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Electronic games of mass interaction and management of virtual characters: Current situation and prospects

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Abstract

The presentation and analysis of the Electronic Games of Mass Interaction and Management of Virtual Characters (Massively Multiplayer Online Role-playing Games, MMORPG), that creates virtual or synthetic worlds, are the main objectives of this study. Also, the paper assesses their contribution to the modern and world socio-economic environment. The paper argues that the importance of the virtual or synthetic worlds is significant and this is proved by the fact that millions of people "live" in these worlds and that situations, which occur in the synthetic worlds can and have impact on the outer real world and conversely. One of the most important conclusions of the study is that the MMORPG constitute a valuable tool not only for the enterprises that create and manage these games, but even more for economists and sociologists. They comprise a natural laboratory of experimentation and interaction. Also, they constitute an area where the study of any economic and social theory becomes possible before its application, with the minimum cost.

Keywords: Electronic Games, Synthetic world, IT social impact.

Introduction

During the last years a remarkable and simultaneously an extremely interesting phenomenon is observed: the phenomenon of Massively Multiplayer Online -playing Games (MMORPG). These constitute electronic (digital) spaces where thousands of users interact daily and on a permanent basis within the frames of virtual characters (Allen, 2004; Balkin, 2004). These spaces even if digitally structured, have important resemblances with the real cities, include elements from the human everyday routine, and it is sure that certain numbers, which are produced and created in these spaces will astound us (Beomsoo, et al. 2001). More precisely: the users of these electronic spaces (or games) wander using a virtual - digital - electronic character. The characters differ from each other. Some are faster, better, stronger, good looking, while some others probably have intellectual and other special capabilities. Furthermore, the most important element, as far as economics are concerned, lies in the fact that these characters are sold and bought via the Net having as a main market and place of meeting the electronic shop eBay (category 1654).

For example, a virtual character Jedi, who is based on the imaginary world of Star Wars, costs in the market of virtual characters more than 2000 dollars. An average and formal user globally, dedicates 20-30 hours per week in order to be found via his character in these digital worlds. According to a research of Castronova, Professor of Telecommunications at the University of Indiana in the United States, 20% of users claim that these imaginary digital worlds are their real places of residence and that the earth is simply a place for their biological needs satisfaction (Castronova, 2001; 2002 and 2003). These synthetic worlds are related to the Law of Moore (doubling every two years) and the number of users today exceeds by far the ten millions.

Each synthetic world has its own currency, so as the economic transactions among the players to be ensured. These pecuniary units have begun to rival the American dollar currency, and in many cases their value trades even at higher levels than those of the Japanese Yen and the Korean Won. Also, the commercial value that is created from the purchasing and selling of imaginary currencies and other digital objects exceeds by far the thirty million dollars annually in the United States and the hundred millions globally. In Asia, users who lost digital objects and currencies either because of voids of safety in games servers or because of electronic burglaries (hacking) took legal action. In many cases, the "Police" made arrests, a lot of cases went to court and the prosecutors won and were compensated. In these digital worlds, there is an interaction without precedent.

The object of this study is the MMORPG that create virtual or synthetic worlds. Within the scope of this study, it was thought advisable to have a brief historical review of MMORPG throughout time. Further to the study, the present situation of MMORPG games as is presented. The evolution, but also the important development which has come in recent years is outlined and presented, as well as, the prospective, which is created for the future. Finally, the research of social and economic behavior of Greek MMORPG players tries to draw useful and essential conclusions about the MMORPG field within the boundaries of the Greek state and also about the economic and social behavior of Greek users.

The significance of the synthetic world

The Synthetic Worlds are digital spaces manufactured in order to exist in the computers and designed in order to entertain thousands of users in permanent and daily basis. Each user creates and actually acquires a synthetic - digital body drawn in a synthetic world. In these digital worlds, there is an interaction without precedent. People from all over the world meet, trade various products, develop economic and intrapersonal relationships, fall in love. They digitally meet, share the same digital space, and interchange products and conversations irrespective of being kilometers far away one from the other (Castronova, 2005; Berger, 2002).

