strict rules that shaped it. They were aware of the frame as not only the centre of action but also as a frame in and of itself. By being able to discern the frame, and the world beyond it, players were able to navigate the rules of the game while mindful that they were playing.

Gamification has the potential to displace the awareness of the frame altogether. When applied to a specific achievable task, such as weight loss, which is already framed as a type of game (with quantifiable weight loss goals), the boundaries of the frame may be more apparent. By contrast, in the example of social media applications like *Foursquare*, it is not as easy to discern the potential 'frames' at play within the 'game'. At the same time, the 'game' has the potential to invade other frames and inform them. When *Foursquare*'s priorities, to check-in at all costs, override rational decisions, the frame of the game is obscured. The frame seems too rigid a structure for explaining the infiltration of game elements into everyday experience that is allowed by gamification. In fact, researchers still advocate for the development of theories and measures,[61] or stress the lack of a 'unitary framework'[62] to tie these fields of research together. Thus, a return to the types of play that derive from games is warranted.

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59   See also: GLAS, R.: Breaking Reality: Exploring Pervasive Cheating in Foursquare. In COPIER, M., WAERN, A., KENNEDY, W. H. (eds.): *DiGRA '11 – Proceedings of the 2011 DiGRA International Conference: Think Design Play*. Hilversum : Digital Games Research Association, 2011, p. 1-15. [online]. [2020-07-28] Available at: <http://www.digra.org/wp-content/uploads/digital-library/11307.57380.pdf>.

60   BATESON, G.: A Theory of Play and Fantasy. In SALEN, K., ZIMMERMAN, E. (eds.): *The Game Design Reader: A Rules of Play Anthology*. Cambridge : MIT Press, 2006, p. 322.

61   For more information, see: NACKE, L.E., DETERDING, S.: The maturing of gamification research. In *Computers in Human Behavior*, 2017, Vol. 71, No. 1, p. 450-454.

62   CASSONE, V. I.: Mimicking Gamers: Understanding Gamification Through Roger Caillois. In *Games and Culture*, 2017, Vol. 12, No. 4, p. 348.

From Gamification
to Punctuated Play

Theories like the frame seem to insufficiently capture the complicated form of play that occurs with gamification. Therefore, I revisit the literature surrounding how games spawn play in which rules emerge from game interaction and/or guide the player through the game. However, in the application *Foursquare*, unexpected, and even antithetical forms of play surface when it comes to gamification.[63] J. Juul devised informative criteria for evaluating gameplay in an essay entitled *The Open and the Closed: Games of Emergence and Games of Progression*, where he analyzed open-ended massive multiplayer online role-playing games (MMORPGs) in opposition to traditional digital games.[64] Classic digital games have beginnings, middles, and ends, with often specific goals. MMORPGs, however, offer game players a multitude of options for what they could do in a game – from trading items with other online players to waging collective battles and are specifically designed for open-ended play, and ultimately cannot be beaten. Therefore, MMORPGs represent a distinct difference from the codified world of both traditional and digital games.

This led J. Juul to conceive of two types of games: games of emergence and games of progression. Games of emergence usually have a set of limited rules, which allow for divergent and emergent activity within it. In a game of poker, the rules permit many variations of the original game, ranging from the amounts that can be bet to new versions of the game, such as *Texas Hold 'Em*.[65] Not all emergent behaviour is preferred. Anything that makes the game more fun or adds complexity is ideal, but rules can be exploited so that players without skill can win. J. Juul highlighted a spectrum of emergent activity in games, from interacting with the basic rules, which may appear emergent but is not, to researching and employing strategies that come from sources outside of play. He claimed games of progression were a recent phenomenon, becoming even more popular with the rise of digital media. In games of progression, the user is directed very explicitly by a series of rules to know what to do next. Computers notably facilitated this because all player actions were, in theory, pre-programmed. The sequence of actions in the game are, even if they seem open-ended, predetermined.

J. Juul also stated that both types of games were present in MMORPGs. He described *EverQuest*[66] as "a game of emergence, with embedded progression structures".[67] The rules of the digital game informed and curated the activities of the player, who often followed somewhat predictable strategies that emerged from it. A conventional means of advancing in the game was to defeat particularly formidable monsters by coordinating activities with other players. It was a strategy that was emergent and unanticipated, but common because of players' mutual goals. MMORPGs afford an important distinction between the activity

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63   Remark by the author: See R. Caillois and B. Sutton-Smith's work in the bibliography for other substantial typologies.
64   See also: JUUL, J.: The Open and the Closed – Games of Emergence and Games of Progression. In MÄYRÄ, F. (ed.): *Computer Games and Digital Cultures Conference Proceedings.* Tampere : Tampere University Press, 2002, p. 323-329. [online]. [2020-07-28]. Available at: <http://www.jesperjuul.net/text/openandtheclosed.html>.
65   *How to Play Texas Hold'em Poker*. [online]. [2020-11-22]. Available at: <https://www.pokernews.com/poker-rules/texas-holdem.htm>.
66   VERANT INTERACTIVE, 989 STUDIOS: *EverQuest*. [digital game]. San Diego : Sony Online Entertainment, 1999.
67   For more information, see: JUUL, J.: The Open and the Closed – Games of Emergence and Games of Progression. In MÄYRÄ, F. (ed.): *Computer Games and Digital Cultures Conference Proceedings.* Tampere : Tampere University Press, 2002, p. 323-329. [online]. [2020-07-28]. Available at: <http://www.jesperjuul.net/text/openandtheclosed.html>.

occurring in gamification and that of traditional digital games, particularly regarding a rarefied time and space. MMORPGs and gamification might be judged as complicating the temporal and spatial understandings of ludus (playful activity) as advocated by early game studies scholars. Instead, these multiplayer games do not exist within a specific time or place but incite continuous playful action. Gamification, aside from being utilized in non-game contexts, might be the limit to which the boundaries of play can be stretched.

A close assessment of a program like *Foursquare* in the early 2010s, in terms of games of emergence and progression, reveals that it hardly adhered to either definition. Along with its modern incarnation Swarm, the app shared some commonalities with games of emergence, but only at the most rudimentary levels. There was a set of actions that occurred based on 'game' rules, namely that people checked-in to venues and received rewards for their efforts, but as previously stated, this was dictated by the perceptions of the user. In a study of *Foursquare* user motivation, Frith discovered that players checked-in for both game-like and non-game-like aims: "to score points, earn badges, present themselves to others, and remember where they have been".[68] The Jumpers had even more unconventional motivations. As a niche group, they socialized around illicit check-ins, collectively coordinating activities online in a manner that subverted any predictable behaviour within the 'game'. *Foursquare* users chose whether to opt-in or out of the more playful activities. Furthermore, activity also emerged which seemed antithetical to the playful elements of a game; specifically, PJ Patella-Rey's playbor was common on *Foursquare*. This sort of emergent activity did not spring from the game rules as much as from the behaviour of users who invested time and effort in the program. The rules of *Foursquare* were so open-ended that it could easily be argued that the emergent behaviour came from the users' personal choices within the program and the degree they chose to treat it as a game, as opposed to another kind of social activity. The emergent activity, in other words, may have had little to do with the characteristics of the application, as suggested by ludicization's assemblage of playful processes mentioned earlier.

Yet for those who chose to play, such gamified applications incentivized the player to heed their rules and accept a constricted set of choices through which to progress. In *Foursquare*, these choices might be considered more persuasive than progressive. Users were aware of potential points and other rewards but checked-in for their own reasons. J. Frith, for instance, explained how users had been known to cultivate their activity in unfamiliar cities to get badges, but might conduct themselves differently in their hometowns.[69] Behavioural patterns also might be influenced by communities, rather than the explicit rules of the game. For instance, Whitson described how one of the reasons she used a gamified running application had less to do with the app itself than the group of users to whom she felt obligated.[70] This final point underscores key differences between the sort of 'play' transpiring within a gamified, as opposed to a digital game, system. Gamified systems like *Foursquare* have rules from which predictable behaviour can emerge, and at least superficially, might appear to resemble a MMORPG in their construction. Emergent behaviour is more difficult to predict and is predicated on the user assuming the role of the player at a moment in time. While sometimes a program like *Foursquare* might be used as a game, it may just as often be used as a social media application. Online multiplayer games may be employed for this purpose as well, but such activity is a byproduct of play. *B*y design and marketing, *Foursquare* does not aim for users to play as much as perform

68   FRITH, J.: *Constructing Location, One Check-in at a Time: Examining the Practices of Foursquare Users* [Dissertation Thesis]. Raleigh : North Carolina State University, 2012, p. 189.
69   FRITH, J.: Turning Life into a Game: Foursquare, Gamification, and Personal Mobility. In *Mobile Media & Communication*, 2013, Vol. 1, No. 3, p. 251.
70   WHITSON, J. R.: Gaming the Quantified Self. In *Surveillance & Society*, 2013, Vol. 11, No. 1, p. 170.

any number of activities, from lifelogging to social communication. Therefore, play does not lie at the surface of the experience. Even for those to whom it is a game, the experience of play may be staggered and unintended, a fleeting moment that might occur in passing and then quickly subside after his/her engagement with the application concludes, a pace very different from deliberately sitting and deciding to play.

Punctuated Play

When the moments between the frames of a game and everyday life become this granular, do they become indistinguishable? A frame hardly seems like the appropriate metaphor for describing the experience. In his advocacy for frame analysis, Goffman identified what he called the negative experience of frames, which temporarily broke the more positive frame of everyday existence.[71] However, even this disruption seems too blatant to describe the subtlety of gamification, which does not disrupt as much as give a playful jolt, even a playful reminder, without disturbing or breaking a frame. Therefore, what has been called *gamification* might also be considered 'punctuated play' in gamified applications. While gamification tends to primarily reference design, punctuated play centres on the player and how they play. In this way, it bridges some of the gaps between game design theories and the applications/experiences that preoccupy gamification research. At the same time, it posits such play is not driven by specific elements (e.g., points, badges, leaderboards) that typified early gamification strategies, but incites playful activity through multiple techniques. Punctuated play pierces a particular moment unexpectedly, interjecting the game-like qualities described by J. Juul, K. Salen, and E. Zimmerman. This is no small feat. As J. Huizinga noted, the safety and freedom of play are both inherent and desirous in culture, and the ability for them to punctuate life unexpectedly, as opposed to requiring a frame or boundary of play, is strikingly different from the models and inclinations of early game studies scholars.

