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VIDEO GAME AS A METAPHYSICAL CONSTANT OF THE ICT

Summary: Information and communications technology were primarily developed for needs of information transfer and communication between people and information systems. Nonetheless, the authors of this paper claim, in commercial sense that reason was quickly overcome by a new entertainment industry phenomenon – video games. Authors point out to consequence of that phenomenon, new relations between people, new rules, new world, new present, but new future as well. Authors especially stress that virtual reality technologies developed in a symbiotic relationship of video games and the ICT allow a switch of perception of reality to desired way, which opens problems of the ontological status of virtual objects.

Key words: Video game, the ICT, gamification, technology, VR, ontological being

Introduction

World we live in shall more and more be interpreted in plural. So, not „world”, but „worlds we live in”. Real, surreal, parallel, virtual, possible, impossible, and all the other worlds that are in constant collision and in constant struggle for the souls of the subjects that populate it. But soul is decreasingly important, what is now important are opinions of the subjects since soon the world will not be ruled by ones with the most money or largest army, but ones who master the technology of manufacturing and editing opinions of the faceless and alienated masses into which the people is rapidly turning. The most successful weapon for that struggle are the ICT and the video games as their most fluttering postulate.

Therefore we introduce to our story an interesting dialectical opposite which we will not explore in detail due to the constraints of the form, and that is the opposition of omnipresent gamification of the world and also omnipresent information and communications technologies. There hardly is anything more egotistical than the

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player playing a video game. He turns into his avatar during the play and necessarily becomes completely alone, but both of them exist together with a game due to pre-conditioned existence of the ICT.

Contemporary digital culture brings significant changes in all areas of life, and especially in ways we communicate. For decades scientists research changing connections of the modern man with digital culture while showing how mobile technologies, social networks and humanoid robotics change work, family and identity, as well as relations between generations, sexes, employers and employees. A modern theory describes technology as „an architect of our intimate sphere”, which creates disturbing relations between friends, lovers, parent and children and causes changes in understanding of privacy and community, intimacy and loneliness.

Over the last twenty years, the majority of social communication is done with minimal usage of human body. Millions of people socialize, confess, learn, play and fall in love most often using only their eyes and tips of their fingers in the process of receiving and sending information in technological world that seem unimaginable and social reality that seems endless. Communication between people is enormously massive, the amount of sent and received data is impressive, but also is impressively shallow and cognitively useless. All that communication is like the skies painted with airplane trails that disappear over the next several minutes. As expected, such situation fundamentally changed relations between people all across the social gamut, and furthermore questions moral understandings and postulates, while demanding new solutions for such fundamental elements of human life, like parenting, education, marriage etc.

Video games

Video game only recently became a cultural phenomenon, despite the fact it exists for almost 70 years, albeit in various forms¹. Its older, and in every aspect rudimental predecessors managed to achieve certain popularity and presence in daily life, but video game became a part of cultural needs only when it reached a certain level of technological development which in turn provided much-increased level of realism and immersiveness into the game, which in turn allowed constant improvement of video game playing experience. It was immensely important, since exactly in game playing experience lies the fact that separates video games from every other media, where interactivity is only one of the factors, and represents means to get the game playing experience.

As video games are products whose defining and studying has to be a topic of multiple scientific and art disciplines, theoretical approach has to be adequately and proportionally complex as well. In addition to everything else video game is, it is, *per se*, a game, then it is logical that in the absence of developed and scientifically verified video game theory, theoretical sources shall be found in general game the-

¹ Games on early and primitive computers, arcade coin-op games, console games, computer games, mobile games...

ory, or, since that is a young science as well, in works of theorists who, among other things, researched and wrote about the game. And as the game drew human attention and was a part of daily life since the dawn of civilization, so the first comments and thoughts about the game can be found in works of ancient Greek philosophers², great fathers of Theologiae Biblicae³ and Patristicae⁴, as well as medieval and renaissance Christian philosophers, that practically establish continuity of theoretical consideration of the game all the way to modern day and modern theorists.