The MMORPG are synthetic worlds of today. However, they actually existed for a lot of years, in different form and dimension. The initials RPG stands for Role Playing Games and refers to games of undertaking and creation of virtual character. The particular game is found in digital form in one or more servers, thus the letter O is added in front of the initials, and we have ORPG. Such a game with multiple players is a MORPG, where letter M corresponds to the word Multiplayer. In 1996, the industry of electronic games acquired the technological capability in to multiply the numbers of players, (that up to that time was usually from 8 to 16 users), to what was

considered then a big number of users (from 3000 to 4000 simultaneous users). In this way the letter M was also added, shaping the terminology to MMORPG. Thus, the term MMORPG, Massively Multiplayer Online Role-playing Game, has become the most common and widespread terminology when someone refers to the synthetic worlds (Knight, 2002; Thompson, 2004).

The RPG's rarely have winners and losers. This basic element is that radically differentiates the RPG from the rest board games, athletically perhaps even from the most games that exist today. As the cinema and the novels, the RPG charm and they fascinate the public, because they require and use the imagination and the creativity of the user. They are games that promote more the collaboration and the sociability than the competitiveness. One typical RPG links the players that participate in it in a common team. In the next unit there is a short recording of "generations of development" or better "movements of" RPGs.

Historical review

The development of MMORPG progressively meets with big blossoming and growth. According to Figure 1 that presents the development of games from 1992 until 2006, it is observed that up to year 2000, there is a hesitant and in a small scale growth of MMORPG. From 2001 a progressively augmentative course is observed, which is obviously supported so much on the rapid growth, which the Internet knew with the entry of the new millennium, and also on the fact that software companies (software houses) were established. The growth of these companies is based on the fact that in the particular market a tremendous growth and demand for software of such type existed and it continues to exist, and consequently in the particular market there was and there continues to be a big profit margin for those who enter (Castronova, 2005; Thompson, 2004).
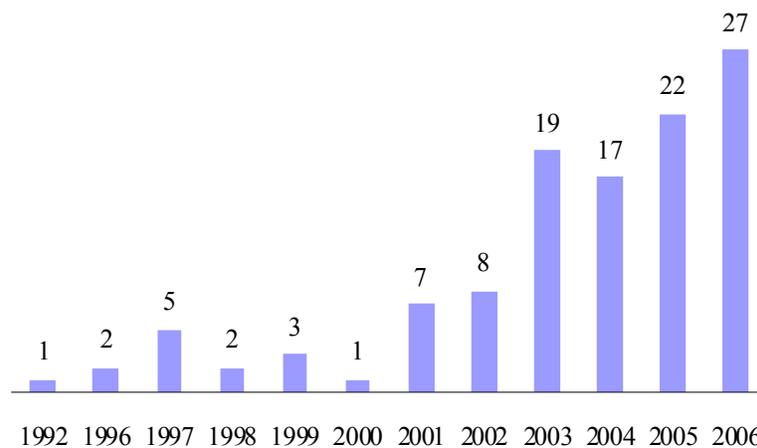

Figure 1. Development of production MMORPG

How did we reach the nowadays stage? In the historical development and course of RPGs nine (9) phases have been presented up to today. Many of the games that were created are not included in any one of them and also some of these games are partially included. The following Table presents these phases.

Table 1. The most basic movements in the history of RPG

Year	Title	RPGs
1975 – 1980	Explorational Wargames	D&D, Melle
1978 – 1988	Literary Simplicity	Call of Cthulhu, Pendragon
1980 – 1988	Rules-Heavy Worlds	RoleMaster, HârnMaster
1984 – 1993	Comical Rules-Lite	Toon, Marvel Superheroes
1986 – today	Universal Problem-Solving	GURPS and its imitators.
1987 – today	Fast Cinematic Action	Star Wars, Feng Shui
1991 – today	Dark Storytelling	Vampire: The Masquerade
1991 – today	Diceless Fantasy	Amber Diceless, Everway
2000 – today	Crunchy Challenge	D&D3 / D20, Rune

Social and economic behavior research

In this section the results of a research of social and economic interest, which was focused on the Greek users of MMORPG are presented. It is a quantitative research and it is based on a questionnaire that includes 35 questions (32 closed and 3 open). The objective of this quantitative study is the investigation of the behavior of Greek MMORPG players, both socially and economically. The questionnaire had electronic form and was entertained for thirty-five (35) days, from September 2006 to October of the same year, in the web page of postgraduate programs of the Technological Educational Institute of West Macedonia (grad.teikoz.gr/MMORPG).

