

# PROTECTION OF VIDEO GAME MECHANICS THROUGH THE PATENTABILITY OF SOFTWARE

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## ABSTRACT

Video games have grown to become one of the most important industries in the world. They combine a wide range of creative, industrial and technological elements, so we can define video games as complex works that can embody multiple intellectual creations. Nevertheless, many professional have assumed that the copyright system is the only one that applies in the case of the legal protection of the systems through which the players interact with a game, referred to as “*video game mechanics*”. This position leaves aside other options that could offer their own benefits and even circumvent existing legal loopholes. This paper explores the possibility of the use of the patent law system, with its own limitations, in order to protect those video game mechanics.

*Keywords:* Video games, mechanics, patents, copyright, technical problem, idea-expression, computer-implemented inventions.

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PROTECCIÓN DE MECÁNICAS DE VIDEOJUEGOS  
MEDIANTE LA PATENTABILIDAD DEL SOFTWARE

RESUMEN

Los videojuegos constituyen una de las industrias más importantes del mundo. Actualmente, combinan una amplia gama de elementos creativos, industriales y tecnológicos por lo que se puede definir los videojuegos como creaciones complejas que logran incorporar múltiples creaciones del intelecto humano. Sin embargo, muchos profesionales han asumido que el sistema de derechos de autor es el único que se aplica en el caso de la protección legal de los sistemas a través de los cuales los jugadores interactúan con un juego, denominados como “mecánicas de videojuegos”. Esta posición deja de lado otras opciones que podrían ofrecer sus propios beneficios e incluso evitar las lagunas legales que existen en la actualidad. Este documento explora la posibilidad del uso del sistema de patentes, con sus propias limitaciones, para proteger dichas mecánicas de videojuegos.

*Palabras clave:* videojuegos, mecánicas, patentes, derecho de autor, problema técnico, idea-expresión, invenciones implementadas por computador.

INTRODUCTION

VIDEO GAMES, A CONSOLIDATED INDUSTRY

During the decade of the 1950s, video games were created using the technology of the Cold War<sup>1</sup>, as a mix of innovation and curiosity, driven by dreams of engineers, artists and entrepreneurs; all of whom were interested in creating a new form of entertainment. The main attraction of these games were the interactivity they provided, which meant that the decisions and actions of the player determined how the story was to unfold. Humankind is no longer a passive observer of media; instead, as a general rule in video games, consumers have become active participants of the history chosen. This innovation is still present in today's video games, turning them into the biggest revolution in the industry of human entertainment. As Greenspan established, “*Unlike the film industry, which has a*

<sup>1</sup> Video games were born in the late 50's. This new media was a child of the Space Race and the Cold War. The intimate relationship between the Cold War and video games can be seen with the different types of games that come out during the highs and lows of Soviet-American relations. (...) In 1962, a handful of the earliest programmers at MIT created one the first computer video game, Spacewar!. The team of Wayne Witanen, Alan Kotok, Dan Edwards, Peter Samson, J. Martin Graetz and Steve “Slug” Russell began working on Spacewar! After they gained access to a PDPX1, a brand new microcomputer.

DAVID HUSSEY. Cold War Kids: The Space Race, Cold War and Video Games. University of Waterloo, Faculty of Arts (2013) <https://thegaminghistorian.files.wordpress.com/2014/04/coldwar.pdf>. 1-2.

*hundred year old history from the late 1880s, the video game industry has perhaps become the fastest growing sector in the entertainment industry and has done so in a relatively short period of time*<sup>2</sup>.

In terms of numbers in 2018, statistics of the ESA (Entertainment Software Association) indicated that 64% of US households on average owned at least two gaming consoles. It also indicated that the average age of the players was 34 years (which means that video games are not only for children and adolescents) and that 45% of US gamers were women. Further, when polled, the majority of consumers indicated that investing money in a video game was much more profitable than investing in Blu-rays, DVDs, music, and even streaming services, bearing in mind that the consoles do provide access to these forms of entertainment<sup>3</sup>.

Reviewing its history, the technological progress of mankind quickly allowed for the move from video games arcades, with large booths, to high-capacity portable consoles and smartphones. This development was made in just over 70 years, which has signified an increasing number of users (i.e. gamers/players). Also, mechanisms of distribution have changed significantly over the years, with the onset of online and immediate sales through digital mechanisms outpacing physical sales since 2013<sup>4</sup>. In economic terms, looking at only in the United States, the sales associated with the video game industry have increased from \$6 billion in 2003 to \$29.1 billion in 2017<sup>5</sup>, garnering much higher profits than either the music or cinematographic industry.

The industry has also reached peaks in terms of technical quality. Graphics have evolved from a mobile bar of 8 bits hitting a ball in 1972, to ones that exceed 30 fps (frames per second) and greater than 1080 pixels, which exceed or matches the quality resolutions of some of the best films of recent years. For instance, *The Hobbit: The Desolation of Smaug*, directed by Peter Jackson, which had a quality of 48 fps<sup>6</sup>, this is lower than the edge games of 2015, which are expected to reach a stable 60 fps, in such video games as *Star Wars Battlefront*<sup>7</sup>.

For these reasons, it can be said with certainty that video games have grown to become one of the most important industries in the world today; commanding enormous investment and interest. This has made it imperative that video games receive certain protections from competitors, as well as pirates (i.e. Rockstar Stu-

2 DAVID GREENSPAN. Mastering the game Business and Legal Issues for Video Game Developers. Creative Industries No. 8. World Intellectual Property Organization. 2014. 13.

3 2018 Sales, demographic, and usage data essential facts about the computer and video game industry. The Entertainment Software Association. April 2018. [http://www.thesa.com/wp-content/uploads/2018/05/EF2018\\_FINAL.pdf](http://www.thesa.com/wp-content/uploads/2018/05/EF2018_FINAL.pdf)

4 The Entertainment Software Association, *supra*, 11.

5 The Entertainment Software Association, *supra*, 10.

6 New Line Productions, Inc., *The Hobbit: An Unexpected Journey* website. 2012. <http://www.thehobbit.com/hfr3d/faq.html>

7 IGN Entertainment Games, 'PS4 vs. Xbox One Native Resolutions and Framerates'. [http://www.ign.com/wikis/xbox-one/PS4\\_vs.\\_Xbox\\_One\\_Native\\_Resolutions\\_and\\_Framerates](http://www.ign.com/wikis/xbox-one/PS4_vs._Xbox_One_Native_Resolutions_and_Framerates)

dios invested more than \$250 million in the development of Grand Theft Auto V, and by August of 2015 they had already sold more than 54 million copies<sup>8</sup>).