This type of play can be seen in studies of mobile media. C. Moore, in *The Magic Circle and the Mobility of Play*, demonstrated the shifting nature of play due to mobile devices, and with it, the punctuated play I have described. His goal was to articulate how mobile media had broken down traditional ludic notions as espoused by J. Huizinga, J. Juul, and E. Zimmerman. Mobile "play in these instances is not set apart, but usually found in the margins",[72] as we wait in lines, distract ourselves during lectures, or fill time in waiting rooms. In many ways, this describes the attitude of mobile media users, occupying their time differently from their predecessors. Absent, however, from this description is the reciprocal influence of media on users, and that the mobile device permits interruptions into their activities. The smartphone disturbs activity with reminders, buzzing, beeping, etc., making it an ideal platform for punctuated play. This omission may explain why C. Moore came to an opposite conclusion from mine, namely what he called the 'gameur', who intentionally appropriated different playful identities throughout his day, meandering from one personality to another. C. Moore claimed that mobile and social media act as a means of "decentring... the self".[73] I argue the reverse. Rather than imagining a dissociated self, different media and content punctuate the daily life and activity of the user, not so much 'decentring' them as presenting new potential avenues that they could or could not traverse.

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71   For more information, see: GOFFMAN, E.: *Frame Analysis: An Essay on the Organization of Experience*. New York : Harper & Row, 1974.
72   MOORE, C.: The Magic Circle and the Mobility of Play. In *Convergence: The International Journal of Research into New Media Technologies*, 2011, Vol. 17, No. 4, p. 378.
73   Ibidem, p. 382.

The idea of punctuated play conforms to the notion of *punctum* as put forth by R. Barthes in his examination of the effects of photography on the viewer. R. Barthes suggested that a photograph contained both an informational *studium* and an emotional 'punctum', which was often present in the details of the photograph. It disturbed the *studium* and was a brief "sting, speck, cut, little hole–and also a cast of the dice. A photograph's *punctum* is that accident which pricks me (but also bruises me, is poignant to me)".[74] In fact, much of the punctum appeared both playful and yet dangerous. R. Barthes went on to describe *punctum* in terms of requiring no analysis, but instead being felt, "show[ing] no preference for morality or good taste: the *punctum* can be ill-bred",[75] was "brief and active",[76] but could come after the viewing of a photograph.[77] While punctuated play may not precisely adhere to this definition, it corresponds to the same basic concepts, infusing experience with a moment of play, a detail felt rather than rationally perceived. I contend that this punctuated moment is specifically a playful one, where drives like competition, fantasy, and winning pierce a moment, affecting it deeply, and have lasting effects or bruises. Punctuated play is a powerful behavioural moment that can be utilized by game designers and non-game designers alike. It taps into our inherent desire to and injects unexpected moments of play that are at once felt persistently and persuasively. Unlike the safety of the magic circle, the boundaries of punctuated play are nonexistent. It acts as a surprise, which can generate feelings of glory, defeat, anxiety, or no effect at all, based on the personal choices of the user and the way they engage with or determine the seriousness of the play.

Conclusion

I have endeavored to dissect and redefine the notion of gamification as the concept emerged in the early 2010s. Game studies scholars' early critiques distinguish the practical and theoretical use of games in order at least partly disassociate gamification from their discipline. Some of these authorities embraced play as an essential component of their studies. I accept that 'gamification', as it is known, contains ludic elements and incites ludic behaviour, albeit in a punctuated and unexpected manner, rather than in the strict confines of a magic circle, or within a prescribed frame of play. The idea of the ludic century or the ludification/ludicization of culture seems prescient. The question of whether media content and cultures lend themselves to play is still worth contemplating. Current digital technology abets the sort of activity described by punctuated play. With the proliferation of mobile media, real-time notifications, and digital platforms, the possibility of our lives being punctuated by varied and unexpected forms of content and culture has become commonplace. The very act of punctuating incites playful activity. It becomes easy, when using social media, to play as we communicate – for example, we may compete trying to respond quickest to a message in a group chat, which is just one instance of punctuated play that may occur. Quantification provides rewards, rankings, and other feedback mechanisms. Technologies, ranging from mobile phones to email, exhibit the sort of play and interplay that might be expected from a game. Playfulness is just one aspect of what happens when we interact with these technologies. It punctuates and dissipates, leaving an impression but does not define the experience. It is one facet of a larger whole, one piece of a larger puzzle, one move in the larger social game we are all playing.

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74   BARTHES, R.: *Camera Lucida: Reflections on Photography*. New York : Hill and Wang, 1981, p. 27.
75   Ibidem, p. 43.
76   Ibidem, p. 49.
77   Ibidem, p. 53.

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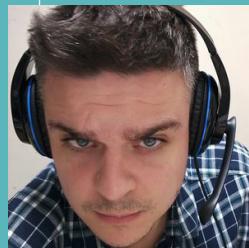
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Do Digital Games Promote Capitalism?

Interview with Alfie BOWN

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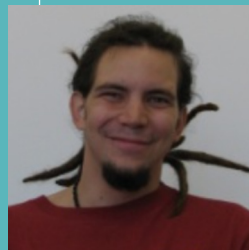
Silvester Buček is a teacher of digital games at Masaryk University and the University of Ss. Cyril and Methodius. His specialisations are game typologies, game language and ideologies of games. He is the secretary of the Central and Eastern European Game Studies Conference Steering committee. His major comes from Media Studies at the Faculty of Social Science at Masaryk University. He is also a freelance game designer. His focus are digital and board games with educational (and social responsibility) overlapping. Some of his projects include ECO 2050, Hraj Sa Bratislava, or SadOvo. He is also a board member at Vĺčatá.sk, a website about educational games for teachers and parents

Silvester Buček (S. B.): If playing games is like dreaming, is it our dream or is it the dream of someone else?

Alfie Bown: That is a great question. I think part of the reason why I wanted to make this argument that games are like dreams is so that we might reconsider what dreams themselves are. So, to put it simply, I think our dreams are not our own. They may feel like they are just for us – inside our heads – but they are also dreams of others. Of course, some aspects of psychological processes might be, in some context, called individual or internal, but for me, our psyche is a public space. So when we are sleeping and dreaming we are not in our personal private sphere but a public space. So when we are dreaming, we are in fact dreaming the dreams of others and the dreams of ideology and of discourse and of the public rather than something private or our own. I think this would also be true for digital games – we experience them in a dream-like state, when we play we are conscious and unconscious at the same time. We are in this weird semi-conscious state often when we game, a little bit like when we dream. Of course, in a very direct sense they are created by individuals that are not ourselves. The games are created by writers, designers and other stakeholders, but they are also created by cultural discourse, the ideas, and the ideology, that are floating around and circulating hoping to get produced. So if we experience games in this way and so games become a way to understand the less visible, more unconscious or subtle aspects of ideology, of cultural life and of our society – they can show us our unconscious thoughts.

S. B.: You say that in a work environment, the casual games trigger a strange guilt function which causes a better result in work. Why do you attribute this to the guilt function? Can there be another interpretation such as simple relaxation?

Alfie Bown: I think there are probably several possible interpretations. My point about guilt is – when I started to work on digital games back in 2014 and it was really the first thing I was writing about – *Candy Crush* and capitalism. My focus here was really on my own experience at the time, I guess, so it was less theoretical and more about certain mobile games that seem to play a very important role in workplaces. Before I became an academic I used to be a chef and I used to cook in a hot kitchen and I would pretend I was a smoker so that I could go outside with my colleagues for a five minute break (or whatever) and what I would do during that time is basically complain and start to talk to my colleagues about our terrible boss and how underpaid we were and how tiring the job was and so on. Then I went to university and after my degree I went back briefly to work part time in the kitchen. I found that what I was doing on my break was just spending all my time on *Pokémon Go* or *Temple Run* and Candy Crush and my colleagues were doing the same. I was noticing how certain kinds of mobile games seemed to be an outlet for frustration, or distraction from the very moment when you would be thinking and reflecting on your work conditions. When I started to research that, I found out the impression seemed quite valid, because the most common time to play games like Candy Crush is on the train home from work and on your lunch break. It is when we are feeling most overworked or most frustrated that we have this impulse to plunge into a game like that. So I was thinking that these games operate as a real ally to capitalism and it is strange because usually we think of playing Candy Crush as a complete waste of time, but actually, it could be seen as a very active mechanism for capitalism – very productive time in the capitalistic sense – to absorb frustration and revolutionary energy into something soft, like a cushion, which prevents people from socializing and developing models of rebellion with colleagues, for example, but also which removes some of the frustration or distract from the frustrated,

stops you from complaining about your working conditions. So my first point was that games like this CAN serve as an ally to a capitalistic system. And after that, we start seeing that work places start to bring digital games into the offices quite a lot. You see a lot of Xboxes in corporate offices in London if you are working in PR or in banking or advertising. You find that they encourage 10-minutes gaming sessions or spending your lunch breaks doing this and it's a tool of fracturing peoples social bases and also it's a way in which these people have proven (so-called proven) to be more productive after they play Xbox. You might be right, it could be seen in a positive light – that we let people relax for an hour and then they come back to work refreshed and ready to do something good – that's the narrative of the corporate capitalists that are implementing these techniques. I probably doubt it myself, I think it has much more to do with a mixture of fracturing worker solidarity and maybe provoking some kind of guilt function – the feeling that the time wasted must be compensated for. You do not find games being played in these times to be thoughtful games or really complicated games, it's generally just some shooting, or Candy Crush, or Temple Run, something that can be perceived by the gamer as a waste of time, so then they unconsciously compensate with capitalist productivity.

S. B.: So, basically, you are saying that the companies are trying to gain control also of the personal time of the employees?