Facts

During the 35 days the on-line research was held, 737 questionnaires were filled in. Seventeen (17) of them were excluded, because of double registration. Therefore, the number of those participating in the research was 720. From the 720 individuals who filled in the questionnaire 61 have been dealt neither with RPG, nor with MMORPG. Also 45 of the participators declared that they have dealt with RPG, but not however with MMORPG. If we add these 45 and the previous 61, we reach to the conclusion that 106 of the respondents have never dealt with MMORPG. Taking into consideration however, that 106 of the participants have never dealt with MMORPG, we are led to know that the real sample of research is 614 individuals; A sample really sufficient to portray the behavior and the main characteristics of Greek MMORPG community.

Subsequently, a check was made, where it was realized that certain questionnaires had contradictory answers. Then the reasons why 19 questionnaires were excluded from the further process of analysis are presented. Consequently the final sample of research touched upon the 595 questionnaires. Apart from the simple presentation of results in many cases it was thought advisable to create questions of combinational character, from which the drawing of multiple choice questions conclusions was made.

Results

In the study, 595 individuals took part at the final stage of the analysis. Initially, the demographic characteristics of the sample of this research are presented. The biggest rate 94,3% of people asked is of male gender, that is 561 respondents out of 595 are men. Hardly 34 women participated in the research, percentage 5,7% (the equivalence is a woman for every seventeen men). The biggest percentage (41.6%) of the respondents belongs to the age group from 19 to 24 years. As regards the educational status of these, the majority of respondents (85 %) are at least Lyceum graduates. They belong to the university and school youth in a big percentage (55%), or they work in a certain productive unit as free-lancers (40.5%), while a small percentage of 4% are unemployed. In their overwhelming majority (93.4%) they are single men. Regarding the respondents' place of residence, there was an effort to collect answers not only from all the geographic apartments of Greece, but much more to gather a satisfactory number of questionnaires from each geographic apartment, respecting the demographic proportions. Following, the total results that concern the place of residence of people asked are presented in Table 2.

Table 2. Demographic characteristics (place of residence)

	Number of Respondents	Percentage
East Macedonia-Thrace	45	7.56%
Attiki	297	49.91%
West Macedonia	23	3.86%
Epirus	10	1.68%
Thessaly	21	3.52%
Central Macedonia	70	11.76%
Crete	25	4.20%
Aegean islands	30	5.04%
Ionian islands	7	1.17%
Peloponnesus	34	5.71%
Sterea Ellada - Evia	33	5.54%
Total	595	100%

The next questions of the questionnaire examine the dealing or not of the respondents with the board form of electronic games (RPG). From the results of the research it appears that a high percentage of the respondents (65.88%) deal with the RPG for more than 2 years (> 40%) and continue their pastime with the particular games (> 60%). On the contrary, many players in percentage of 39%, even if at some time in the past they had been activated in the world of RPG, they have stopped henceforth.

Synoptically in the 595 respondents, the following useful conclusions are the following:

- 34% of Greek players have dealt only with MMORPG.
- 66% of Greek players have dealt with MMORPG, as well as, with RPG.
- 4% of Greek players have dealt at some time so much with the MMORPG, as well as, with the RPG, but continue their pastime/ dealing only with the RPG.
- 23% of Greek players have dealt at some time so much with the MMORPG, as well, with the RPG, but continue their dealing only with the MMORPG.
- 36% of Greek players have dealt at some time so much with the MMORPG, as well as, with the RPG, and continue their dealing with the two forms of games (MMORPG and RPG).
- 2.5% of Greek players have dealt at some time so much with the MMORPG, as well as, with the RPG, but henceforth they do not continue their dealing with no one from the two forms of games (MMORPG and RPG).