Video game theory is a young science, so young that still there is no scientific consensus whether it is a separate science, and is called in expert public by various names, such as ludology⁵ or video game studies. As there still is no generally accepted methodology of video game theory, researchers use methods borrowed from other sciences, particularly from the film theory. Still, certain properties of video game make it too complex for valid scientific analysis by using methods from other sciences.

Video game has its undisputable origins in the game. It keeps nearly every mandatory element of game, but has some additional properties and elements that are particularly visible in the ontological being of video game and which make up primary criteria of video game and its being. Although this is not a paper treating video game as a philosophical category, we must mention *sine qua non* existential criteria of video game: space and time (1), material nature (2), beings of video game and their activities (3), validity (4) sense and purpose (5) and narrative (6).

Considering that video game is still constructed around the ontological being of the game, the theory characterizes the game as a term widely applied in social and humanist sciences. In philosophy it has metaphysical, ontological and epistemological meaning, but is related primarily to anthropology and aesthetics. Ever since Heraclites and Plato⁶ game marks a time in human life and coming-of-age, or an elaborate way for developing thought and coherence (λόγος). In aesthetical manner the game receives meaning of a plot that is pleasant and noble for itself, and for Friedrich Schiller⁷ it is a way of human communication with the beauty. On a je način čovekovog ophođenja sa lepotom. Artistic game as a creative production for Friedrich Nietzsche is an establishing of whole world as a game, which gets the meaning of „a symbol of the world” (Eugen Fink). It is not established, meaning it does not

² Heraclites, Plato, Aristotle....

³ Theological teaching of the Christian church based on the Bible. According to „Catholic Encyclopedia” it ended around 100 CE

⁴ Theological teaching of the Christian church based on the works of the Great Fathers - *Magnus Ecclesiae Patribus* (The Great Fathers of the Church) and particularly St. Augustine (Aurelius Augustinus Hipponensis, 354 - 430) whose work „De civitate Dei” (The City of God) was the basis of dogmatic Christianity for nearly a thousand years. It was succeeded by Theologia Scholastica

⁵ Game and gaming studies, especially of video games, does not research story and discourse but actions and events, <http://www.oxforddictionaries.com/definition/english/ludology>, retrieved on 24.03.2019

⁶ Plato (Πλάτων, 427 BCE – 347 BCE), an ancient philosopher from Athens. One of the most influential people in the history of Western civilization. A student of Socrates, founder of the Academy, first institution of its kind, where Aristotle studied.

⁷ Johan Friedrich Schiller (1759-1805)

have its rational cause, but it happens as a „convenience of being”⁸ (Martin Heidegger). In the Anglosaxon philosophy (J. Dewey) the game is seen as a freedom from having a purpose, while Karl Gross in it sees its illusory influence. Game theory in linguistic view of Ludwig Wittgenstein implies contingency and arbitrary nature of linguistic constitution of sense and meaning, while in epistemological sense it suggests that rational decision making does not rely on individual will, but it is dependable on influence of all the participants of the interaction⁹.

The sense and the goal of video game, seen through the prism of phenomenon of the game is playing the game, meaning the video game itself, which is more present than with traditional game. Video game is more than a traditional game and more than any other form of playing and it is a purpose and a goal in itself. The exaltation of the video game players and their alienation from the real world and any reality can be compared only to play of a child that has just formed a consciousness¹⁰. For video game players nothing else exists, nor is any other goal important. Not even a victory in games categorized as *agon*, but unspeakable pleasure of spending time in an alternative virtual world and activities within it, meaning the pleasure of playing.

Information and communications technologies (ICT)

The ICT is a broad topic whose concepts are being developed on a daily basis. The concept includes all the products that will store, download, manipulate, transfer or receive information via electronic devices in digital form (personal computers, digital television, e-mail, robotics, etc). A hierarchy of the ICT is established, where all levels of hierarchy „contain certain degree of togetherness in the fact that they are technologically related to ease distribution of information and various forms of electronically mediated communications¹¹”. Theoretical differences between interpersonal communications technologies and mass-communications technologies are identified by philosopher Piyush Mathur¹². The framework of skill for the information age is one of the many models for describing and management of competences for the ICT professionals in the 21st century.