Alfie Bown: I guess so. I think there is a very important connection between leisure time, personal time and digital games and it would relate to a bigger pattern of gamification in society. You can actually see work itself becomes gamified and we can maybe say that the distinction between work and games is not as clear as it was back in 2013 when I first started to think about these arguments in fact. You get these apps like Robin Hood; basically it's a trading app which is like a digital game in which you are actually trading on a stock market, which many traders use. And then you see in-game rewards offered by workplaces, digital reward and things like that. You can actually see workplaces integrate gaming into their functioning and companies integrate games very closely. In some ways we live, I think, now, in what McKenzie Wark describes in her book from 2009 – still the best book on digital games – as a true 'gamespace'. There she argues that we are all in the game space whether we like it or not. I think that has really become the case, that we all are living in this gamified world where the games are not leisure anymore because the relationship between work and play is completely transformed and geared toward serving a new kind of platform capitalism. That is why I am resisting the idea of games as leisure and fun. I think that games have a really complicated relationship to work and they are no longer separate from it as they were.

S. B.: You also mentioned that the games are great in getting us to the 'semi-aware state'. But is not this more caused by the technologies themselves – social networks are probably much stronger in getting us to this semi-aware state. At least, in my experience, I am much more 'semi-aware' when I am on Facebook than when I am playing a game. So, is this not more a case of technology than games themselves?

Alfie Bown: I see your point – you think this is not something specific for the game but something that can be said about other kinds of technologies as well. With social media you can say that when you are scrolling the feed there is sort of a semi-awareness in it. I think that is a good point and my response would be to say that I think that Facebook or Twitter, for example, are games, in some ways. They have ludic, playable elements. Tinder is an interesting example that I have been looking at recently because I have been working

on love industries and gamifications of relationships. The swiping on Tinder is an element from a game; it is an example of gamification bringing in a bit of play to the experience of dating. If you think about the way it works, it is almost like a deck of cards that you are sorting through. There is a pleasure in this kind of play – an old tradition of play really – the pleasure of the card, the associations with competition, with the casino even. So this function (what I call semi-aware state) has its prehistory in games and later it became part of digital technology, social media and dating sites. If you think about it, it has got a lot to do with the body. When people talk about emerging games, they are always thinking about VR, but even when you have got something just like a controller and somehow, your body is in your thumb – this inclusion of the body in the process is part of what it means to play. It would have to be applied to the emergence of touch screens phones as well. I know it does not sound much – to swipe – we are used to it and we do it all day, but actually, it is part of the gamification of information that we are sharing and using. There is an element of the body coming into a relation with the phone, controls or game controllers. It is a *chicken or egg* sort of situation, I do not know which came first, but certainly digital media used this gamification and put the users and players in a particular psychological state. Whether it intends to or not. I am not saying Mark Zuckerberg came up with this. It has happened organically, but that is the development of the media and increasingly, we are in that state.

S. B.: There is actually a small niche game genre that is based on swiping. It uses the same logic as Tinder and you just make choices – you control a Kingdom or something similar and choose what faction to listen to.

Alfie Bown: I find that stuff really interesting. It is not just Tinder. There is this huge restaurant reviews app which functions like that. Also a version of LinkedIn, I think it's called Shapr, a professional networking site, which is also based on swiping. It is actually quite fun, you can swipe up and down as well. It is actually quite interesting how this emerged like something we enjoy doing, without necessarily thinking we are enjoying it. If you imagine a dating site, structured like Reddit, it would not work. It is almost the opposite; it is much more an early internet style of interaction. In some ways it is game-like, but it's almost a completely different kind of game. In one way, you are this kind of digital detective, going through these links and holes, searching for truth, its kinda the active reverse of something like Tinder, where you are superficially swiping.

S. B.: Not only technologies, but other media as well are really good with this semi-aware state. With other media, the author has much more control of what the user experiences. What makes games so unique in this way, when actually, you, as a consumer have much more control (in what you experience) than in other media? When reading a book, you also can get immersed and closed to the outside world.

Alfie Bown: Something I am very interested in is what is typical for gaming when comparing it to other forms. I am very interested in that question, for example; what is the difference between the viewer of a movie and the player of the game, or the reader of a book and the player of the game. I am not sure I am with you on the idea that you are more in control as a gamer, but you certainly get the illusion of control. You are put in a position where you are free within some limits. It encourages you to remove critical distance between you and the piece of media that you are involved in. Of course, it is possible to watch a film or read a novel and become completely absorbed and to lose all sense of the distance and to enter that world in an imaginary way, but I think games do that differently. I think they ask you

to enter that space uncritically and it makes you more susceptible to being more in control rather than less. That is why I think games are such an incredible ideological tool or tool of political enforcement. They have immersion and interactivity in a way other media do not have. And this presents new opportunities for corporations, discourses and individuals to impact their subjects. This is not a crazy idea but one that is already concretely happening. You get many companies, which basically use these technologies of immersion to sell products and to sell ideas. Some people do interesting stuff with it; for example, the VR film company Within, which was created by Chris Milk, who is doing a lot of philanthropy and uses virtual reality to encourage people to give money to charity, and it works. People give more when they are experiencing things in VR than when they see things on a flat screen. There have also been other things, like VR news – for example one by *Vice News*, directed by Spike Jonze when you are viewing a protest for police accountability in virtual reality and of course people would report feeling more affinity with the protest then they would do if they were seeing into flat TV or on the news. These are examples of why the immersion and interactivity of game space does offer new opportunities to influence (rather than manipulate) the psychic experience of the gamer. And those are on the soft end, the good end – I am not quite sure it is good, but it's good enough for me not to complain about it too much. But there are also scarier examples – there is a corporation called Aures London that sells experiences to corporations to bring in investors. They use 360 sound, they use interactive VR headsets, and they operate on all basic senses, even smell. And the purpose of this company is to build brand loyalty. So an incredibly wealthy capitalist company can pay this company to convince investors to invest and to feel connected with the brand, so it is a question of manipulating the body and using that opportunity of immersion to influence the person who is experiencing it is some particular way. Of course there are some problems with philanthropy, but there might be a nice agenda, or there might be a negative agenda – let's make people feel brand loyalty to this product. But the point is, this is through a game. Games are these kind of immersive ideological spaces. If you are a gamer, you might agree; people are very upset with virtual reality at the moment; how immersive it is – but I think for most games, it is a normal feeling. Games have never struggled to be immersive and even a simple game can be incredibly immersive. My reasoning behind mentioning these examples is that they show what games have always been doing. Games have always had the power to bring our bodies into that world and to influence our senses and to encourage us to feel X or Y thing. Perhaps in a way that older forms of media or different forms of media do not have.

S. B.: You are really getting to my next question. In your text, you often use Benjamin, who speaks about dreams and capitalism. The arguments he uses are about earlier 'distractions', of course, but we can see similar or analogical arguments in music or TV (or mass media in general) and I would argue that this argument is repeated very often. Can we say that the meaning of free time (and I do not mean it in a simple way of consuming) is always ideological?

Alfie Bown: The reason why Benjamin was so attractive for me is partly that he is a theorist that I find useful and interesting, but partly because of his work with the word *arcade*. Benjamin has written this huge project called *The Arcades Project*, focused on cities and how they are formed by new technologies, he was very interested in ironwork and glasswork. In the 19th century we see the emergence of these fantastical glass and iron structures in Paris or in London (there are still some in London, but they were new at the time – they are the origin of the department stores – these huge glass stones that are called arcade with all the capitalist products inside) and Benjamin talked about the experience

of going into the arcade and basically becoming the perfect capitalist consumer because you are so affected by the technology of this building and you are immersed – immersion before technology was immersive (or pre-VR). But it is a virtual reality in a way, when you step into this place. It has been done in academic research, I think Oliver Grau, which is about religious churches and how churches are the origin of VR in some way, because when you step into this 'sacred' space, you enter this state of marvel and think about ceiling and glass windows and things like that. And of course – this is the ideology – religious ideology in putting the person in that state where they can be sold, I suppose, religion. And Benjamin thinks of the arcades as the space of immersion where people can enter this semi-aware state – it is the perfect example of every product, it is full of charm and desire and these early department stores are the example of it. It is not a coincidence to me that digital games were traditionally played in arcades, because I think we should also see arcades as spaces where when we enter them, we are in this magical dream world, where our desires can be fulfilled or where we feel like we are being promised fulfilment of every desire and impulse. It is a space where you have to pay for fulfilment, space of desire and all these weird combinations of ideology and capitalism. I think using Benjamin's study of these places is a really interesting way to think about game space today. And of course, the arcades are gone. I don't know how it is in Slovakia, but they are mostly gone in London. In Hong Kong though, where I was writing this book, they are still arcades. I would say the contemporary arcades are much more like PlayStation Network or Google Play Store or something that is imagined in terrible movies like *Ready Player One*. When we go to the arcades today, we enter the screen of a computer, or PlayStation or Xbox and we enter this magical world of wish fulfilment and promises and it's a huge dreamland of desire and energy and this is the new version of 19th century Benjamin's arcades. That is why I like Benjamin as well as Freud in discussions of digital games.

S. B.: Can even free time in a capitalist society be ideologically not capitalist?

Alfie Bown: The short answer is no, at least not currently. But even if we cannot escape ideology, we can experience different ideological spaces. This is one of the big things that I believe is important about digital games; because a lot of people either think that games are apolitical or they don't want games to be political. They hate the fact that games are political and say that games should be escapism and not political and fun and apart from politics. I do not know if you remember when *The Division 2* came out – it is all set in Washington in this dystopian anti-government stage. The CEO of Ubisoft was asked: "So this is the most political game that Ubisoft put out in ages" and he said: "No, there is nothing to do with politics in this game. It's just about imaging a dystopian city, nothing to do with politics at all." So what you can see there is gaming companies not wanting to alienate the parts of the consumer market, but there is a big problem there, because that reinforces the idea that games are not politically engaged. Of course, that is impossible, every game is political, even *Mario*. If you think about how games emerged – look at something like Space Invaders and those early games like *Space Wars* – they all come out of fear of Russia, post-war space race and they are all very symptomatic of their culture. Games have always been political. Even *Sonic* is political – in fact, there is an interesting thing we said about Sonic – level one is full of green hills and got nice music and then you release the rabbits and birds from technology of Doctor Robotnik and then as you go through the game, the graphics, the imagery, the artwork become more and more silvery colour and less green, much more like dystopian technology future. Sonic is a perfect example of a game that people would flaunt and say "oh, it's a bit of harmless fun" but it actually is deeply political. My point is, we can escape capitalism, and it is difficult and nearly

impossible to imagine doing so, but actually, digital games offer an opportunity here. They offer us an opportunity to create different ideological spaces and enter into them. And we do have games that are not necessarily capitalist spaces to enter. Even out of *Animal Crossing* one could make a case. But I think something like Everything (one of my favourite games) by Chris O'Reilly is an interesting example. I think the famous example can also be *Papers, Please*. We cannot make games that are not political, but we can make games with different politics. We can challenge and change ideology through games.