The next group of questions concerns the main subject of research that is the MMORPG. More specifically, one out of five Greek players deals with the particular games less than 6 months. This fact shows on its own the dynamic that these games have developed and the high rate of growth that they mark. One out of three players deals with the MMORPG, for a time period bigger than a year and at the same time smaller than two years. The percentage of players that is involved for a time period bigger than four years exceeds the 11.5% of the sample, a quite satisfactory percentage, so as to consider Greek users well familiarized with the international reality of MMORPG. The average time period of being involved in the MMORPG is roughly one year and five months. The next question determines the percentage of individuals that continue to deal with the MMORPG. The fact that certain players after trying a game do not deal with it again is worth mentioned. In general terms however, the MMORPG have faithful players - customers. Fifty two from five hundred ninety five players of MMORPG do not deal any more with the particular games. Consequently, the percentage of players that has abandoned the MMORPG touches upon the 9% after a time period of roughly 2 years of dealing with them. In the next question of the questionnaire it was asked by the players to answer how many hours they dedicate to any MMORPG on a typical day. At the next table the results of the analysis are presented.

Table 3. Dealing with MMORPG on a typical day and night

	Respondents	Percentage %
1 hour	43	7.20%
2 hours	72	12.10%
3 hours	99	16.63%
4 hours	86	14.45%
5 hours	92	15.46%
6 hours	66	11.09%
7 hours	31	5.21%
8 hours	38	6.38%
9 hours	9	1.51%
More than 10 hours	59	9.91%

The highest percentages are found at the three, four and five hours of pastime (16.63%, 14.45% and 15.46% respectively). Based upon the table above, we can draw the following useful conclusions:

- One (1) out of five (5) Greek MMORPG players deal on a typical day and night, up to two hours maximum
- Almost (1) one out of two (2) Greek players dedicate to the MMORPG from three up to five hours, a percentage of 46.54 %.
- Roughly one (1) out of ten (10) dedicates more than 10 hours per day.
- Finally, two (2) out of ten (10) dedicate more than 7 hours per day in a percentage of 23%.

Also, it was asked by respondents to answer how many days per week they dedicate to any MMORPG. The results showed that 45.37% of Greek MMORPG players dedicate all days of the week to their favourite electronic games. The precedent fact appears to be reasonable if someone considers that in order for the characters and the capabilities of a virtual player to be developed, hundreds of hours are required. The average playing time is 6.5 days.

In the next question, respondents are invited to answer which is the main location (place) where they have access to these online games. The majority of players (86.2 %) report that the main point of access to the world of MMORPG is the house while the second most important point are the internet cafes. Then, they are asked if at a certain point they sold or purchased digital objects or characters using real pecuniary units. It is clarified that the total of the process concerns buying and purchasing via the Internet. The 15.6% of the respondents (93 respondents) sold digital objects via Internet, using real pecuniary units. On the other hand, roughly 4 out of 5 respondents (percentage 84.4 %), have not sold anything at any time. The biggest percentage (56%) of the respondents made their last sale via web page while the 29% of the respondents made a sale via personal contact. Also, it was asked by them to report which is the biggest money profit that they had ever had by selling virtual objects; actually, which is the biggest sum of money that they had ever collected from sales of virtual objects or characters. The average money profit from the sale of virtual objects fluctuates to 100 Euros. On the other hand, the average of money which somebody gains from the sale of digital characters touches upon the 370.74 Euros.

Conversely, the 23% of the respondents have made at some point a purchase of virtual characters, while the rest 77%, have not. In the next question, it is asked by the respondents to determine the maximum sum of money, which they could use aiming at a purchase of virtual objects or character. The results showed that more than half the MMORPG players (54.5%) are not willing to pay any sum of money for the acquisition of virtual objects or MMORPG characters. One out of ten Greek MMORPG players is willing to spare from one to twenty five Euros maximum for the acquisition of any digital object. Something similar applies to the following money sum categories. A percentage of 12.5% and 10% would be willing to spare from 25 until 50 as well as from 50 to100 Euros respectively. While the sums of money are increased, it is logical that there is a reduction of the number of people who are willing to spare the corresponding sums. Therefore only the 4% of the respondents would afford to give from 100 to 150 Euros for any digital purchase. The percentage is decreased to 3.5%, as the economic category is increased to 150 to 200 Euros.