Information technologies (IT) are process that uses a group of methods and means to gather, register, transfer, accumulate and process information based on software and hardware dedicated to solve managerial tasks. The basic goal of automated technology is to get information of new quality by processing primary information, in order to develop optimal managerial decisions. That is achieved by

⁸ Heidegger, Martin: *Vom Wesen der Wahrheit*, Frankfurt am Main, 1986, p. 29.

⁹ Croatian Encyclopaedia, <http://www.enciklopedija.hr/Natuknica.aspx?ID=26978> retrieved 23.02. 2019.

¹⁰ „a man becomes closest to himself when he reaches such seriousness as a child has while it plays”, Heraclites

¹¹ Zuppo, Colrain M. „Defining ICT in a Boundaryless World: The Development of a Working Hierarchy”. *International Journal of Managing Information Technology (IJMIT)*. p. 19

¹² Piyush Mathur, *Technological Forms and Ecological Communication: A Theoretical Heuristic*, Lexington Books, 2017

integration of information, securing its relevancy and consistency, by using modern technical means for introduction and functioning of qualitatively new forms of information support to managerial body.

The information technology combats significant increase of amount of processed information and shortens the processing time. The IT is the most important component of process of using information resources in management. Automatic information systems for information technology is basic surrounding whose elements are means and methods of data conversion. The IT is a process consisting of clearly regulated rules for doing work on information that circles inside the information system and depends on many factors that are sorted by contemporary criteria of classification.

The ICT are both scientific discipline and a practice that first occurred in late 20th century with transition from industrial to information era. With constant development of new technologies its use is rapidly developing and spreading. It has enormous influence on all aspects of human society. It is difficult to give a true definition what the information technology is, but we can say that the IT encompass all forms of technology used for creation, storage and exchange of information in various forms (business data, speech, sound, pictures, multimedia etc.)¹³

Information technology is defined by American Association for Information Science and Technology¹⁴ as „studying, design, development, implementation and support to computer information systems, software apps and hardware”. Information technology uses computers and their software for secure conversion, storage, protection, processing, transmission and search of information.

The term ICT is also used to refer to convergence of audiovisual and telephone networks with computer networks with a cable or a system of connections. There are large economical stimulations (large saving of expenditures due to elimination of the telephone network) for connection of telephone network to the system of computer network by using a single system of cables, signal distribution and management.

The ICT and the change of ontological status of video games

The relevance of studying of virtual worlds of video games is due to fact that in relation to development of the ICT, the relation between the real and the virtual is greatly actualized¹⁵. Today, virtual reality technologies (Oculus Rift, PlayStation VR, HTC Vive, Samsung Gear VR) enable the change of perception of reality to a designed reality, which opens a problem of ontological status of virtual objects. This trend is bolstered by understanding of reality within post-modernist philosophy: polyontic reality is recognized, which is a possibility of existence of plurality of

¹³ Mitić, Mirjana, <http://miticmirjana.weebly.com/104810501058-10901077109310851086108310861075108011121077.html>, retrieved 22.11.2018

¹⁴ Association for Information Science and Technology (ASIS&T) www.asist.org

¹⁵ Галанина Е.В., Акчелов Е.О. Виртуальный мир видеоигры: культурфилософский анализ // Философская мысль. — 2016. - № 7. - С.97-111.