S. B.: I just thought of the Journey. It is hard for me to find anything political in this game. Ideological? Probably yes. But can you find something political on it?

Alfie Bown: I talked about these games in my book, probably about *Flow*. I enjoyed them and I think they are interesting experiments. But they can be seen as having some parts of nostalgic representations of nature, and it's all about melody and the relationship between movement and music and it sort of tends to present a holistic idea of life that is in tune with the world and at one with the world. It might have some naturalism. But I do see what you mean and I think that there are some interesting spaces that these games made, Flow, *Flower* and *Journey* by Thatgamecompany. They are, at least, experimenting about what games can be. They are not fun in a traditional way that digital games offer pleasure – it is not the fun of shooting somebody in the head with a sniper rifle or of jumping over a little gap between earth like in Sonic and Mario. But it is a different kind of fun, I think that's something to be pushed, that games can be experimental places that we can enter and derive pleasure (and sometimes thoughtful pleasure) from. There is no reason why they can't therefore be at the forefront of the progressive politics, because to enter a different kind of space, in which logic is different from logic in our society, is a potentially radical thing to do. I am often read as somebody who thinks games are bad or who seems to have a problem with every game. But I always felt like I have to qualify this and say I have been playing games since I was seven, I play every day, and I am never going to stop. I think they can be incredibly radical and this is my point; first of all, we need to recognize how political, how influential and important they are, see them as a real place where we can battle over the future of our society, and then, if we do that, we will stop thinking of the games as apolitical and start seeing some games as the ally of the left wing politics, let's say, and we can use them and produce them in ways that might help develop ideas for fairer and better society. I think they can be part of that project. Games will not overthrow capitalism and start a revolution, but they can be part of it. In terms of reference we made earlier to a semi-aware state, it might be there is not only one type of semi-aware state. Because Journey and Everything are two examples of games where you are put in an odd psychological situation when you are going with the flow of the game and not really thinking too much as you play. But it might not be the same state that, for example, *Call of Duty* puts you in. So if games can put us in different psychological positions, they can be used to explore possibilities for the future.

S. B.: In the conference in Trnava you said there are not too many in core leftist games. You used Tropico as an example of a game with mechanics that are basically pro-capitalist even when it seems to be anti-capitalist. In one interview you also mentioned that even if the game like Wolfenstein seems anti-Nazi on the surface, the mechanics can be interpreted as fascist. What do you mean by fascist mechanics?

Alfie Bown: The first thing I want to head off here is the idea that I am against violent realistic games. I am actually not. So often this conversation leads to the question whether the game is violent and I think that's the wrong way to be thinking about it for the most part. I am not against games that have aspects of violence in them per se, and I do not think that is the way to think about it. The point I am trying to make here is how people are so focused on the content of the game but the politics is found much more in the algorithms and mechanics than it is in narrative content itself. *Plants vs. Zombies* is a good example, a game that is silly and harmless. Most people (adults and kids) who play it are politically disengaged, but if you look at the way it functions, it is a very aggressive form of defence game. You are encouraged to take the position of somebody who is frightened about invasion (where zombies represent these invasive others) and you are encouraged to play quite aggressively as a gamer towards the other and you should defend your border very vigorously. There is almost a sort of Trump element in this game. The content is often meaningless and yet we are so focused on deciding on a game based on its content. Similar can be said about Wolfenstein; „I am shooting Nazis, so therefore it's alright." Whereas after 9/11 there was a real rise of FPS games from the US which were shooting Arabs with very cliché, stereotypical and awful representations of the Arab world which of course reflects Americans' fear after 9/11 and these very in fact very American-dominant ideological games. The level of actual mechanics – there is not that much difference between *Wolfenstein* and these games. I am not saying all shooting games are fascist, because that is how they are structurally built. What I am saying is that if you just look at the content of the game, you only have half of the picture. The politics might not be found in the artwork or in the story, but in the way in which algorithms and mechanics of the game ask the gamer to act and how it rewards those actions. I do not think you can necessarily have a socialist first person shooter, though I am open to the idea. Maybe something like Portal can be an example of an interesting FPS, although it is not a real FPS. But one can imagine using that viewpoint in interesting ways. I am not quite saying all shooting games are fascist. I am using that as an example to say that if you want to understand the politics of the games you can look at the narrative and the artwork but you also have to look at what we call gameplay, mechanics and algorithms and to think about the politics of that.

S. B.: That brings me to another question: when we see games from the second world war that use Nazis, we see a lots and lots of strategy games where you can play as Nazi and where you can be the big Nazi boss and send soldiers to their deaths. But I think I saw two or three games where you can play as a Nazi soldier. Why is this the case?

Alfie Bown: In games like *Counter-Strike* when you choose between terrorists…

S. B.: But that's terrorists and anti/terrorists, not nazis.

Alfie Bown: There might be a joke somewhere here in presenting it this way, because clearly, all that's different in those two choices are like the colour of the badge. It is quite interesting that they do that. There may be something potentially interesting in offering that choice actually. Because in the case of not offering that choice, you are invited to a world where enemies are a fixed thing and your ideology, as the hero, is the one that you are encouraged to feel agreement with. Like in any game – like *Modern Warfare* or something that emerged after 9/11 you have the American flag and there are these hostile Arab figures. You are being invited to experience these games only from the perspective of an "American civilizing force" or whatever ridiculous way in which they think of themselves. When you are presented with a choice to be a Nazi or a terrorist or an anti-terrorist, at least

there is an invitation to reflect on how the game is structured. It makes visible how at the level of mechanics, these are two sides of the same thing. And it almost makes you reflect on that. It could, potentially. You know what? I am defending games when you are allowed to be an enemy, no matter how the ideology of the enemy is corrupt, because at least you get the sense of how war functions.

S. B.: We already touched this a little, but let's close this topic: how can games escape the connection to capitalism and fascism? Do you think there is something the game designers, journalists and researchers should do? What can we implement to get out of this?

Alfie Bown: You mean how do we make better games?

S. B.: Well, yes.

Alfie Bown: We need to go back to more open source technology and more affordable technology and more environmentally sustainable ones. There is a great project where Lewis Gordon is taking apart a PlayStation 4 and sorts through the components and so on, to show how ethically questionable that console really is. This is a point that I take from Marijam Didžgalvytė who does a lot about digital games and the ethics of the hardware and software. Because of all of the issues with this question – if I just say let me make the game and it will be really cool, there would be a lot of hypocrisy, because if you release a game on PlayStation, you are already complicit in so many patterns of platform capitalism (and global networks of contemporary capitalism). It does not make a lot of sense to proceed that way. The point has been made by Marijam Didžgalvytė about feminism for example; there are games where you play as a forward thinking feminist protagonist (that is good to see – at least there is diversity in games) but all the components that make this hardware are made by mostly women underpaid in Chinese factories in working conditions that are basically unliveable. So there is only so feminist a game can be when its hardware is made by exploited women. We can say the same about these attempts at socialist games – there is only so socialist that a game can be, if it's built on platforms with plastic with minerals and materials that are on platforms which themselves are inherently connected to global capitalism. What we need to do is to go back a bit. Personally, I am bored with games that offer the same experience with so-called fantastic graphics. I find it much more enjoyable to play games that are made by independent companies, which go back to older graphic styles. I have PhD students who make some fantastic stuff, and they are trying to make it more environmentally sustainable, it is more open source, it is more collaborative and cheaper, more accessible. We need the whole industry to take a step back from this kind of high level gaming and go back to more open, more easy access communities that can collaborate and make games together on affordable and slightly less damaging platforms in order to even start thinking about how to produce a socialist one.

S. B.: In your book, you challenge your readers to interpret games critically – as you say against the grain. It reminds me of Stuart Hall's concept of oppositional reading – is it a proper comparison? How do you suggest doing it?

Alfie Bown: I think so. It is also another idea of Walter Benjamin but I cannot even quite remember where he said it – one of these things that I learned years ago and kept in my head. I think it is Benjamin's idea of reading against the grain. Let me read a game against the grain really quickly. *Grand Theft Auto V* – do not get me wrong, I think there are some

horrendous aspects. I think the online mode of GTA V is one the most evil things in digital games today. It is obscene capitalism – but still, I am going to defend Grand Theft Auto. As an art project, it focuses on the fact that there is violence, sure, it is as bad as all your mums thought it was. But if you think of it like a representation of the city, and how it renders of the city, it can be seen as an incredible art project. There is this fantastic project, *Down and Out in Los Santos* by Alan Butler – it is a sort of photography project. When you first glance at it, it looks like photography of working class areas in America, but actually, when you glance at it again, they are all screenshots from GTA V. It is actually unbelievable, if you look at the poor neighbourhood and rich neighbourhood in GTA and you look at how they are represented, how poverty is represented, the places and characters. And actually the first/third person view encourages you to think that way because one of the playable characters is wealthy, lives in a suburb, another is staying on the couch in someone else's apartment. You have to experience the game through how class affects it where the city is the space where all of the class politics is very visible. That is almost like reading against the grain, because although it might be superficially a game full of problems, full of capitalism, patriarchy and misogyny, there are nevertheless aspects of it, which provoke very interesting reflection. Taken as that, as a representation of the city, it is actually the best and most politically engaged in gaming. It can be used to make points about class politics, about Marxism. I think most young people playing GTA get a different and useful idea of class politics from doing so. That is what we should look for in games – moments like that.

S. B.: The last topic is about your newest book/project: Love, City and Games. Can you elaborate a little more? What do games have to do with it?