In the next group of questions, respondents are called to answer for a series of statements, whether they agree or disagree with the content of each one. The next table presents the statements, as well as, the respondents' percentages.

Table 4. Evaluation of propositions

	Totally Disagree	Disagree	Neither	Agree	Totally Agree
I live out of the synthetic worlds of the games, but I usually travel through them	9.20%	5.40%	16.30%	46.20%	22.90%
I live in the synthetic worlds of the games but I usually travel out of them	46.70%	23.20%	17.20%	11.40%	1.50%
I would like to dedicate more time to the synthetic worlds of the games than that I already do	32.80%	25.70%	22.50%	12.80%	6.20%
If there was the possibility to gain more money by selling objects from the synthetic worlds of the games, I would quit my job or my school	66.90%	13.00%	8.40%	6.40%	5.30%
If I could, I would prefer to dedicate all of my time to the synthetic worlds of the games	66.50%	13.80%	11.30%	3.70%	4.70%

At a first glance, someone can relatively easily conclude that the Greek community of MMORPG, even if they have enough years of presence, abundance of activities and big love for the field of MMORPG, they do not appear to be exceptional addicted and dependent on the games of undertaking and management of virtual characters. Characteristic is the fact that roughly 7 out of 10 Greek MMORPG players (69.1%) tend to agree with the fact that they live outside of the synthetic worlds of games, and often travel in them. Even if they dedicate enough hours daily, they identify the virtual reality that is created in the game with the real human-proportional dimension.

The corresponding percentage, at a similar research by Professor Edward Castronova (Norrath Economic Survey 2001) in the United States, Canada and South-Western Europe, touched upon the 84%. Still roughly 7 out of 10 Greek MMORPG players (69.9%) tend to disagree with the fact that they live in the synthetic worlds of games, and often travel outside of them. The corresponding percentage, at the research of Castronova was 74%. Nevertheless, the percentage of individuals who tend to disagree with the fact that they live outside of the synthetic worlds of games, and often travel in them, is relatively high and worrying. The particular percentage ranges to 14.6 % while the corresponding percentage, at the research of Castronova was 12%. Six out of ten Greek MMORPG players (58.5%) tend to disagree with the proposition that they would wish to dedicate more time in the synthetic worlds of games than they already do. On the other hand, two out of ten (19%) agree that they would want to dedicate more time than that they already do (34% and 58% respectively in Castranova survey).

Approximately 8 out of 10 Greek MMORPG players (79.9%) tend to disagree with the proposition that if there was the possibility to gain more money by selling objects from the synthetic worlds of the games, they would abandon their work or their school. On the contrary 11.7% Greek MMORPG players tend to claim the opposite. This means that one out of ten Greek MMORPG players (11.7%), would abandon their work or school, if they gained more money by selling virtual synthetic objects and characters in the internet. Based on the above research, Norrath Economic Survey 2001, the corresponding percentages do not range at the same levels. The 57% tend to disagree, whereas the 39% tend to agree. Almost 8 out of 10 Greek MMORPG players (80.3%) tend to disagree with the proposition that If they could, they would prefer to dedicate all of their time to the synthetic worlds of the games (the corresponding percentage at the Norrath Economic Survey 2001 research was 74%). On the other hand, hardly 8.4% respondents tend to agree with the previous proposition (the corresponding percentage at the Norrath Economic Survey 2001 research was 22%).