In the specific case of IP and its relation to video games, the former is a “*vital element of video game development contracts, employment agreements, distribution, advertising and every license in the [video] game industry, because video games are made almost exclusively from IP: The game code, manual text, box art, title, game art, music, story, game world, middleware, trademarks and graphics are all IP.*”<sup>9</sup>

With this background in mind, the purpose of this paper will be to propose the application of one form of IP protection, specifically patents, in order to protect the software used in video games to obtain a stronger protection than that offered by copyright alone. This would be based on the technical effect of specific mechanics in the context of video games to which they are applied, in order to protect their originality and utility in a more comprehensive way.

#### MECHANICS: DEFINITION AND CHARACTERISTICS

In order to determine the concept of video game mechanics, it is crucial to first establish several concepts: As stated previously, video games are highly interactive, centered on a decision-making process that relies on the information conveyed to the player. This information can be transmitted through visual (graphics and text), aural and even tactile means, and can be divided into two categories: functional and aesthetic<sup>10</sup>.

The functional information allows the player to undertake the activities that he or she is supposed to carry out in order to win the game, while the aesthetic information defines aspects of the context in which the game takes place, with the purpose of maintaining player’s attention on an emotive basis (i.e. causing strong emotions for or against something), making him or her feel part of an entailing virtual world<sup>11</sup>.

With this in mind, the set of activities that can be undertaken by the player in the video game and how it is played based on the functional information is known as the “*gameplay*” of the game. This concept is related to the degree and nature of interactivity the game includes<sup>12</sup>. Gameplay includes two elements: The first is what the player can do, and the second is what other entities can do, in response

8 EDDIE MAKUCH. GTA 5 Ships 54 Million Copies, as Take-Two Revenue Rises 142 Percent, Gamespot. 2015. <http://www.gamespot.com/articles/gta-5-ships-54-million-copies-as-take-two-revenue-11100-6429631/>

9 Greenspan, *supra*, 72.

10 CARLO FABRICATORE. Gameplay and game mechanics design: a key to quality in videogames. Proceedings of the OECD-CERI Expert Meeting on Videogames and Education. Vol. 14. 2007. 3.

11 CARLO FABRICATORE, MARIO NUSSBAUM, and RICARDO ROSAS. Playability in Action Videogames: A Qualitative Design Model, Human-Computer Interaction. Human-computer interaction. 2002. 311-368.

12 RICHARD ROUSE III. Game Design Theory and Practice. Wordware Publishing, Inc. 2005.

to the player's actions (i.e. how the game responds to the player's decisions). For this reason, using a player-centered approach, we can define gameplay as *“the set of activities that can be performed by the player during the ludic experience, and by other entities belonging to the virtual world, as a response to player's actions and/or as autonomous courses of action that contribute to the liveliness of the virtual world.”*<sup>13</sup>

Now that the concept of gameplay is outlined, it is important to establish how players interact with a game. In general terms, any ludic activity comprises certain rules that make the game coherent. Additionally, a game comprises constant interaction with concrete or abstract objects or tools. Such objects could be referred to as *“toys”* that can be freely manipulated by the user<sup>14</sup>. However, their use requires a level of proficiency achieved through a learning process conditioned by the rules.

For the purposes of this paper, these *“toys”* will be referred to as *“game mechanics”*. Carlo Fabricatore defines this, using a player-centered perspective, *“as proper tools for gameplay, atomic rule-based interactive subsystems capable of receiving an input and reacting by producing an output. Such output translates into a state change of the mechanics itself and/or into the triggering of new interactions with other game mechanics. A given game mechanic might be capable of receiving different inputs and reacting consequently. In terms of gameplay, this means to the player that the mechanics have features that allow triggering different interactions with it.”*<sup>15</sup>

Also, Casey O'Donnell of the Department of Media and Information at Michigan State University argues that *“While the definition of game mechanic is widely discussed by game scholars, for the sake of this chapter, a game mechanics can be thought of as a system through which a player interacts with a game.”*<sup>16</sup>

While difficult to obtain a widely accepted definition of game mechanics, one can establish its basic characteristics. Considering its interaction purpose, the mechanics must be coherent with the context and the goals of the game, in order to challenge and reward the players. To accomplish this aim, the player is required to explore and understand the inner workings of the mechanics, in order to control its features at will.

After that, he or she must succeed in deciding what standard features of the mechanics to use, and when and how to use them in order to achieve a given goal. Finally, in order to achieve that goal, the player is required to use the mechanics in a context in which external factors, as the activities performed by other entities, may alter its workings. In this case, not only the player will have to decide what features to use, when and how, but also understand how the external conditions influence the mechanics, and how to eventually exploit them to enhance it<sup>17</sup>.

13 FABRICATORE, *supra*, 3.

14 CHRIS CRAWFORD. *The Art of Computer Game Design*. 2011.

15 FABRICATORE, *supra*, 6.

16 GARO GREEN and JAMES KAUFMAN. *Video Games and Creativity*. Elsevier Science, 1st Edition. 2015. 247.

17 FABRICATORE, *supra*, 7.

Notwithstanding the foregoing, we can infer that not all the game mechanics are equally important to the players. Depending on the game, certain mechanics are the key to what is called “*core gameplay*”<sup>18</sup>, and are therefore the most important of all. The core gameplay can be defined as the set of activities that the player will undertake more frequently during the game experience, and which are indispensable to win it.

Bearing this in mind, the game mechanics which allow the core gameplay activities to be carried out, are called “*core game mechanics*”<sup>19</sup> and consequently are the most important mechanics in the game, since players will have to deal with them during most of their play experience (e.g. in the case of shooter games, shooting enemies is a core mechanic). However, there are also other types of mechanics, defined as “*satellite game mechanics*”<sup>20</sup>, ed to enhance, alternate or hinder the already existing core mechanics, which can be used to introduce several variations to the game, allowing players to feel a continuous evolution and development of mastery in all the core gameplay activities, while providing at the same time the sense of novelty indispensable to constantly enhance the challenge. All serve to refresh the game experience and sustain a player’s motivation in the game.

For the purpose of this paper, it should be noted that some core mechanics are shared by different games, which may differ only in their satellite mechanics, while in others certain core mechanics are innovative enough to make them novel. This is a crucial aspect, in order to determine if aspects of the core mechanics may qualify for patent protection.