Alfie Bown: This is what I am working on now, it will come out with Pluto Press – it is called *Dream Lovers: The Gamification of Relationships*. It is about how love and relationships can be gamified. In a way, it is an extension of what I have been doing in *The PlayStation Dreamworld*, there is a lot of history of dating simulators, which come from the 1980s with a game called *Girl's Garden*, Japanese game, and then goes through games like *Harvest Moon*, farming simulators which have marriage narratives and then virtual reality relationship, virtual girlfriends, AI chatbots, things like that. A lot of it is about digital games and about how games, in some way, set the blueprint for thinking about relationships to go forward. Another aspect of it we already mentioned earlier when we were talking about Tinder, where basically programs and dating technologies inherit characteristics from games. Those are the gamification angles. I don't mean just finding a lover or finding sex, but I also mean finding friends, finding colleagues and the algorithms used by social networking sites – even thinking about thing like Zoom and Google Meet. Also there are these new trends like sex robots, smart condoms. These are just examples of how the processes of sex and relationships have become gamified, quantified, measured, competitied. So we are looking at the new technologies and how they use the characteristics of game and play to transform the love industry and what it means to make friends and find lovers and meet people in society today. This is a really exciting topic and I think it's a topic for gamers but also for people broadly interested in social life and digital media today.

S. B.: Next question is quite forward and simple: is there a difference between love and passion? From what you said at the conference, I understood that there is an equation mark.

Alfie Bown: Whether there is, or not, is not really my interest. I am more interested in where there is not. There are actually so many theorists who might think that passion would mean

a different kind of love. Great ones – I really like Srećko Horvat, a Croatian philosopher whose book *The Radicality of Love* – it is about the distinction in what he calls love and falling in love. Then there is Lauren Berlant and her book *Love/Desire*, which is essentially about the question you just asked me. There are plenty of people who will say there is desire, or lust, or passion on one hand and there is love on the other. I am not saying that is wrong. What I am looking at is where digital technology today draws similarities between those two. For example; the way that we access a Pokémon and the way that we access a date or sex are sometimes through very similar mechanisms. Now, that is fascinating to me. It does not mean that the Pokémon and a girlfriend are exactly the same things and I am not saying that you feel exactly the same way about them (of course, you might). But similarities between the ways that we access the objects of desire are really interesting and they make visible how digital technology works on the wider scale of the smart city. To answer your question: I don't really know if there is a difference between love and desire, but there are definitely some fascinating connections between the way we relate to different objects. Sometimes the similarities rather than differences are more important.

S. B.: You were a little bit sceptical or even dark when you were talking about smart cities and the future that is coming. You used China as an example – do you think western countries will follow that trend, let's say in our lifetime?

Alfie Bown: One of the things I absolutely wanted to make clear – I used Chinese examples because I was living in China when writing the book, not so much because I think of China as more dystopian then the West. Almost every technology I discovered being used in Chinese smart cities already exists at least in some form in the UK or US. So no, this is not a Chinese problem – it is just the case of China having a lot of tech giants and being at the forefront of these developments, but those things are happening everywhere else too.

S. B.: You also mentioned that games studies are not heading in the right direction, so my last question is: What direction of game studies would you like to see? What is your vision?

Alfie Bown: We are struggling with this at the college, because we offer a really interesting degree I think, half design and half theory (maybe not half but a mix of two things). I believe it is a great blueprint and the reason why we do that is that you cannot make a good game unless you understand the politics and history of games. So often we see a real divide between those who are thinking about games and those who make them and that's the part of the issue. It is tempting to blame the producers but that is not the whole story. Game studies has developed into academic institutions less actively engaging in making games. What you tend to get now is a degree that is about making games or a degree that is about thinking about them. What we need to do is to stop this distinction and start to have programs where people learn to think about culture studies, feminism, psychoanalysis, Marxism, postcolonialism and those should be the same people who make games. Then, I think, we will see politically interesting games and game studies could really engage more of the producers in game studies. That is what we probably need to build; a more blended approach. We are recognizing that – in order to make a good game you need to understand critical theoretical concepts and the industry and how they relate to one another. We are trying to do that in a really small way – we only have about twenty students, but I hope there will be more and more of these attempts.
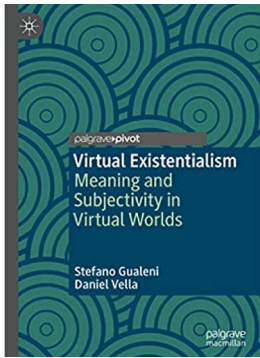
ACTA LUDOLOGICA

VIRTUAL EXISTENTIALISM.
MEANING AND SUBJECTIVITY IN VIRTUAL WORLDS

Slavomír Gálik

Digital media, including videogames, bring considerable changes into human lives. It is quite possible to say that the virtual world of digital media offers a new existential dimension. The old existentialism (between WWI and WWII) saw people only as natural beings, living in a certain time-space and at certain socio-cultural coordinates. Even though this early existentialism did study human imagination, dreams or possibly even developing technology of that time, it did not and could not study what comes with the new digital technology of today – the virtual world of cyberspace, which is becoming a component of human existence. This is the reason why it is very important for modern philosophy to study these new existential circumstances. It is encouraging to see such a reflection among philosophers, for example in the book *Virtual Existentialism. Meaning and Subjectivity in Virtual Worlds,* written by Stefano Gualeni and Daniel Vella. This monograph is an attempt to understand virtual worlds through old existential schemes and also construct a new existentialism that also includes virtual existence of human.

The presented book consists of six chapters, not counting the introduction and conclusion. In the first two chapters we find the authors' personal insights into the matter of virtual existence (1. *Virtual Subjectivities and the Existential Significance of Virtual Worlds*; 2. *En-rolling and De-rolling in Virtual Worlds*), while the four remaining chapters are dedicated to discussion with key existentialist philosophers (3. *Helmuth Plessner and Virtual Worlds as Existential Complements*; 4. *Peter W. Zapffe and the Virtual Tragic*; 5. *Jean-Paul Sartre and Escaping from Being-in-the-World*; 6. *Eugen Fink and Existential Play*). In the last part of the introduction, the authors also include a terminological dictionary, which helps to better understand their approach to the given matter.

In the opening chapter, titled *Virtual Subjectivities and the Existential Significance of Virtual Worlds,* the authors utilise M. Heidegger's and especially J.-P. Sartre's approaches to study the existence of a subject in a virtual world. It is characteristic for human beings to project their existence freely, so it is never definitive and only ceases with one's death. It is similar also in a virtual world. However, the authors do realise there is a difference and hierarchy in the systems of the real v the virtual world, as they say: "virtual worlds are experientially and existentially subordinate to the actual world, and virtual experiences can be considered a subset of actual experiences". (p. 9). Even though a virtual world is subordinate to the real world (the authors use the word 'actual' here), it is equally real in terms of experience. The real and virtual worlds meet in one individual subject – a person. The desire to play, whether in the real, or a virtual world, is equal and generally speaking describes the desire to exist. We can also agree with the idea that both the real and virtual worlds bring opportunity to construct different versions of one's own personality (p. 15).

The second chapter, titled *En-rolling and De-rolling in Virtual Worlds* is about the inputs and outputs of a virtual world. In their effort to study these transitions, the authors also borrow cultural practices described by cultural anthropologists, for example

by V. Turner and A. van Gennep – they specifically analyse transmission rituals. A player becomes someone else, identifies as a character from a game and adapts their life. This leads to a double role – on the one hand such a person realises their true identity, but on the other, lives the life of the character from the game. Such a change in subjectivity (if not a pathological one) may bring psychotherapeutic effects. It offers the possibility to liberate oneself from the existential burden. The authors also claim that there is generally no psychological 'guidebook' that would offer a helping hand when one leaves this virtual world. They use an example – actors that undergo psychological trauma caused by acting in certain roles: "the theatre scholar Sally Bailey reports having known many actors—and having read about others—who had been bothered by playing particularly intense roles. According to Bailey, those roles led to alterations in their personality, sometimes leading to depression and heavy drinking, precisely because they did not adequately de-role at the end of the acting sessions" (p. 30). I agree with the authors that "better understanding of techniques and effects of en-rolling and (especially) de-rolling will significantly contribute to the mental well-being of the next generations and become a factor in the ways in which they will lead their progressively more fragmented, multiplicitous existences" (p. 58).

In the third chapter, *Helmuth Plessner and Virtual Worlds as Existential Complements,* the authors promote their approach to virtual existentialism, mentioning Helmuth Plessner, a German philosophical anthropologist. H. Plessner, similarly to Arnold Gehlen, thought of a human as an incomplete and unready being that compensates this handicap using culture and especially technology. A human, in Plessner's eyes, is an open being that is pushed forward by something as 'unreal' as daily dreams, fictions, playing and so on (p. 70). Human nature has therefore always been accompanied by technology (man has always been a cyborg), but also something as "unreal" as fantasies, dreaming and so on. The authors believe a part of this 'unreal matter' is also something that we call the virtual world, which is a place where we can be freed of the alleged reality (p. 73).

In the fourth chapter, named *Peter W. Zapffe and the Virtual Tragic,* the authors study virtual existentialism using Peter W. Zapffe's approach. In his work *The Last Messiah* (1933), this Norwegian philosopher starts with an assumption that human existence is nothing but absurdity. When we realise this absurdity, we start panicking, so we developed various defensive strategies. Zapffe describes four remedies: isolation, anchoring, distraction and sublimation. The first three methods either directly silence the feeling of futility (isolation) or shift it indirectly towards cultural principles (anchoring) or simply limit our attention - reducing thinking. The fourth method, sublimation, refocuses, or transforms our thinking from something fruitless to something meaningful. In Zapffes's case, it led to his work *The Last Messiah* (p. 84). We can agree with the authors that a virtual world could also function as a technique to suppress the absurdity of human existence.

In the fifth chapter, named *Jean-Paul Sartre and Escaping from Being-in-the-World,* the authors build on phenomenology or imagination, developed by J.-P. Sartre in his book *The Imaginary* (1940). According to Sartre, everything that we perceive becomes a fragment of a universal, global and everlasting sum of experience (p. 90). This perception of the world covers also its own 'annihilation' because we can turn away from it in our imagination (p. 90). The authors believe that imagination, including virtual imagination, frees us of the world. This imagination horizon then offers us a way to make free decisions about a new course (p. 95). However, as the authors say, this new decision may take two directions – either positive or negative.