equal world with their own attributes of truth. The modern man communicates not only with objective reality, but with a large number of symbollic and virtual constructions as well that are already present in the sociocultural space. Virtual worlds are nothing less significant to a modern man than the real objects. There is a virtualization of society and culture, and reality is substituted by its „information doppelganger” of the world where the subject exists¹⁶. The key attribute of the modern culture is construction and immersion of a man into various kinds of virtual, mythological worlds. A vivid example of this immersion are virtual worlds of video games created by using the ICT. Video games now are a significant phenomenon of the modern culture and have important influence on mass consciousness. Video games create numerous worlds with their own laws of time and space, virtual objects and characters, values and social norms. Video games construct world where the boundary between the real and imagined is sometimes erased. Elements of space of the game are moved into the real world, and existence and communication in the virtual world often supplants the importance of real life phenomena and events. The question of defining boundaries between the virtual and the real, the ontology of virtual worlds is particularly relevant in situations when video games become a research topic due to its enormous popularity. According to a research portal statista.com, a number of video game players in the world will amount to nearly 2,5 billion in 2019. Video game science is a new interdisciplinary field of research crossing the methods of philosophy and culture studies (general game theory by Huizinga and Callois), linguistics (understanding video games as narratives), social sciences (theory of sexes, dependence on video games, economics of video games), and on the other side, applied mathematics and information science (programming, artificial intelligence) and others. Video game studies originated in the USA during the 1980s as a part of media studies. Research of video games in Europe begun in 1990s in Denmark, opening a new branch of scientific work called game studies. The first research and educational center was opened in Denmark, Video Game Research Center, while in 2001 the first specialised scientific magazine called Game Studies began with work. With development of video game industry and by understanding of importance of this phenomenon for modern society, research labs for studying video games are opened around the world, in Canada, the USA, Finland, Poland etc.

In mid 2000s an international organization was formed, called Digital Games Research Association, which is an association of scientists and professionals from video game industry that are involved in video game studies. Well-known researchers of video games are J. Bogost, J. McGonigal, E. Aarset, G. Frasca, M. Eskelinen, J. Juul, M.-L. Rian.

Video games are studied in Russia at Research laboratory for computer games at Research university of Faculty of Medicine in St. Petersburg, Video game research center at Faculty of philosophy of Moscow State University, Innovative research laboratory of virtual space and ontology of virtual space, as well as individual researchers.

The scientific problem is in a fact that the modern man is confronted with increasing number and diversification of virtual worlds constructed by video games,

¹⁶ Ibid

but as such there is no understanding of the essence of these world and their influence on society and culture. Virtual world of video game did not become a separate topic of cultural and philosophical studies, but existing methods borrowed from other sciences, as well as individual work of video game theorists are used to formulate a framework for such studies.

Specifics of video games in contrast to other segments of the ICT

This is a good moment to point to one of the crucial differences of video games from other segments of the ICT – in video games, strength is in numbers, whether of members and diversification of creative teams, whether computer units where the product is created, as it is very difficult to create a competitive product without a large team and expensive hardware¹⁷. Development of wireless devices and their growth somewhat diminished these requests and allowed smaller companies to make competitive products as performances of handheld devices are significantly lower than computers and gaming consoles, so the expectations of the audience were lower, compared to expectations from computer and console games¹⁸. Simple games distributed over social networks opened a new branch of video game industry which grows immensely and has significant participation in total revenues of the industry¹⁹. The important characteristic of these games is that they are free in their basic version, with possibility or even suggestion to pay for premium content, which varies from game to game. Spreading of video games over social networks brought a significant increase in total number of gamers, by creating appealing product which by its initial simplicity had strong appeal on previous non-players. Naturally, we should not overlook the fact that the new players generally keep only to games on social networks, without desire to try and play some much more complicated game, even when it means it is only a more massive version of the games they play on social networks.

Availability and possibility to play whenever you want and as long as you want is another specific attribute of video game. Although the majority of video games are still played on computers and consoles, development of smartphones and other powerful handheld devices with complex operating systems allowed people to carry an information system in his pocket, so good that the large video game publishers port their games to Android or iOS, despite being less sophisticated and less powerful than handheld gaming consoles, like Nintendo 3DS²⁰. This segment of the

¹⁷ Filipović, Aleksandar, „Video igre kao najozbiljniji biznis kreativne industrije na početku 21. veka”, Megatrend revija / Megatrend review, Vol. 10, No 2, 2013, ISSN 1820-3159, UDK / UDC 3, UDK 338.46:004.42; 004.42:794, pp. 177-192.