## VIDEO GAMES AND INTELLECTUAL PROPERTY

### VIDEO GAMES AND IP PROTECTION

In legal terms, video games have been defined in different ways depending on the jurisdiction<sup>21</sup>. However, in general terms we can define video games as complex works that can embody multiple creative works of authorship (e.g., computer software, graphics, sounds, musical works, performances, and scripts). Due to the cross-disciplinary nature of video games, different components can be protected through different types of IP law<sup>22</sup>. These forms of protection will be briefly explained below:

18 Id. at. 12.

19 Id. at. 12.

20 Id. at. 13.

21 ANDY RAMOS, LAURA LÓPEZ, ANXO RODRÍGUEZ, TIM MENG and STAN ABRAMS. *The Legal Status of Video Games: Comparative Analysis in National Approaches*. World Intellectual Property Organization. 2013.

22 GREENSPAN, 72-73.

### *Copyright*

In the case of video games, Copyright covers stories, characters, music, graphics, in certain instances imagined environments, geographic locations, designs, the software source code and the derivative works, as long as they are fixed within a medium. Moreover, it also protects the entire game as registered under the category of audiovisual or literary work<sup>23</sup>. However, bearing in mind that Copyright protection does not cover ideas, if they are expressed in different ways, these expressions are allowed, even if the result is exactly the same, which in the case of video games could be the same expression of certain mechanics.

### *Trade Secret*

Applying the definition contained in the US Uniform Trade Secrets Act, trade secrets mean information, including a formula, pattern, compilation, program device, method, technique, or process, that: (i) derives independent economic value, actual or potential, from not being generally known and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. In the case of video games, in-game calculations, pricing lists, customer mailing lists, community information, and business contacts may be protected through trade secrets.

### *Trademarks*

The brand recognition and association with a particular company is the purpose of a trademark. In the case of video games, the most common trademarks are words, names, symbols, graphics, or short phrases used to identify a specific game titles, companies and console or products associated with these<sup>24</sup>.

### *Patents*

In general terms, patents do not protect games themselves because they do not usually meet the patentable criteria. However, there are a growing number of game-related patents, usually in the areas of hardware, digital distribution, networking, inventive gameplay or technical innovations such as elements in software, networking or database design<sup>25</sup>. For this reason, the purpose of this paper will be to make a specific analysis on the patentability of video game mechanics, expressed through software.

23 Id. at. 73-76.

24 Id. at. 88-90.

25 Id. at. 94-95.

PATENTABILITY OF COMPUTER-IMPLEMENTED INVENTIONS

VIDEO GAMES MECHANICS AND THEIR RELATION  
TO COMPUTER-IMPLEMENTED INVENTIONS

Video games have been defined in different ways depending on the jurisdiction<sup>26</sup>. However it should be noted that the term is often used synonymously with “electronic games”, “digital games”, “computer games”, “entertainment software”, and the broader category of “interactive media”.

Keeping this in mind, it should also be noted that video games are unlike traditional games, because their rules and mechanics are encoded into software constraints. Players use common digital interfaces (keyboards, buttons, joysticks, trackpads) to manipulate and explore symbolic representations (e.g. avatars) that are projected on screens, and every video game entails source code and object code (primary game engine(s), ancillary code, plugins and comments). Therefore, Courts<sup>27</sup> and academics<sup>28</sup> have often split up games into audiovisual works and computer programs, which are, in other words, software<sup>29</sup>.

For this reason, when we refer to a video game’s mechanics, we are talking about software, even when the latter is also a complex term. The term *software* is considered to be ambiguous, because it may refer to “*a program listing written in a programming language to implement an algorithm, but also to binary code loaded in a computer-based apparatus, and it may also encompass the accompanying documentation.*”<sup>30</sup> For others, software is “*a set of statements or instructions to be used directly or indirectly in a computer to bring about a certain result, coded into computer language*”<sup>31</sup>.

However, when we talk about patents, we do not talk about *software patents*, but instead we apply the concept of a *computer-implemented invention*, which has

26 RAMOS, LÓPEZ, RODRÍGUEZ, MENG and ABRAMS, *supra*.

27 As is apparent from the order for reference, video games, such as those at issue in the main proceeding, constitute a complex matter comprising not only a computer program but also graphic and sound element, which, although encrypted in computer language, have a unique creative value which cannot be reduced to that encryption. Nintendo Co. Ltd and Others v PC Box Srl and 9Net Srl, Case C-355/12, ECJ, Fourth Chamber (2014).

28 Today it seems to be accepted in most countries that video games consist of two main components. They consist of a computer program, which produces the effects and operates the game, and an audiovisual work, which is presented as the screen displays that communicate to the player the image, the movements of the characters and the sounds of the game. Both these works should be assessed separately and on their own merits. A. STAMATOUDI, *Copyright and Multimedia Products: A Comparative Analysis*, Volume 3 of *Cambridge Intellectual Property and Information Law*, Cambridge University Press (2001)

29 Henrike Maier. *Games as Cultural Heritage: Copyright Challenges for Preserving (Orphan) Video Games in the EU*. *jipitec* vol. 6. 2015. 120

30 epo - European Patent Office. *Patents for software? European law and practice*. 2013. [http://documents.epo.org/projects/babylon/eponet.nsf/0/a0be115260b5ff71c125746d004c51a5/\\$FILE/patents\\_for\\_software\\_en.pdf](http://documents.epo.org/projects/babylon/eponet.nsf/0/a0be115260b5ff71c125746d004c51a5/$FILE/patents_for_software_en.pdf)

31 Subject matter and scope of Copyright. 17 U.S. Code § 101



been introduced to clarify that the source code is not patentable subject matter. Once clarified, we can establish that a computer-implemented invention involves the use of a computer, computer network or other programmable apparatus<sup>32</sup>, like a game console or cellphone in our case, where one or more features are realized wholly or partly by means of a computer program.

Keeping this in mind, this chapter will address in general terms how computer programs and computer-implemented inventions have been addressed by the patent system in the particular cases of the European Union (EU), the United Kingdom (UK) and the United States.

#### NATIONAL LEGISLATIONS AND ITS APPROACH TO THE PATENTABILITY OF COMPUTER-IMPLEMENTED INVENTIONS

##### *European Union*

In Europe, as general rule, a patent should be granted for any invention in any field of technology, provided that it is new, involves an inventive step, is susceptible of industrial application and is not expressly excluded from patent protection, according to Article 52 of the European Patent Convention (EPC).

However, under the article 52(2) (c) of the EPC, the programs for computers shall not be regarded as inventions within the meaning of Article 52(1) and are therefore excluded from patentability. However, article 52(3) of the EPC establishes an important limitation to the scope of this exclusion. According to this provision, the exclusion applies only to the extent to which a European patent application or a European patent relates to programs for computers “as such”.