In the sixth chapter, *Eugen Fink and Existential Play,* the authors use some of E. Fink's approaches to games, found in his work *Play as Symbol of the World* (1960). His idea of a 'mask' is especially usable in the virtual world of avatars. A mask, or identification with new identities and roles in a game, enables one to cross the boundaries of their own life and thus widen and multiply the possibilities of one's own existence.

In the final part, called *Conclusions,* the authors synthetize the ideas covered in their book, stating that virtual technology brings new experiences that would otherwise be impossible. Its positive impact is in offering something beneficial, while the negative aspect is the fact that this technology may initiate addiction, dissociative disorders and social exclusion (p.115). They compare the virtual world to a medicament – *pharmakon* – as its etymology reveals that it may serve not just as a remedy, but also as poison.

Virtual Existentialism. Meaning and Subjectivity in Virtual Worlds is a monograph written by Stefano Gualeni and Daniel Vella. It is a valuable contribution to existential philosophy, broadening our knowledge of the virtual world. I recommend this monograph not only to philosophers and specialists active in human science disciplines, but also everybody who is interested in this topic.

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THE LAST OF US PART II:

NAUGHTY DOG: *The Last of Us Part II*. [digital game]. Tokyo, San Mateo, CA : Sony Interactive Entertainment, 2020.

Zdenko Mago

Before its release, it was considered as one of the most (if not the most) anticipated digital games of recent years, and the postponed release date amplified fans' expectations even more. After its launch, it quickly became the most acclaimed game of the year, but also at the same time the most discussed game of 2020. *The Last of Us Part II*, the long-awaited sequel of the game that rightfully belongs to digital-gaming milestones with a guaranteed future place in the Hall of Fame of digital games, shook up the gaming world as well, but this time in a slightly different way. By way of introduction, it is necessary to note that it is essentially impossible to review this game without avoiding serious spoilers in the following text.

Firstly, the overall audio-visual experience is certainly less debatable, following the aesthetics of the first game so faithfully that the 7-year gap separating them almost completely disappears. Fluent transitions and continuity of quality between gameplay and cutscenes again make from the game a highly intensive interactive cinematic experience. Of course, in order for the sequel to bring something new and attractive some features were upgraded, such as movement options (crawling), arsenal, and enemies (guard dogs, Shamblers, the Rat King, etc.). Illustrating animations were also updated, are more frequent, and contain more stunning details. In particular the weapon modification process is no longer as empty as before.

The more problematic perceived elements of this game are related to its story. In general, The Last of Us Part II is designed for a different audience than other zombie-like post-apocalyptic games. The concept uses the 'zombie' theme secondarily rather as a metaphor (even political) for chaos and decay in society, and in the spirit of *The Witcher* games, true monsters are mostly humans who have survived and live in such a world. Unlike the first game, which was aside from other issues dealing with a possible cure for humanity, in the case of Part II, a separation from the zombie leitmotif is more noticeable. The attention is almost solely focused on the characters' inner frame of mind as well as the individual ways they settle with their outer existence, and then furthermore the relationships between characters.

The overall narrative of both games is actually built in a cycle. The first game shows how loss can lead to new hope, love, or even a new life in a ruined, dangerous world. On the contrary, the second game shows how a blinded, stubborn desire for revenge leads to aimless violence and consequently to the loss of everything that still has value and is rare in such a world. This includes the fingers needed to play the guitar – the very last remaining connection which exists with a deceased loved one. There were several moments at which the game could end to make it less confusing, or evoke mixed emotions; however, this was the purpose. Not another happy ending but ambivalent feelings from the reality emerging from the game. This is exactly what can be expected from the artwork, the design of which artistically generates deeper meanings than the design of common pop-culture blockbusters.

It became a stumbling-block that resulted in the staggering dissonance of the game ratings – it scored 93 of 100 in critics' reviews, but users scored it as only 5.6 out of 10 on Metacritic. Most reviews point out that negative ratings came from three groups of users – those who had been a priori indignant based on the officially released as well as leaked information about the narrative even before playing the game themselves, those who played the game only as far as a specific sequence (Joel's death), and those who finished the game but did not understand it, nor its intended meaning.

Another reason could be the fact that The Last of Us Part II is designed as if according to a criteria checklist of the currently most significant pop-cultural trends as positively evaluated by critics. It is not just about gender equilibrium, retained in the game even on the zombie level – male and female infected are distinguished. Particularly it is a representation of LGBTQ+ concerning the main characters – Ellie, the strong lesbian female without exaggerated feminine shapes in line with the current appearance of Lara Croft, and Abby, the muscular female originally considered as transgender based on the released trailers. From other aspects present in the game, which are also critically evaluated not only in relation to digital games, there is a balance of genders, races, and ethnicity in both leadership and support roles, representation of various faiths and religions, and more naturalistic violence (based on the trending penetration of the exploitation genre and an 'R' rating in the mainstream). Complicated (interracial) relationships around the main character are a relevant example of the integration of the mentioned components – Ellie's current girlfriend (partner), Dina, a jewish female with obvious features of the Middle-East ethnicity, is at the same time pregnant by Jesse, her Asian ex-boyfriend.

The adaptation to popular trends presupposes a positive response from interest groups of the audience as well as critics, which could be seen for example in the results of recent years at the Academy Awards. On the other hand, such adjustments tend to be conspicuous, even acting unnaturally (or comically). At present, this oversaturation is already evoking some boomerang effects, which we can observe in several current Hollywood box-office bombs.

In conclusion, while The Last of Us metaphorically ended the era of the PlayStation 3 (and 7th generation game consoles in general) and became a timeless artefact, The Last of Us Part II symbolically ended the era of the PlayStation 4 (and 8th generation game consoles), but whether players will take her on grace, will be evident over time.

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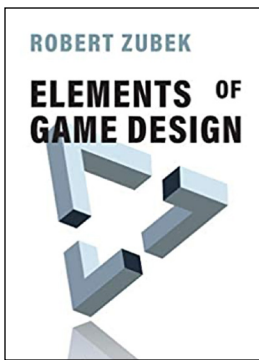*University of Ss. Cyril and Methodius in Trnava*
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ELEMENTS OF GAME DESIGN

ZUBEK, R.: *Elements of Game Design*. Cambridge, London : The MIT Press, 2020. 256 p. ISBN 978-0-262-04391-5.

Ladislav Pátík

Games, and game design, have become a phenomenon in recent decades and one of the fastest growing industries. The creation of games has undergone significant development during this period, and from simple and basic games, we are now entering a world that is referred to as augmented virtual reality. The field of game creation can generally be perceived as a purely technical discipline, taking into account the final product. The games and their design are without doubt areas much deeper and wider than this general view. It is necessary to look at game design as a whole from the very origin of the idea to the final product. And at the same time answer questions such as: why the game, what game, what is its idea (essence), what is its goal, for whom it is intended, what the user expects, what needs we fulfil through the game, what is the desire to fulfil it, what is its rational and emotional value, illusion, fiction or reality, how the resulting product will look, how it will be unique or different from other games (competition), its business model, because the game is the subject of commerce, i.e. trade (games sales), for profit.

The author says: "Games are syntheses of the work of many disciplines, and all parts must work well together to produce a great experience for the player. Interesting and engaging gameplay, visuals and visual design, music and audio design, user experience design for smooth interaction, technical design and implementation, and so on" (p. 14). The elementary level for understanding the problematic is as follows: "We all recognize the familiar, deep pleasure of being immersed in a book, a movie, and a work of art. We seek out the way they enthral us, confront us, and make us experience the world through another's eyes. Different art forms accomplish it in their own ways, but they all have this mysterious power. Games have this power too, as players know well. A familiar transformation happens when we allow ourselves to get immersed in a game: for a moment we leave ourselves and become someone else, and we experience their life, their world and their story. Games also have an additional power. In games we also gain the ability to *act*. We can take on a different role in life. We become an adventurer, an explorer, a general – not through empathy, but *actively*. We embody that role, experience what it is like to act as them, to function in their world. We witness firsthand how our actions bring about consequences and learn from experience how that world works. This is a unique power of games, that they allow us to not just observe the world, but inhabit it, act in it – and perhaps change it. This is also our task as game designers and the subject of this book: how do we create these experiences, these worlds for the player to inhabit and interact with?" (p. 21).

In his book, the author reflects on all aspects associated with the game and its design. All key elements and facts are interconnected in logical contexts, which in general give answers to all the questions we can ask about the games and their design. In his book, the author uniquely combines theory and practice and complements the individual parts with a number of examples and case studies. The basis of the book, as stated by the author, is his own lectures in the courses he teaches, and both ideas and facts and texts

make this book an excellent guide to game design. The book consists of seven chapters and a foreword. Rather than being a theoretical work, the volume can be considered guidance and practical training in the area of game design. The text begins by introducing the core model – that of player and designers experiencing the game design differently, and the three levels for thinking about games – and the subsequent chapters elucidate the individual parts of this model.

Chapter one introduces the model. It starts with an introduction and the key subchapters are design process (key parts – machines and game design as user-centred process). It also includes deep descriptions of the model (designer's role, designer's process, player's experience, elements of games outside the model, game design, systems design, content design, discipline interactions, formal tools, MDA, the practice of design). Chapter two is about the player experience. In this chapter we can find facts and information about the experience and its relativity, what we enjoy, building naive taxonomy. Following that there are player theories, designer theories, The Bartle Model, and The Koster Model. Also important are the characteristics of user personas and empirical models (The Big Five Personality Model, Yee's Gamer Motivation Profile, Player Motivations and the Big Five). In the second part of the chapter, the author also talks about Questions to Guide to Experience Design and Experience Archetypes and Genres. At the end of this chapter we will find information about Player Psychology and Designer Theories.

The next (third) chapter deals with mechanics, the key parts of this chapter are Mechanics as Building Blocks, Composition of Mechanics, The Language Metaphor. A related topic in this chapter is the topic Games as State Spaces (Game State, State Spaces, Action Spaces, Perceived Action Spaces). The key part is to get acquainted with key techniques (Explicit and Implicit Mechanics, Control Mechanics, Progression Mechanics, Uncertainty Mechanics, Resource Management Mechanics, Beyond the Four Families, Mechanics Design, Design Heuristics, Primary and Derived Mechanics.) Finally, the author introduces us to the History of Mechanics and Taxonomies. The key words of chapter four (Systems) are Game Systems, Setting and Systems, Layering, Thinking in Systems, Mechanic Chains and Loops, Conversion Chains, Calculating Exchange Rates, Conversion Loops, Feedback Loops, Positive Feedback, Negative Feedback, Effects of Positive Feedback, Effects of Negative Feedback, Emergence and Chaos, Emergent Behaviour, Chaotic Systems, Systems Design, From User Stories to System, System Tuning, Approaches and the Role of Tuning in the Production Process.