¹⁸ For instance, PES 2013, a soccer simulation game, requires a 2,6Ghz Core2Duo processor, advanced graphics and large amount of RAM memory, while the same game, ported to handheld devices runs a processor of less than 1 GHz frequency, which means that handheld games are adapted to the size of a device, while requirements are only in operating system version installed on a device

¹⁹ During 2010 mobile gaming sector grew 15%, and it was estimated that the segment will grow 20% annually, www.gartner.com, retrieved 23.02.2019

²⁰ Nintendo 3DS is a portable video gaming system of the eight generation. Such gaming systems gained worldwide popularity with Nintendo's Game Boy in 1990s. They use physical media to run

video game industry continued to grow, and today some 500 games are uploaded to Apple's App Store daily²¹.

Still, the basic specificity of video game industry, which is simultaneously a limiting factor and an instrument of progress, is its unconditional connection with computer hardware industry. Whether the case is about personal computers or gaming consoles, it is guaranteed that every new generation of hardware will bring better video games, as the basic difference of video game from all the other products of creative industries is its interactivity, which leads to identification and immersion which is one of the goals of escapism, while the interactivity is amplified by graphic realism, size of the game world, possibility of various interaction and a number of interactive objects in the game world which is pre-conditioned by capability of given hardware configuration to process such amount of information per unit of time and allow uninterrupted playing.

In the moment when majority of global media are stagnating or dropping in business results, the video game industry is marked by its growth. In 1970s, the video game industry was worth only a few billion of dollars annually, but it grown uninterrupted, so in the 1990s only from software sales (video games), while excluding sales of machines necessary to activate the software, the industry crossed 10 billion USD margin. Only a few years later, in early 2000s, total revenue of the industry crossed 20 billion USD per annum. And when additional revenue from selling online subscriptions is added to revenue earned from selling software units on a medium, the number for year 2008 was north of 40 billion USD²². On a specialized statistics website²³ it was published that total revenue of video game industry came close to 70 billion USD in 2012, with projections that in this year²⁴ the total revenue will be doubled. A report by a company for video games and entertainment industry research DFC Intelligence estimates that the global video game marketplace will grow to 82 billion USD in 2017, and more than 150 billion USD in 2020, and the largest growth is expected in sector of video games for handheld devices²⁵.

All these facts allow us to say that the video games are the most valuable entertainment medium in the world, surpassing the sales of films on BluRay and DVD discs, music, and total cinema box office revenues. For comparison purposes, box offices in the USA earned 10,71 billion USD in revenue in 2012, with 1,37 billion of tickets sold²⁶. With advent of content streaming, the film industry increasingly relies of gigantic blockbusters to generate large incomes, but all of that does not mask the fact that with great variety of entertainment choices film is losing its dominance to video games.

games and they are much more advanced compared to other handheld devices whose primary purpose is not gaming (phones, tablets, etc.)

²¹ http://www.gamasutra.com/view/news/267645/Over_500_games_now_submitted_to_iOS_App_Store_every_day.php, retrieved 24.03.2019

²² Chatfield, Tom: *Fun Inc: Why the Games Are the 21st Century's Most Serious Business*, Virgin Books, London 2010, p. 27

²³ <http://www.grabstats.com/statmain.aspx?StatID=430>, retrieved 23.02.2019.

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²⁵ <http://finance.yahoo.com/news/video-game-industry-set-growth-122000072.html>, retrieved 23.02.2019.

²⁶ <http://www.the-numbers.com/market/>, retrieved 23.02.2019.

What suits video games much more than other products of creative industries is that they are, *per se*, already optimally aligned with the digital era. Many cultural movements and paradigms had certain forms of cultural production at their epicenter, so these forms in a way embodied the most important characteristics of these movements and paradigms. So the film, but not in its totality but in its more avant-garde forms, like *Man with the Movie Camera*²⁷ by Dziga Vertov (*Дзига Вертов*), has materialized modernism, while television stood as an important foundation of post-modernist culture, allowing its consumers to see fragmented infinity of various cultural discourses by changing channels. It is similar with the video games and the coming cultural model, digimodernism. Attention to the fact that video games pre-date digimodernism shall be ignored, as the same situation was with film and modernism and television and post-modernism²⁸.