The combination of the two provisions (Article 52(2) and (3) EPC) demonstrates the legislator’s intention not to exclude from patentability all programs for computers. In other words, the fact that only patent applications relating to programs for computers “as such” are excluded from patentability means that the protection may be allowed for patent applications relating to programs for computers, where these are not considered to be programs for computers “as such”, but which claims involve computers, computer networks or other conventional programmable apparatus, as game consoles, whereby features of the claimed invention are realized by means of a computer program.

The technical character of an invention is generally accepted as an essential requirement for its patentability. For this reason, the exclusion from patentability of programs for computers “as such” may be construed to mean that such programs are considered to be mere abstract creations, lacking in technical character. However, if we apply this theory, the programs for computers must be considered as patentable inventions when they have a technical character, capable of bringing

32 EPO - European Patent Office, *supra*.

about, when running on or loaded into a computer, a further technical effect going beyond the “normal” physical interactions (e.g. electrical currents) between the program (software) and the computer (hardware) on which it is run (Decision T 1173/97 [1998]<sup>33</sup> and Decision G 3/08 [2010]<sup>34</sup>).

33 5.3. This means that programs for computers must be considered as patentable inventions when they have a technical character.” (...)

“6.1 For the purpose of interpreting the exclusion from patentability of programs for computers under Article 52(2) and (3) EPC, it is assumed that programs for computers cannot be considered as having a technical character for the very reason that they are programs for computers.

6.2 This means that physical modifications of the hardware (causing, for instance, electrical currents) deriving from the execution of the instructions given by programs for computers cannot per se constitute the technical character required for avoiding the exclusion of those programs.

6.3 Although such modifications may be considered to be technical, they are a common feature of all those programs for computers which have been made suitable for being run on a computer, and therefore cannot be used to distinguish programs for computers with a technical character from programs for computers as such.

6.4 It is thus necessary to look elsewhere for technical character in the above sense: It could be found in the further effects deriving from the execution (by the hardware) of the instructions given by the computer program. Where said further effects have a technical character or where they cause the software to solve a technical problem, an invention which brings about such an effect may be considered an invention, which can, in principle, be the subject-matter of a patent.

6.5 Consequently a patent may be granted not only in the case of an invention where a piece of software manages, by means of a computer, an industrial process or the working of a piece of machinery, but in every case where a program for a computer is the only means, or one of the necessary means, of obtaining a technical effect within the meaning specified above, where, for instance, a technical effect of that kind is achieved by the internal functioning of a computer itself under the influence of said program. In other words, on condition that they are able to produce a technical effect in the above sense, all computer programs must be considered as inventions within the meaning of Article 52(1) EPC, and may be the subject-matter of a patent if the other requirements provided for by the EPC are satisfied.

6.6 As already indicated in the previous paragraph, said technical effect may also be caused by the functioning of the computer itself on which the program is being run, i.e. by the functioning of the hardware of that computer. It is clear that in this situation the physical modifications of the hardware deriving from the execution of the instructions given by the program within the meaning indicated under points 6.2 and 6.3 above cannot per se constitute the technical character required for avoiding exclusion. In this case it is only said further technical effect which matters when considering the patentability requirements and no importance should be attached to the specific further use of the system as a whole. The expression “the system as a whole” means the hardware plus the software, that is the system consisting of the hardware as programmed in accordance with the program concerned (hardware + software).”

Computer program product/IBM. Boards of Appeal of the European Patent Office. Case T 1173/97. July 1, 1998. 14-17.

34 10.2.1. The Board considered the question whether a computer program might be claimed and if so under what circumstances such a claim could be allowable. Its conclusion, at Reasons, point 13, was: “In the view of the Board, a computer program claimed by itself is not excluded from patentability if the program, when running on a computer or loaded into a computer, brings about, or is capable of bringing about, a technical effect which goes beyond the ‘normal’ physical interactions between the program (software) and the computer (hardware) on which it is run. (...).

Programs for computers. Enlarged Board of Appeal of the European Patent Office. Case G 0003/08. 2010. 27.

This can be illustrated also by the Decision T 208/84, “*Computer-related invention/VICOM*”<sup>35</sup>. In this case the invention was related to “*A method of digitally processing images in the form of a two-dimensional data*”, which made use of a mathematical method incorporated in a computer program, run on an appropriate computer to do the said processing. The Decision held that the method according to the invention was not excluded from patentability, because it constituted a technical process, which was carried out on a physical entity and it was not about the program as such. It means that when a computer program product is loaded into a computer, the programmed computer constitutes an apparatus, which in turn is able to carry out a method.

From this case we can infer that computer programs “as such”, independent of their application, are not patentable irrespective of their content, even if that content happens to be such as to make them useful, when run, for controlling a technical process. However, a computer program claimed by itself is not excluded from patentability if the program, when running on a computer or loaded into a computer brings about, or is capable of bringing about, a technical effect which goes beyond the “normal” physical interactions between the program (software) and the computer (hardware) on which it is run.

What constitutes a technical effect depends on the specifics of each case, bearing in mind the lack of uniformity in the criteria applied by different cases: A technical effect can be, for example, a reduced memory access time, a better control of an industrial or surgical tool, or an improved reception and/or decoding of signals. It doesn't have to be external to the computer on which the program is run. Even reduced hard disk access time or an enhanced user interface could also be a technical effect, which in the end must be assessed based on the technical problems that it intends to solve, and not in its appearance.

For instance, regarding the patentability of the user's interface design and the presentation of the information as such, the Decision T 0928/03, “*Video game/KONAMI*”<sup>36</sup> constitutes a landmark decision, bearing in mind that illustrates how this subject matter has been addressed by the Board of Appeal and how it could be analyzed regarding the virtual reality devices.

In this case, the invention was related to a “*Video game system and storage medium for storing program for use in the video game system*”, which identify a guide mark used in a video game system, in which a couple of teams, each having a plurality of player characters displayed on a monitor screen, compete with each other on a single game medium. The guide mark accompanies the player character, and is characterized for using a ring-shaped mark displayed on the field plane.

<sup>35</sup> Computer-related invention/VICOM. Boards of Appeal of the European Patent Office. Case T 0208/84. July 15, 1986. 14.

<sup>36</sup> Video game/KONAMI. Boards of Appeal of the European Patent Office. Case T 0928/03. June 02, 2006.