The theme of the fifth chapter is Gameplay. In this chapter, the author talks about key areas related to Gameplay such as Gameplay Loops, Loop Frequencies, Onion Diagrams, the Core Loop, Layering, Loops and Systems, Player Motivation, Intrinsic and Extrinsic Motivation, Intrinsic Motivation: Flow and Learning, Flow Theory, Learning and Challenge Escalation, Learning to Overcome Uncertainty, Dominant Strategies and "Solving the Game", Loops and Challenges, Extrinsic Motivation: Work and Rewards, Progression and Rewards, Reward Schedules, Types of Schedules, Game Examples, Changing Workload, Related Topic: Gamification, Gameplay Loop Design Heuristics, From User Stories to Gameplay Loops and Playtesting Loops. Chapter six is called Macrostructure. The key parts of this chapter are Game Fiction, Fantasy, Story, Story and Agency, Consistency, Macrostructure and Content Arcs, the Three-Act Model, Story Arc and Episodes, Three-Act Model and Non-story Games, Narrative Patterns, Linear Narrative, Branching Choices, Branch and Merge, Branching with State, Hub and Spokes, Narrative Composition and Quests, Open Worlds, Open Worlds and Quest Design, Simulated Worlds, Pacing, Metagame, Mastery Metagame, Social Metagame, Game Modding and the Benefits of Metagame. The final seventh chapter deals with Prototyping and Playtesting. The author introduces us to Production Stages, Game Concept, Understanding the Game Idea,

Understanding the Market, Forming and Game Pitch. The section on the concept of From Concept to Prototyping and Kelly Guidelines (Prototyping, Playable Prototypes, Iterative Process, Playtesting, Documenting Design, and Finishing Iteration) and Supporting Portfolio Development follows.

The book completely fulfils the stated goal of the author, i.e. to provide information and guide the issue of creating games to a reader who has no orientation in this area and is basically a 'layman' who is looking for both theoretical information and examples and recommendations. The language the author has chosen is very 'human' and draws the reader into the book so that it is in fact possible to read it all at once. I present this fact as my own personal experience. The field of game design is not entirely my field and my grasp was very close to the above facts. The result is clear; a book that sheds light on the most important aspects associated with game design and shows these with real examples. I also appreciate the authenticity and the own views of the author, which he presents in the book and which are one of the significant elements that give the book its originality. I highly recommend this book to anyone who is interested in games and game design or has a connection with them in their work.

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The Dawn of the 9ᵗʰ Console Generation: The Scalpers' Heaven

Miroslav Macák

The 'jump' from one console generation to the next is one of the most anticipated events in the world of digital games. The new hardware opens up possibilities to develop games that were not feasible on their predecessors, especially allowing even more convincing visuals. With both the *Playstation 5* and the *Xbox Series X/S* that have been recently released, we have now made our first firm steps into the 'next generation' of gaming. From the hardware perspective, the new consoles can be called equal, with minimal computing power differences. Thus, a customer choosing between the two will more likely look at other features of the consoles, as well as products and services tied to them. PlayStation has already created a solid foundation of first-party exclusive titles with focus on single-player experiences in the last generation. Games like *God of War* (Santa Monica Studio, 2018) and *Horizon: Zero Dawn* (Guerrilla Games, 2017) have already announced sequels, while, *Spider-Man: Miles Morales* (Insomniac Games, 2020) was launched as a PS5 title. On the other hand, Microsoft achieved success with a subscription service called Xbox Game Pass, where players can choose from an expanding list of over 200 games, akin to the popular Netflix. So, while both consoles are similar on a hardware level, they offer different types of value, appealing to different types of customers. The hardest part at the start of a new generation is to choose. Well, things are not so simple nowadays…

Even before the initial release, Sony stated that production of PS5 consoles will be limited during its first year on the market. This sentiment was only strengthened by the widespread COVID-19 pandemic, which delayed production even more. The pre-order process itself was handled poorly, too. The date of pre-order was not stated clearly, thus many retailers allowed people to purchase the console earlier than intended, often during hours when potential customers were asleep. Alongside broken marketing promises, the first wave of consoles was later revealed to be only available through online retailers to hamper the spread of COVID-19. This created a fertile ground for a group of people profiteering from reselling various items greatly above the MSRP, or so-called *scalpers*. Even though the *Xbox* did not have such a bad pre-launch period as the PlayStation, they were both heavily targeted and bought out by scalpers, only to be resold for upwards of 5,000 USD (ten times the retail price). A GameStop director reported: "At times, more than 60% of our traffic – across hundreds of millions of visitors a day – was bots or scrapers. Especially in the run-up to big launches".[1] Now both the PlayStation 5 and the Xbox Series X are out of stock everywhere, except on eBay, where one can buy them any time, for double the price. To put the scale of the problem into perspective, just a single scalper group in the United Kingdom is reported to 'hold' over 3,500 PS5 units.[2]

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1   TASSI, P.: *Bots and Scalpers Are Making Finding PS5 and Xbox Series X Stock a Nightmare*. Released on 26ᵗʰ November 2020. [online]. [2020-26-11]. Available at: <https://www.forbes.com/sites/paultassi/2020/11/26/bots-and-scalpers-are-making-finding-ps5-and-xbox-series-x-stock-a-nightmare/?sh=7a7fde81238d>.
2   BARKER, S.: *UK Scalper Group Claims It's Snagged 3,500 PS5 Consoles*. Released on 24ᵗʰ November 2020. [online]. [2020-26-11]. Available at: <https://www.pushsquare.com/news/2020/11/uk_scalper_group_claims_its_snagged_3500_ps5_consoles>.

The whole situation can be compared to what happens with limited editions of the Nintendo Switch on a regular basis. However while those are highly limited and valuable collectors' pieces, new consoles suffering from shortages now are just mass-produced machines with no significant long-term value. Yet what about Nintendo and the next generation? While both Microsoft and Sony had a head start, Nintendo does not yet have a horse in this race. And they do not need to. Nintendo consoles have never been about graphical prowess or raw power. They were about fun, gimmicks and experiences. And if Nintendo Switch sales are something to go by, Nintendo can disregard the competition and do all the whacky stuff they can think of. But to be precise, Nintendo did release a brand-new console. *Game & Watch: Super Mario Bros.* So, anyone who wants one should go and get it; before the scalpers strike again.

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Among Us: The Example of Current Digital Influencers' Impact on the Digital Games' Popularity

Nikola Kaňuková

There is no doubt that influencers have enormous strength and power today. We can also increasingly see their importance in the game environment, as evidenced in recent weeks, for example, by the success of the game *Among Us*[1]. This game shook the gaming industry perhaps even more than *Fall Guys: Ultimate Knockout* did in August. Among Us is an online multiplayer space-themed deduction game. The game was published by the American game studio InnerSloth in August 2018. However, it became a hit game only this year thanks to video game streamers on Twitch, when they realized this game could be great to fill one's time during the COVID-19 quarantine and they started streaming their online competitions. Thanks to virtual gaming and the dependence on social interaction, Among Us was a great fit for virtual socialization, which temporarily replaced face-to face socialization. Streamers on Twitch (e.g, Sodapoppin, Pokimane, PewDiePie and others) have been promoting the game among their followers since the beginning of July. However,

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1   INNERSLOTH: *Among Us*. [digital game]. Redmond, WA : Innersloth, 2018.

the game certainly gained enormous popularity thanks to its availability, the low price of the game and the low level of difficulty. Players complete the tasks, which can be easily handled by anyone who can use a mouse and keyboard or touch screen on their smartphone. Among us has not fallen out from the top five in the App Store since 1st September 2020, reaching over 40 million downloads on Steam in the first half of September, and more than 200 million installs across the App Store and Google Play by the end of October.

The influencer and congresswoman Alexandria Ocasio-Cortez made the game even more successful. As an American activist and member of the Democratic Party, she was elected to the House of Representatives in November 2018 and at the age of 29, she became the youngest congresswoman in US history. Her live stream of Among Us became one of the most-watched videos on Twitch, which appealed to many young American voters. More than 400,000 viewers made it the third highest peak in the history of this platform. She began the stream by encouraging people to vote for the Democratic Party. She appealed to gamers to join her online "to get out the vote" ahead of the US election on 3rd November. However, she successfully tackled the wave of criticism for 'electioneering'. The whole stream lasted about three and a half hours. E-sports consultant Rod Breslau noted, that the congresswoman was watched by as many as 439,000 viewers, which is the third highest score. The record is held by singer Drake, who was watched by more than 600,000 people while playing *Fortnite*.[2]

With this wild idea, A. Ocasio-Cortez gained more than 550,000 followers, which is more than her political counterparts. Donald Trump, for example, has 143,000 followers, but uses Twitch for political broadcasts and speeches rather than gaming. Public reactions were mostly positive. Followers see this step as a very natural way to get closer to the young. "The impressiveness of AOC is not simply that she is a forceful and articulate proponent of the Democratic message, it is that she is able to speak credibly directly to millennials using platforms like Twitch", said Mitchell Robertson, fellow at the Rothermere American Institute. However there were also reactions that criticized the behaviour of the congresswoman A. Ocasio-Cortez. "This is a very transparent move on her behalf. It's not the first time that a politician has aligned themselves with trends in order to gain popularity, or new followers. Overall, this seems to be a well-orchestrated political move", said Nicky Danino, principal lecturer in Computer Science at the University of Central Lancashire (UCLan). "It's a good profile raiser so it's worth a try. However, it's connecting young people to a politician, not necessarily politics", said Jon Tonge, professor of politics at the University of Liverpool. The Democrats have embraced gaming in this election, with presidential candidate Joe Biden's campaign also creating a virtual field office in *Animal Crossing: New Horizons*.[3] The role of influencers or streamers has certainly been undeniable in case of the game Among Us. Good timing or benefiting from the current global situation also contributed to the whole success, which provides very good fertile ground for similar global activities. Yet it will certainly be interesting to see the development of this trend in the coming weeks, as well as take a closer look at other projects that have been successful in recent months.