Conclusion

Traditional creative industries base majority of their revenue on sales of physical products at points of sale, whether the case is about books, newspapers, magazines, music, film, theater or television, and accelerated migration of consumers to digital formats brings significant decrease in their profitability. There is an unwritten rule in business practice – product price depends on distribution price, and when the means of distribution are the Internet – the cost is near zero. Video games are once again fantastically suited to the new dominant distribution method. Even when we include the problem of piracy, video game industry has less damage because they are harder to pirate. Nobody will watch a pirated copy of a film if it is missing some parts, so no one would play such video games, that are far more complex when it comes to copy protection, content and elements it is consisting of. Naturally, there are pirate copies of nearly all titles, but generally such copies do not have identical functionality as the original. Pirate PC games do not have possibility of online playing, because when you connect a pirated copy of a game to the Internet, servers will immediately recognized a copy that is not genuine and will prevent further playing, with additional consequences that vary by case. It is even more difficult to pirate console games, and in order to play a pirated game on your console, you must adapt its software, which once again removes the online component, but also carries potential damage to the gaming system whose price is not low, while risking other repercussions, so all of that makes piracy problem in video games to have far smaller negative financial effect.

What is the reason of such galloping trend of domination of video games in revenues of entertainment industry? Part of the answer is in psychosocial properties of video game as a medium. Out of all products of creative industries, video games are probably most addictive, due to numerous deeply rooted desires and needs of humankind. Video game offers the consumer a chance to satisfy its desires for play-

²⁷ Dziga Vertov, „Человек с киноаппаратом”, silent experimental documentary film initially released in 1929 in USSR. With its experimental approach the film materialized basic ideas of modernism

²⁸ Kirby, Alan: *Digimodernism*, Continuum, New York, 2009, p. 167

ing, winning, competition, escapism, control, and many others, as well as the initial simplicity that slowly introduces a player to more and more complex world. A good example is video game Tetris, one of the most popular games of all time. The secret of its success is in part in combination of high sophistication and immaculate simplicity. You can learn how to play Tetris in matter of seconds, but the challenge this game poses is unattainable. In mathematical sense, Tetris is a NP-Hard problem²⁹, which means that playing Tetris is mathematically endless endeavor, where even the most successful players are doomed to inevitably lose. Here, in its most simple form lies one of the fundamental tenets of video games – they can be easy to understand, but they cannot be easy to master or to complete.³⁰ Therefore the most addictive games are those without end, like massive multiplayer online games, or social network games such as Farmville. These games have no ending, by playing one gathers experience and resources, but does not come closer to the end, and the consumers keep returning to play.

Drastically increased availability of video games and availability of devices on which the games are played is another crucial reason of total growth of video game industry. Phones and tablets additionally amplify an important characteristic of video games, the fact that you can play them at any moment and as long as you want. Naturally, presence of the devices brought the constant growth of selection of games for handheld devices in online stores, where for very small amount of money, or no money at all, you can download a game you want and to enjoy it several seconds later without any boundary except for those embedded in the game.

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²⁹ non-deterministic polynomial-time hard problem, a part of a class of problems in computational complexity theory

³⁰ Chatfield, Tom: *Fun Inc: Why the Games Are the 21st Century's Most Serious Business*, Virgin Books, London 2010, p. 42

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ВИДЕО ИГРА КАО МЕТАФИЗИЧКА КОНСТАНТА ИНФОРМАЦИОНО - КОМУНИКАЦИОНИХ ТЕХНОЛОГИЈА

Сажетак: Информационо комуникационе технологије су се примарно развиле за потребе преноса информација и за комуницирање међу људима. Међутим, тврде аутори овог рада, у комерцијалном смислу, потпуно преузео нови феномен индустрије забаве - видео игре. Аутори нарочито указују на последицу тог феномена, на нове односе међу људима, нова правила, нови свет, нову садашњост, али и нову будућност планете за коју не знамо каква ће да буде, утопијска или дистопијска? Аутори посебно указују да технологије виртуелне стварности које се развијају у симбиози видео игара и ИКТ омогућују божанску или дијаболичку замену перцепције стварности на жељени начин, што отвара проблеме онтолошког статуса виртуелних објеката.

Кључне речи: Видео игра, ИКТ, гејмификација, технологија, ВР, онтолошко биће