The Decision held that the guide mark served a technical purpose (visibility) and was not just displayed for the sake of viewing, but for enabling a continued man-machine interaction, achieving more than an aesthetic impression, and therefore surpassing the mere presentation of information on the screen (Article 52(2)(d)). In other words, the guide mark was beyond a vectorial presentation of information as such (Article 52(3)) on the screen, which overall effect is exclusively an intellectual effect on a human being, without accomplishing any real technical purpose.

### *United Kingdom*

In the UK, bearing in mind that the EPC does not define a computer program at all, the term “computer program” has also been used to describe a sequence of instructions to a computer in the abstract sense, which is different in comparison with the computer related-inventions. However, the concept of technical content is alien to UK patent lawyers and judges and the UK Courts have sought to reach decisions in conformity with those from the EPC.<sup>37</sup>

Concerning what does and does not amount to patentable subject matter, the Courts have addressed this on the principle that there is a list of excluded things, rather than adopting the overarching unifying theory of subject matter, having to be ‘technical’. Also, for the Courts the invention must not be excluded simply because its novelty lay in an excluded thing (namely a computer program) and that the claim had to be looked at as a whole. In other words, as the original Guidelines for Examiners drawn up by the European Patent Office established, “(...) *If the contribution to the known art resides solely in a computer program, then the subject matter is not patentable in whatever form it might be presented in those claims.*”<sup>38</sup> It is necessary to go beyond.

In the *Merrill Lynch's Application* of 1989, the Patent Office in the UK held that the application was rejected on the basis that the subject matter of the alleged invention fell within the prohibition of the section 1(2) of the UK Patents Act of 1977. The effect of the section was such that it would prevent the award of a patent in the situation where the program was incorporated in the computer. However, this reasoning was challenged in the Court of Appeal, which established that “*the invention could be patentable where the novel or inventive elements lay entirely in a computer program*”<sup>39</sup> considering then that it would be possible to obtain a patent for a program which contributes some technical advance on the prior art in the form of a new result.

37 CHRIS REED. Computer Law. Oxford University Press 7th edition. 2011. 388

38 IAN LLOYD. Information technology law, Oxford University Press 7th edition (2014). 284.

39 Id. at. 288.

*United States of America*

On the other hand, the United States had a somewhat more liberal approach concerning the grant of patents for computer-implemented inventions up to 2014. Bearing in mind that neither software nor computer programs are explicitly mentioned in statutory US patent law, case law has been the main driving force on this front. In *Allvoice Developments US, LLC v. Microsoft Corp* of 2015, the expression “software patent” itself was not even considered<sup>40</sup>. However, the Court considered that “*Software may be patent eligible, but when a claim is not directed towards a process, the subject matter must exist in tangible form. Here, the disputed claims merely claim software instructions without any hardware limitations.*”<sup>41</sup>

For many years, the United States Patent and Trademark Office (USPTO) has issued many patents on software computer instructions, but the Federal Circuit has denied protection for some of them. The Courts had held that software instructions, as such, were too intangible to fit within any of the statutory categories such as machines or articles of manufacture. Recently, in *Alice v. CLS Bank International* of 2014 landmark decision, the Supreme Court established that “*the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea “while adding the words ‘apply it’ is not enough for patent eligibility. (...) Nor is limiting the use of an abstract idea ‘to a particular technological environment.’*”<sup>42</sup>

Since the *Alice* case, it is clear that the approach regarding the patentability of computer-implemented inventions in the US has become stricter, since applications associated with software are generally considered as patent ineligible. A computer implementation of an abstract idea, which is not itself eligible for a patent, does not by itself transform that idea into something that is patent eligible. According to the Supreme Court, in order to be patent eligible, what is claimed must be more than an abstract idea, and its implementation must be something beyond the “*well-understood, routine, conventional activit[ies]” previously known to the industry*”<sup>43</sup>. In other words, mathematical algorithms, including those executed on a generic computer system, are abstract ideas, unless the claims of the application are sufficiently specific and meaningful to be considered as useful applications of

40 In *Allvoice Developments US, LLC v. Microsoft Corp.*, the Federal Circuit in non-precedential opinion invalidated patent claims to a speech recognition “interface” without undertaking an *Alice* analysis. The interface was entirely a set of software instructions, claimed in means-plus-function form. The set of instructions is not a machine or article of manufacture or composition of matter, and it did not purport to be a process. Accordingly, the claimed subject matter did not fit within any of the statutory categories of section 101, which defines patentable subject matter. Moreover, it was intangible, and the Federal Circuit had held that except for processes, “eligible subject matter must exist in some physical or tangible form.” *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1348 (Fed. Cir. 2014).

41 *Allvoice Developments US, LLC v. Microsoft Corp.* (Fed. Cir. May 22, 2015).

42 *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. (2014). 13.

43 *Id.* at. 15.

those underlying abstract ideas. Nevertheless, identifying the precise nature of an abstract idea is not a simple task.

Additionally, the Courts had adopted a method of legal analysis based on two specific steps. First, one must determine whether the claimed invention is based on an abstract idea or principle of some sort, often expressed at a high level of generality. If the claimed invention is directed at an abstract idea, one must determine whether the patent adds ‘something extra’ to the idea that embodies an ‘inventive concept’. If there is no addition of an inventive element to the underlying abstract idea, the court will find the patent invalid. Regarding this concept of an inventive element, it must solve practical problems and ensure that the patent is directed to something significantly more than the ineligible abstract idea itself. In other words, the invention itself must lie outside the sphere of the abstract method and lie instead in the computer implementation itself.

This is very similar to the European Patent Office’s approach of requiring that the invention provide a *technical solution* to a *technical problem* outside the specifically excluded patentable subject matter as such, particularly because in many practical cases ‘non-technical’ in European practice will be similar to ‘abstract’ in US practice<sup>44</sup>.

In sum, we could consider that the European approach in relation to the patentability of software related inventions and certain aspects is established, while in the United States it will be necessary to wait and see how the approach settled by the Supreme Court in the *Alice* case develops in the USPTO and the lower US courts. Even some lawyers consider that “*there is now reason to be optimistic that the much-hoped-for transatlantic consistency might be close at hand.*”<sup>45</sup>

#### NOVELTY, INVENTIVE STEP/NON-OBVIOUSNESS AND INDUSTRIAL APPLICATION

Considering the strict examination developed in Europe, the comments regarding the novelty, inventive step, non-obviousness and the industrial applicability of computer-implemented inventions will be strictly associated with the criteria applied by the EPC. However, many aspects could be applied in other countries bearing in mind the minimum conditions established by the TRIPS Agreement<sup>46</sup>.