Conclusions

Synthetic Worlds are considered by the majority of people simple electronic and entertaining games. Another however, much smaller part of people sees in these spaces something much more, something much more enchanting, a world full occasions and prospects. The truth in any case is that during the last years the borderline between the digital electronic games and the real life has begun to blur. This fact is capable on its own to change the nature and the form of everyday routine of both the current and next generations. They are not games which simply take place in the cyberspace in them they include elements of conflicts, governing, trade, even sentiments. The importance of the virtual or synthetic worlds is undeniably enormous, and this is proved by the fact that situations which take place in the synthetic worlds can and have effects on the exterior real world (Epiteidios, 2003). If the effects of Internet are proved as powerful for the particular economy as they have also been proved for other internet innovations, the synthetic worlds will shortly transform into the main source of income for the online activities. The synthetic worlds emerge as a part of Electronic Commerce, which is actually profitable. The tendency towards the network way of life is also increased by the fact that a lot of people (more than 1 million) wish to "live" even only for one time in such imaginary world. Either it is pleasant or not, real life began to immigrate in the network for millions of people worldwide.

The question which rises is why so many people would prefer their existence in a synthetic world to a real one. Contrary to reality, virtual worlds promote the real equality of opportunities, as each one is born being at the same economic situation where the others were born or will be born. At the same time, they have the same initial influence. In synthetic worlds users select their capabilities, their sex, even the color of their skin. Those that cannot "run" in the real space, they can in synthetic. In real life the reputation of an individual follows him forever, whereas in virtual reality a user with a bad reputation is replaced whenever it is desired by one with a clean reputation. Unfortunately however, this equality of opportunities begins to be corroded in virtual reality as well. Somebody who is comfortably off can buy through auctions digital wealth and expensive equipment and can begin his course in the game acquiring what the others will acquire after many gaming hours.

Virtual worlds have been designed to magnetize the user. Their characteristics show how the ideal society is shaped in the mind of simple citizens. It is a proof that the ideal society for the simple citizens abstains considerably from the ideal society that was described by the Big Theorists. Virtual worlds provide a unique laboratory aiming at the research of human society and behavior. From 1948 the economist Edward Chamberlain had recognized that the biggest issue for the economists and sociologists is the lack of a laboratory, where they will try their theories in controlled conditions in order to see whether they are in fact applied. An important tool is thus provided through games of such a type, to those who are interested in the human behavior, to seek real people in controlled socio-economic conditions. Through these games, somebody can become what he wishes, irrespective of how much money he has, whether he studied or not or where he was born. One more, and perhaps more important, reason is that these virtual worlds are likely to shortly transform into one of the most important points of exchange of views and discussions, even comparable to telephones. Their acquiring of course such a dimension, they can cause tremendous changes to the organization of human society. Such a game can also constitute the future of electronic trade. This already appears by the efforts of the private Swedish company (MindArk), which uses virtual characters for electronic purchases creating in this way a world monopolistic network (Entropia Universe). The strategy which this company follows is the following: Creation of a free virtual world of a big scale, so millions of users can activate accounts. After this virtual society and its markets mature, real retail enterprises are given the right to create virtual shops (3D stores)in this synthetic space, aiming of course, at the promotion of their products. However, apart from the promotion of their products, the companies will sell objects inside the game using real pecuniary units, and they will respectively buy objects that the players wish to sell using again real pecuniary units. The commercial exploitation and management of such virtual worlds are impressive at a first glance.

It is also characteristic that Robert Shapiro (former trade consultant of Clinton) saw in the theory of Castronova the confirmation of liberal theory. For him, the fact that even though they all begin to be equal and others reach at the "maximum" 65th level and have omnipotent heroes and virtual castles full of gold whereas others remain simple blacksmiths during their whole game, confirm Adam Smith and the human need for success and wealth which hard work brings and which makes the government intervention almost non-existent, since it does not even exist in the game (Castronova, 2001; 2002 and 2003).

In the general application field, it is included the case of a company that put badly paid Mexicans in a sweatshop to play constantly, in order to sell its characters in auctions. The pioneer in the field of economic application of these virtual worlds, Castronova, pointed out that "*we, economists measure the value that people attribute to things. A virtual magic sword can be ideal in order to kill an Ork and is useless in the daily life, but also the value of a diamond isn't virtual?*"

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