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2   *Alexandria Ocasio-Cortez Among Us game watched by 400,000.* Released on 21st October 2020. [online]. [2020-11-30]. Available at: <https://www.bbc.com/news/technology-54630330>.
3   Ibidem.

Wearing-Off of the Lines Between Politics and Games

Alexandra Kukumbergová

How far are video games from politics? It seems like there are a lot of arguments and discourses surrounding politics and games. There are a whole range of ways and amounts of how politics crosses the political sphere. As an example, we can look at *Far Cry 5*; considered controversial by some, and even accused of not being able to articulate a statement of Trumpian America; „a missed opportunity".[1] One of the ways is probably the most visible – the specific use of games for political campaigning. This came to the wider attention of the public with Barack Obama's election campaign in 2008, and this happened again with several events within the current US election campaigns. These examples in some ways illustrate how the public, developers, and political parties view this lane between politics and games.

First was Alexandria Ocasio-Cortez from the Democratic Party with quite an unusual attempt at encouraging citizens to vote. At her open call for players well-known Twitch streamers reacted and joined her in the game known as *Among Us*. This invitation to vote was significant in some ways – firstly, we can see it as a quite authentic act, since she is a gamer herself (with Silver III rank in *League of Legends*). Then there is the fact that even as a part of a political campaign, the main reason emphasised was the importance of voting, not voting for her party (which, of course, could be the result).The game itself, although simple in graphics and somewhat unoriginal (the game is similar to *Mafia*-style social deduction games) is also remarkable in its mechanics which can be linked to election tactics; finding the truth among gaslighting, accusing and lying. The metaphor continues with crewmates trying to navigate the tasks for their vessel so it functions properly even with imposters ruining their efforts.

The next example is Joe Biden's campaign in *Animal Crossing: New Horizon* as another interfusion of real-life events into a game that has already held concerts and festivals by real artists. Even when not breaking any of Nintendo's rules for banning content that would be vulgar, discriminatory, or offensive (since the game is rated an E) or content that would bring player any financial benefit (banning advertising or selling), it was a reason for Nintendo to create a new rule of "refraining from bringing politics into the game".[2]

This is not a new phenomenon; we can date official political video games back to 2004 but politics within games are much older. Ian Bogost wrote about manufacturing gain from video games in elections in his book *How To Do Things With Videogames*[3] almost 10 years ago; the thing is, politicians are becoming more and more aware of the potential

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1   WRIGHT, S. T.: *'Far Cry 5' wants to talk about Trump's America, but it doesn't know what to say.* Released on 4th April 2018. [online]. [2020-12-16]. Available at: <https://theoutline.com/post/4042/far-cry-5-review-trump?zd=1&zi=yzviyqah>.

2   *Animal Crossing: New Horizons Usage Guidelines for Businesses and Organizations.* Released on 19th November 2020. [online]. [2020-12-16]. Available at: <https://www.nintendo.co.jp/animalcrossing_announcement/en/index.html>.

3   For more information, see: BOGOST, I.: *How To Do Things With Videogames.* Minneapolis, MN : University of Minnesota Press, 2011.

of games for their preferences (talking about the UK and the US at least). Communication through these games, either designed especially for this purpose or not, is opening new questions about what people and companies are willing to accept within that which they can perceive as leisure time – and even when we still do not know enough about how impactful this campaigning is, it is certainly something to observe and learn from.

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ACTA LUDOLOGICA

User Centred Design of a Gamified Immersive Virtual Library

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Aleshia Hayes is an assistant professor at the University of North Texas. She is passionate about developing, evaluating, and iterating on technology used for learning in formal and informal environments. She runs the SURGE XR Lab where she has led interdisciplinary research with partners from manufacturing, defense, psychology, and education. All of her work focuses on ways to make education and training more effective and engaging with existing and emerging technologies.

With the growth of ICT (internet communication technology) and the increasing necessity for individuals to shelter in place, or otherwise social distance, more people are using technology as the source of their reading and other media consumptions than ever. While people are reading more and are still as mobile as ever, there is no quality way to create an immersive experience using devices such as eReaders. Highly Immersive Virtual Reality has the capacity to enable novelty of environments for reading as well as increase users' sense of flow. Specifically, M. Csikszentmihalyi's Flow theory identifies the level of intense concentration, merging of awareness and action, loss of reflective self-consciousness, a sense that one can truly control the environment, distortion of temporal experience, and sense of intrinsic reward from an experience. Pew Research studies have found 79 percent of people ages 18-29 reported having read a book in the past year as opposed to 75 percent of people age 3-49, 77% of those aged 50-64, and 70% of those 65 and over reading print books, e-books, and audiobooks. It is known that readers frequently experience flow, while reading; Immersive Environments have the potential to increase the occurrences and intensity of flow state.[1]

This discourse is a reflection on the user centred design of an *Interactive Virtual Library* (IVL) that applied elements of gamification to increase flow while allowing users to search the contents of an extensive virtual database of approximately 50,000 open license books from *Project Gutenberg*[2] and to create a personalized Virtual Library. This IVL afforded the user access to a full library in a user selected virtual environment (e.g. a beach, forest, or Library of Congress) without the need for physical copies or the need to travel to a library. This library system uses a consumer head mounted display (Oculus Rift) and the Leap Motion hand tracking sensor mounted to the headset to simulate the experience of being in a library. The goal is for users to experience presence or the sense of 'being there' in their personalized *immersive virtual library*. C. Dede notes that the higher the level of immersion provided in the technology, the more the participants will be able to suspend disbelief, which leads to the question, "to what degree of immersion must a designer strive in order to maximize the immersion and suspension of disbelief".[3] In order to make the experience as immersive and interactive as possible, the Oculus Rift head mounted display (HMD) was used with the Leap Motion infrared hand tracking system to allow users to intuitively interact with the environment and virtual objects. Virtual environments notably create a sense of absence from the physical world; the occlusion of the physical world, by the headset, removes distractions in the user's physical environment. This phenomenon of absence provides a sort of blinders in the virtual world. The immersion afforded by the immersive virtual library also allows readers to disengage from their physical location, which may also serve to reduce distractions and interruptions.

The Oculus Rift is a consumer available Virtual Reality Head Mounted display that affords high fidelity and head tracking of a user. The IVL is rendered in the Oculus Rift HMD and users see only the environment and virtual objects presented in the HMD. All of the development for the Immersive Virtual Library was completed in the Unity engine. In order for users to have intuitive natural interaction with the books and the environment, hand gestures were employed to allow users to select books from the shelves and turn pages. This was all done through Leap Motion which tracks hand and finger movements and gestures that are then used to interact with objects within the virtual space. The Leap

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1   For more information, see: CSIKSZENTMIHALYI, M.: Flow: The Joy of Reading. In CSIKSZENTMIHALYI, M. (ed.): *Applications of Flow in Human Development and Education*. Dordrecht : Springer, 2014, p. 227-237.
2   STROUBE., B.: Literary freedom: Project Gutenberg. In *XRDS: Crossroads, The ACM Magazine for Students*, 2003, Vol. 10, No. 1, p. 3.
3   See also: DEDE, C.: Immersive Interfaces for Engagement and Learning. In *Science*, 2009, Vol. 323, No. 5910, p. 66-69.

Motion sensor attached to the front of the Oculus Rift headset and tracked the user's hands in front of them; they can see their hands in game and make certain predefined gestures. The virtual library provides access to of a large number of texts through Project Gutenberg to users who might otherwise not have access both in places such as private homes, public libraries, and schools. The search functionality allows the user to query the database, narrow book selections available in the digitally rendered library by a variety of means: meta-data (e.g. author, genre, and keyword). Digital Library shelves are generated upon completion of each search, so the virtual library allows users to browse library shelves of books in and related to their search.

Our team applied the *Octalysis gamification theory*[4] to gamify the experience of the IVL (Immersive Virtual Library). The elements of personalization by choosing the library environment are game-like elements that can gamify by empowering the user and giving a sense of ownership. Users could choose the environment their library resembled. They could also choose the music playing in their virtual library. Further, the option to choosing one's representation by the representation of one's virtual hands was another element to further gamify and personalize the virtual library experience. Tracking the number of words, pages, and books read is a way to apply the gamification element of accomplishment. Finally, providing users with sense of connection and meaning with leaderboards and connection to historical figures who have read the same books may tap into the user's core drive for meaning. While the research team made iterative user centered development, during which we regularly tested the environment with different users, the next iteration of the project will be to increase the immersion, intuitiveness, and transparency of the system. The audio control of the environment is another design element which could improve user comfort, specifically, we intend to allow users to integrate their own music into the environment.

While the hardware is still rather expensive, the newest Oculus quest currently costs 299 USD, the cost can be balanced by the level of immersion and the fact that there is no charge for books in Project Gutenberg. The newer iteration of the Oculus Quest integrates hand tracking, which will make future iterations less expensive and more intuitive for the users. This capacity can benefit many user classes, ranging from travelling adults to homebound individuals to low income students and school systems with budget constraints. Immersive Virtual Libraries offers a unique opportunity in overcome the limitation of a lack of engaging library resources for students in some schools. This project may alleviate some of the burden placed on schools by creating a library resource for students by supplementing physical books and other resources. Future iterations of the IVL would include voice command to increase accessibility of the project. As the technology evolves and becomes more affordable, easily adaptable and transportable, we can begin to see these niche, personalized reading spaces begin to become more prevalent and even necessary as the world becomes more mobile and interconnected.

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4   CHOU, Y. K.: *Octalysis: Complete gamification framework.* [online]. [2020-09-28]. Available at: <https://yukaichou.com/gamification-examples/octalysis-complete-gamification-framework/>.

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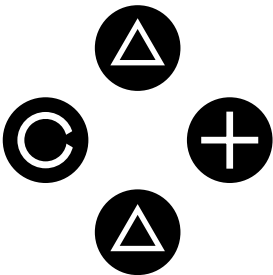
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