In Europe the Decisions T 1173/97 and G 3/08 state that the further technical effects do not have to be new and there should be no comparison with the prior art<sup>47</sup>, turning novelty into an aspect not associated with technical effects.

44 MARK KENRICK, DAVID ROBINSON. *Securing software patents through the European Patent Office*. 2014. 35-39. <https://www.iam-media.com/securing-software-patents-through-european-patent-office>.

45 *Id.*

46 International Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which constitutes the Annex 1C of the Marrakesh Agreement, that established the World Trade Organization (WTO), signed in Marrakesh, Morocco on 15 April 1994.

47 T 1173/97 declares that a claim to a computer program is not excluded from patentability if the program, when run, shows a “further technical effect”, i.e. a tech-

However, this comparison should be applied for other claimed subject matter, or to determine other aspects, such as the inventive step, which in turn should only be based on elements of the invention in which a technical effect could be established. This demonstrates the complexity involved when determining whether a computer-implemented invention is patentable, because some aspects must be analyzed with regard to the prior art, while others need not.

With respect to novelty, if we do not consider the technical effect of a computer-implemented invention as the Decisions T 1173/97 and G 03/08 states, the comparison with the prior art must be more general and need not concern typical consideration of patentability. However, the situation is even more complex in the case of the inventive step, non-obviousness and industrial applicability.

On one hand, regarding the inventive step and its non-obviousness, these must be assessed keeping in mind that the *technical problem* must be one that a skilled person in the art might be asked to solve at the priority date, while also analyzing the prior art that was available to the inventor at that time. Only if it produces a technical effect that, as exhibited before, must be defined on a case-by-case basis, the person skilled in the art could assess the specific technical progress made in the subject matter<sup>48-49</sup> and determine if it is not obvious, or in other words, without an inventive element that makes it differentiable from the prior art or its logical plain development. This has effectively excluded from the assessment of inventive step non-technical features directed to, for example, business or administrative schemes. One must of course bear in mind that the problem defined for the purposes of the analysis must be a technical problem and the solution must likewise be a technical solution.

However, in the case of video games, we must keep in mind that the industrial application and technical effect of an invention should be assessed considering that the concept of ‘industry’ must be understood in its broadest sense and determine if something is a technical improvement for a technically skilled person or a business person. In the case of the industrial application, it should be clarified that this does not necessarily imply the manufacture of an article to be applied only in industrial fields, but could involve the use of a machine, in this case a computer or a similar hardware, in order to apply the computer implemented invention, in this case the

nical effect going beyond those effects that occur inevitably when any program is run. It further states that this “further technical effect” need not be new and there should be no comparison with the prior art when making the judgment whether there is such a “further technical effect”. It cannot have been intended that there be no comparison with the prior art for computer programs, but that there should be for other claimed subject-matters. So it may be concluded that the judgment whether some subject-matter is excluded under Articles 52(2) and (3) EPC from patentability is, according to T 1173/97, always to be decided without regard to the prior art. Programs for computers. Enlarged Board of Appeal of the European Patent Office. Case G 0003/08. 2010. 26.

48 EPO - European Patent Office. Case Law of the Boards of Appeal, 4.1. Determination of the technical problem. 2013. [http://www.epo.org/law-practice/legal-texts/html/caselaw/2013/e/clr\\_i\\_d\\_4\\_1.htm](http://www.epo.org/law-practice/legal-texts/html/caselaw/2013/e/clr_i_d_4_1.htm)

49 MARK KENRICK, DAVID ROBINSON, *supra*.

software, which contains the mechanics. In this case, we could consider that any claim including a computer, computer network or any tangible technical element will include technical features in an industrial field.

Also, the industrial application of the software is susceptible by its exploitation in the market, which constitutes an industry as described in the first part of this paper, and its usefulness must be evaluated considering each game and its gameplay. In other words, it employs a specific mechanic in a video game, which requires hardware to be used, could be defined as the form of industrial application, in order to make the video game differentiable, improve its gameplay, and increase its reception in the market if it is well received, making it useful in its relevant market (like the case of the combat system of the video game series *Batman Arkham*, which was subsequently copied within other video games of the same genre that later entered the market).

To better apply these concepts, and in relation with the existing case law, we could analyze two landmark Decisions: In the European Decision T 336/07, the application related to a mechanic expressed in the “*method of operating an electronic video poker machine in a sequence of display, detection and determination steps*”<sup>50</sup>. The steps of operation of the video poker machine were carried out in accordance with specific rules for playing a video poker game. In this case, the Board held that a set of game rules defines a regulatory framework agreed between players and concerning conduct, conventions, and conditions that are meaningful only in a gaming context. It is perceived as such by the players involved, and as serving the explicit purpose of playing a game, making it useful in its context. As such an agreed framework is a purely abstract mental construct, although the method and means for carrying out gameplay in accordance with such a set, were considered to be technical in nature, involving an inventive step.

Also, in the Decision T 12/08, the claimed invention, which was a game machine, differed from the prior art only in that the probability in which a character appeared in the game varied with time, this being the mechanic. The Board noted that this difference, by which the appearance probability was made time dependent, had the effect “*of reducing the predictability of the machine generated chance encounters*”<sup>51</sup>. Whereas the underlying condition that chance appearances occur within the game is a game rule in the classical sense, the claimed solution was instead concerned with the particular manner in which it is realized, namely the way in which the events are generated.

In contrast to a game rule, this was not intended to be known, much less explicitly agreed to by a player, as this would in fact defeat the stated purpose of making encounters less predictable. Varying the probability by which a character

<sup>50</sup> Electronic multi-play poker with face-up hand in bottom row/IGT. Boards of Appeal of the European Patent Office. Case T 0336/07. October 11, 2007. 13.

<sup>51</sup> Game machine and storage medium therefor/ Nintendo Co., Ltd., et al. Boards of Appeal of the European Patent Office. Case T 0012/08. February 6, 2009. 5.



is made to appear in a game depending on time is innately technical. It relates to the purely technical problem of realizing - or rather simulating - in the physical world, the key game concept of chance, and cannot be seen as detached from the real world.

## RECOGNITION OF DIFFERENCES

### PROTECTION FOR CERTAIN TYPES OF MECHANICS: DIFFERENT APPROACHES

The video game mechanics are important elements that can be considered as an innovation, regarding its genre, usefulness and novelty. This is the case with mechanics such as the falling pieces of *Tetris* and the capability to rotate them; the fluid combat system in the *Batman Arkham* series, the parkour movement in *Assassin's Creed* games, or even those cases which already have a patent, such as the sanity system of Nintendo<sup>52</sup> or the penalty indicator of Konami (Yamazaki et al., 2007)<sup>53</sup>.

We can consider that certain mechanics could be protected if they have a technical effect that goes beyond those that occur inevitably within any program. Also, the mechanics must contain an inventive element beyond the underlying abstract idea, in order to solve practical problems, going further than routine or conventional activities previously known to the industry. Nevertheless, determining if a specific mechanic fulfills those requirements depends on the genre of game in which it is applied.

For instance, games that closely simulate real life receive weaker copyright protection, because the expression of those ideas must be well known, common

52 A video game and game system incorporating a game character's sanity level that is affected by occurrences in the game such as encountering a game creature or gruesome situation. A character's sanity level is modified by an amount determined based on a character reaction to the occurrence such as taking a rest or slowing game progress and/or an amount of character preparation. That is, if a character is prepared for the particular occurrence, the occurrence may have little or no effect on the character's sanity level. As the character's sanity level decreases, gameplay is effected such as by controlling game effects, audio effects, creating hallucinations and the like. In this context, the same game can be played differently each time it is played. US Patent 6935954 B2 (issued Aug. 30, 2005).

53 The present invention broadly relates to a video game system which employs a cassette-type recording medium such as an optical disk, magnetic disk or a semiconductor memory, and more particularly to a device and a method for setting a command in the video game system, as well as to a storage medium storing a command setting program. The present invention also pertains to a device and method for displaying a guide in a video game, as well as to a storage medium storing a program for displaying such a guide. The invention further concerns a device and a method for replaying a scoring scene in a video game, as well as a storage medium storing a replay program. The present invention also is concerned with a device and a method for setting character data on player characters involved in a video game, as well as a storage medium storing a program for setting character data. The invention further relates to a device and a method for displaying cursors used in a PK match game mode of a soccer game, as well as a storage medium storing a program for implementing such a method. European Patent EP0844580 (B1) (issued Jul. 4, 2007).

and not particularly creative. With respect to patent protection, the same genre of games cannot receive protection for mechanics based on real life physics or the rules of the situation that the game tries to recreate, like the physics of the ball or the game rules in soccer.

However, if the mechanic used is creative and original for the game, its protection could be stronger. At this stage, we could use the concepts of core game mechanics and satellite game mechanics. In the soccer game, a mechanic used to determine where the ball will go in a penalty kick displaying a kicker avatar, a cursor on the monitor screen, could be considered a satellite game mechanic, used to enhance the already existing core mechanic of the game, in this case, kicking the ball. This is also the case with the penalty indicator's patent, mentioned before.

Depending on the genre of the game, certain mechanics could be protected through patents as computer-implemented inventions, if they comply with the requirements mentioned above. If the mechanic is innovative enough and it could not be logically inferred by a person skilled in the art based on the type of game, the possibility of obtaining a patent for that innovation is possible. In general terms the satellite game mechanics could be considered the most innovative, keeping in mind that the core game mechanics are usually related to the main concept of the game, like the case of shooting in a shooting game or through an avatar's punches and kicks in a fight game. In those cases, including an element like a health or sanity bar or a fluid system to combat, respectively, could be satellite mechanics used to improve the experience, adding novel elements into the context, and producing an effect in the player and within his or her perception of the game.

For this reason, there must be a different approach and examination depending on the mechanic that could be subject of patent protection, considering the video game genre in which its application is proposed. As another example apart from the kick cursor is the case of a common mechanic in a stealth game, associated with certain moves of a character, like crouching or hiding close to walls. However, including a mechanic associated with the sanity of the character which activates in specific circumstances or certain moments of the video game could be considered innovative enough.

In sum, we should consider that many of these inventions clearly include technical features arising from the computer system implementation. However, these technical features must go further to be patentable and not be excluded: They must provide technical solutions involving a non-obvious inventive step in order to solve technical problems, considering that in each case the definition of the problem should be provided by a person of ordinary skill in the art and the nature (genre) of the game.

As an example of how the technical features can go further, we could address the *Pokémon Go* video game, developed by Niantic as a location-based augmented reality game. These game in is currently protected by a portfolio of 3 U.S. pat-

ents<sup>54</sup>. One of these is U.S. Patent n.º 8968099, which is titled *System and method for transporting virtual objects in a parallel reality game*<sup>55</sup>. It protects a computer-implemented method that transports virtual objects, in a virtual world, using a virtual geography that parallels real-world geography. This core mechanic enables players to interact without having to meet in the same place at the same time, and that possibility constitutes the foundation for the game's Pokémon gyms, where players can battle Pokémon left by rival players, without the latter being physically present.

#### THE IDEA-EXPRESSION DICHOTOMY, A LIMITATION OF THE COPYRIGHT SYSTEM

If we consider the dichotomy between an idea and its expression, which is recognized by the TRIPS agreement in its Art. 9.2., then is possible considering that the Copyright system could present certain limitations when these concepts are particularly merged, as in the case of video games and their mechanics. There have been cases, such as *Tetris v. Xio Interactive* of 2012<sup>56</sup>, where the Court analyzed the dichotomy idea-expression, establishing that the infringer copied the same look and feel of specific features<sup>57</sup>, using the same board dimensions, the same shape movement down the board, and the same visual cues. However, it is not an easy task as to where to draw the line between an idea and its expression.

54 STEVE BRACHMANN. Pokémon Go developer Niantic owns three patents on location-based gaming. 2016. <http://www.ipwatchdog.com/2016/08/10/pokemon-go-patents-location-based-gaming/id=71648/>

55 Systems and methods of transporting virtual objects through a virtual world associated with a parallel reality game are provided. The virtual world has a geography that parallels at least a portion of the geography of the real world. A method includes accessing at least one data source storing or providing data associated with the location of a real world carrier. The method further includes modifying game data associated with the parallel reality to transport at least one virtual object through the virtual world, such that the position of the virtual object in the virtual world is based, at least in part, on the data associated with the location of the real world carrier. Other implementations are directed to systems, apparatus, non-transitory computer-readable media, devices, and user interfaces for transporting virtual objects in a location-based parallel reality game. US Patent 8968099 B1 (issued Mar. 3, 2015).

56 Tetris Holding, LLC, a computer game company, brought suit against Xio Interactive alleging copyright and trade dress infringement of its game Tetris. The US District Court for the District of New Jersey granted the plaintiffs' motion for summary judgment and denied Xio's motion for summary judgment on a copyright infringement claim, finding that the defendant's 2009 puzzle video game Mino had copied not just the rules and functionalities of well-known 1980s video game Tetris, but also its overall look and feel. ELEONORA ROSATI. US District Court explains the idea/expression dichotomy in videogames. *Journal of Intellectual Property Law & Practice*, vol. 7. 2012. 713-714.

57 Moreover, even if these were rules, it is Xio's copying the same look and feel of these features that lead me to find it has infringed Tetris Holding's copyright. Xio was free to design other ways to alter gameplay, making it more or less difficult, using its own original expression to express these features, which it has chosen not to do. *Tetris Holding, LLC v. Xio Interactive, Inc.*, 863 F. Supp. 2d 394 - District Court, D. New Jersey (2012).

Considering this case, if the producers are not able to prove that the expression of their video game is essentially associated with the idea, they will not be able to protect their product, resulting in a controversy that could involve a great deal of economic loss. These kinds of barriers to protect innovations seem to be equally unfair when we consider they prevent the exploitation of those ideas for a minimum of 50 years plus the life of the author of that innovation<sup>58</sup>. If the protection remains based mainly in the copyright system, the innovation could be limited or the protection simply could be ignored, as often occurs.

Copyright law has its limitations and separating creative expressions from unprotectable ideas is a hard task. Even in the case of *Nichols v. Universal*<sup>59</sup>, the judge, Learned Hand, considered that “*Nobody has ever been able to fix that boundary, and nobody ever can*”<sup>60</sup>. While patent law has its limitations, using this system could prove more beneficial, as it would bring stronger protection, an examination to determine novelty and usefulness, a shorter term of protection, and the possibility to have access to the information disclosed since the filing date of the application.

#### OPPORTUNITIES AND CONCLUSION

As illustrated previously, the software source code of a video game is currently protected only through copyright. This protection system leaves good and profitable ideas with a particular application, such as the video game mechanics, in a gray zone where they can only be protected in a very limited way. Through reverse engineering, a second video game producer could disassemble and analyze a video game, in order to discern how it was made, as well as ascertain its individual components.

In general terms, reverse-engineering a video game will take less effort to discern how the software works in comparison with the time that the initial producer will invest making it. The infringer would be able to reproduce results in a slightly different way, given that in the specific field of software two completely different computer programs can produce an identical result. This does not leave the innovation unprotected, but for all practicality it does; considering that the expression of the applicable idea (source code) is different, yet the result is the same.

Protecting an innovation expressed through software becomes then a matter of interpretation. In the United Kingdom, in the case of *Ibcos Computers v. Bar-*

58 According to TRIPS agreement in its Art. 12, but it could be a term even higher depending on each jurisdiction.

59 Anne Nichols (the plaintiff), was the author of *Abie's Irish Rose*, a motion picture play about a young Jewish man who marries an Irish Catholic girl against the wishes of both of their families. Universal Pictures Corporation (the defendant) then produced a film based on a play about an Irish boy who marries a Jewish girl from feuding families. A lawsuit followed, with the plaintiff asserting copyright infringement based on the defendant's use of similar story elements. In this case, it was decided that there was no infringement, as the ideas that were used are universal concepts.

60 *Nichols v. Universal Pictures Corporation*, 45 F.2d 119. United States Court of Appeals for the Second Circuit (1930)

*clays Mercantile* [1994]<sup>61</sup>, the Court established that “where an “idea” is sufficiently general, even if an original work embodies it, the mere taking of that idea would not infringe. But if the “idea” is detailed, then there may be infringement, turning it into a question of degree.”<sup>62</sup>

Keeping in mind that registering a work is not a general rule, in many countries the question of degree could not be easily solved: The work only expresses a general idea and its degree of detail depends on each case. However, in the case of software the matter of details becomes irrelevant in terms of source code, because even if they are different, the result could still be the same.

Regarding this subject, it is clear that ideas are not protected through copyright or patents. But what happens if the idea is so linked to its expression and it is applicable, like in the case of video games? Do these ideas not deserve protection? As we saw before, the dichotomy between the idea and the expression is not that clear in the particular case of video games and the Copyright system, as far as these are concerned, it starts to fail.

Also, applying the Copyright system means that we are protecting an aspect of the software for the life of the author plus 50 years after his death, at minimum, for a product that actually becomes obsolete in less than 10 years. This could become even more complex if a team develops the software and we cannot determine precisely the authors, unless we can establish that it was a collective work.

On the other hand, by using the patent system to protect video games, society could avoid some of these pitfalls or at least be left with fewer. Bearing in mind that the patent examination process is designed to ensure that the protection granted would cover only technologies that embody a new and innovative applicable idea, the obligation to describe it correctly is mandatory to make it accessible for the public. Also, we could avoid the problem of different source codes producing the same result, bearing in mind that the technical effect would be the protected aspect.

Nonetheless, the patent system involves recognizing that certain technologies or methods are important for a particular country, and at this point we confront the problem associated with the patent examination process and its lack of unified criteria in terms of patentability of computer-implemented inventions across different jurisdictions. Also, applying this system has been the subject of criticism, based on the possibility of forbidding the development of interoperability of software or the creation of a new software based on existing ones.

In conclusion, the purpose of this paper is not to present unfounded critiques of the Copyright system; it should in fact be used to protect certain aspects of video games' audiovisual work. But technical elements, such as its functional software

61 In this case, a programmer created a computer program for his employer. He then switched employers and developed a similar program comprising similar source code, structures and module arrangements. The judge Jacob J. found that literal copying of the source code had taken place.

62 *Ibcos Computers Ltd v Barclays Mercantile Highland Finance Ltd (UK)*. [1994. FSR 275]

should be protected by applying a different law system. Using the Patent system to provide protection for video games mechanics would not necessarily mean innovation would cease. Patentees could use legal instruments such as licensing agreements or cross licenses, as well as patent pools to obtain benefits and share knowledge. Also many producers could use the information disclosed in the patent application in different ways, but still be forced to recognize the labor and creativity of the patentee.

The Patent system could prove more beneficial, even with its limitations and doubts based on recent decisions, as it would bring shorter and stronger protection for those video game mechanics that provide technical solutions involving a non-obvious inventive step, in order to solve technical problems. Furthermore an examination to determine the novelty and usefulness of video game mechanics, and the possibility to have access to the information disclosed, offer new possibilities that the copyright system simply does not provide, based on technical knowledge dissemination and acknowledgment of efforts, assuring innovation in the video game industry.

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