Protection of Video Games by Copyright: Comparative Analysis of the US, the UK and German Legal Frameworks

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Abstract

The revolution of technologies and their spreading to works of arts had an influence on the development of video games as separate works that have quickly overtaken music and film industries in terms of revenues due to the high level of creativity and mass nature. Modern video games are a set of multiple works of authorship, namely interactive audiovisual elements within a display and computer program that operates and generates them. This two-sided nature has caused some issues in regard to the legal classification of video games and their attribution to the previously defined works of art as well as application of copyrightability requirements due to games' technical peculiarities. The purpose of this thesis is to find out and compare the level of copyright protection in three biggest video games producers – the United States of America, the United Kingdom and Germany. By comparing different legal approaches, the problems and regulatory gaps concerning the protection of video games by copyright will be revealed and the best practices of their copyright protection will be given to be advisedly implemented in other countries for the smooth development of game industry.

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Introduction

In the beginning of 21st century, the humankind made a step in the qualitatively new era of its development, which was commemorated with the revolution of technologies and their spreading to almost all spheres of people's lives, and particularly to works of art, which can be made now by means of software and hardware. That is how the video games have appeared and become "the most flourishing creative industry and mass product for millions of user worldwide"[1] with its annual revenues of more than $108 billion in 2017[2] that overtaken the music and film industry in terms of profits. In the day-to-day life, video games have acquired a significant amount of users all over the world, for whom as Jesper Juul asserts, "playing video games has become a norm, and not playing video games has become the exception".[3]

Intellectual property is a crucial element of modern video games, because they are composed of multiple works of art and authorship, particularly gameplay, computer program, characters, graphics and sounds. Taking into account the above-mentioned complexity of video games' creative elements and their technical characteristics, some issues have arisen in connection to the determination of their legal nature, classification and possibility of protection under traditional intellectual property rights, especially copyright law.

Therefore, nowadays there is an urgent need to establish a transparent, effective and clear protection of intellectual efforts and significant financial investments put in the development and commercialization of video games. The main purpose of copyright protection is, from the one hand, to support and reward authors for their unique intellectual and creative efforts and, from the other hand, to promote the diversity, advancement and progress of "Science and useful Arts

[1] The Classification of Computer Games in European Copyright Law, Jędrzej Raczyński, LL.M. Master thesis, Faculty of Law Tilburg University, Tilburg 22.06.2010, p.2

[2] "The Global Games Market 2017 | Per Region & Segment." Newzoo, newzoo.com/insights/articles/the-global-games-market-will-reach-108-9-billion-in-2017-with-mobile-taking-42/ (last access: February 2, 2018)

[3] Juul, J. (2005), Half-Real: Video Games between Real Rules and Fictional Worlds, Cambridge, MA: MIT Press.

by securing for limited Times to Authors and Inventors the exclusive right to their respective Writings and Discoveries"[4], particularly in video games industry.

Certainly, video games, as a relatively young and booming entertainment industry and topic in intellectual property law, will have a substantial and unstopped development in the next decades due to the tremendously rapid evolution of technologies and significant interest from both investors and users side. Thus, the establishment of unified approach and effective level of protection of intellectual property rights in video games industry as well as its comprehensive discussion in academic and business fields now is an issue of a great importance in order to increase legal certainty in the field that may serve as an impetus for further smooth development of game industry.

The purpose of the master thesis is, firstly, to find out and compare the different level of copyright protection in jurisdictions of significant video games producers such as the United States of America, the United Kingdom and Germany, as common and civil countries. Foregoing countries are playing a significant economic role in respective industry by holding around 32% of total revenues in games industry and keeping 2nd, 5th and 4th place respectively in the global video games market.[5] As discussed jurisdictions generate an impressive amount of revenues from the legal sale of video games, they have strengthen international and national law rules in order to protect authors and producers, who invest substantial labor and financial resources in the development of their intellectual creations.

By comparing different legal approaches, the problems and regulatory gaps concerning the protection of copyright in video games industry will be revealed. Considering the trans-border nature of video games, the best practices of video games protection by copyright will be

[4] U.S. Constitution, Art. I, § 8, cl. 8

[5] The Global Games Market Report 2017 | Per Region & Segment, Newzoo, https://newzoo.com/insights/articles/the-global-games-market-will-reach-108-9-billion-in-2017-with-mobile-taking-42/ (last visited Mar 15, 2018).

given to be advisedly implemented in other countries for the smooth development of relevant industry.

Regarding the methodology to be used in this master thesis, the main focus will be made on the functional method that covers an identification of different legal approaches to video games' protection by revealing significant peculiarities of national legal systems and their critical appraisal and comparison by focusing on similarities and differences as well as determination and evaluation of reasonable common way to unification and harmonization of national approaches. Moreover, the thorough analytical approach may be used in examination of different legal sources within national laws that will be served as a basis for further comprehensive comparison of approaches to games protection. In addition, the historical method will be applied to the examination of video games' evolution and changeable legal approach to their protection by copyright law in discussed jurisdictions.

Concerning the structural composition, the master thesis will provide an all-sided comprehensive overview of copyright, as the most common type of intellectual property rights used for video games protection, in aforementioned jurisdictions, where foregoing aspects have been comprehensively developed and embed in legislation.

First chapter will analyze of legal nature of video games, dealing with the problem of legal classification of video games as audiovisual works, a computer program (literary work), or combination of both that has arisen due to the interactive nature and active participation of players attributed to video games. Secondly, this chapter will refer to the rules of its copyrightability, particularly originality and fixation requirements as well as examination of idea/expression dichotomy, vital for differentiating unprotected idea from copyrightable expression for further comprehensive analysis of copyrightability of separate creative elements.

Second chapter will examine the possibility of granting copyright protection for key multimedia elements of video games within the display, namely gameplay (rules of the game),

audiovisual elements and characters, through examination of their compliance with copyright requirements applied in each discussed jurisdiction.

Third chapter will analyze copyrightability of computer program as a technical basis of video games through its examination by means of originality, fixation and idea/expression dichotomy rules. Particularly, the focus will be made on the copyright protection of its literal elements (source and object code) as well as non-literal elements (graphic user interface).

The approach of each of discussed jurisdiction will be examined in chapter 2 and 3 with their comparison and identification of best practices to be implemented in other countries.

As for the legal sources and literature to be used, the main attention will be drawn at the national laws of abovementioned jurisdictions. The great focus will be made on the national court's decisions, which reveal the real practical issues of implementation of legislation. In addition, there will be the analysis of case law and harmonization acts of the European Union that influenced on the development of legal frameworks of the United Kingdom and Germany as well as doctrinal theories on the adaptation of existing rules of video games and practice of national and international IP institutions, such as the World Intellectual Property Organization and the US Copyright Office.

Chapter 1 – Legal Classification of Video Games and Rules on Their Copyrightability

1.1. Introduction to the first chapter

Copyright, being one of the pillars of intellectual property law, has been established and recognized on both international and national level in order to facilitate development of works of arts by protecting expression of authors' intellectual efforts reflected in their works. In course of time, works of arts are becoming more sophisticated as well as much more innovative kinds of works are emerging by challenging current copyright laws and pending the need for revision of standard provisions and adjusting them to the "brave new world".[6]

Video games are the works of art resulted from the development of technologies, especially hardware and software means. Starting from the simple algorithm and commonly known rules combined in first electronic game "Cathode-ray tube amusement device"[7], modern video games have become a complex combination of audiovisual works, software and other elements that complicate their attribution to the traditional copyright classification. Thus, new approaches shall be discussed and developed in order to define the legal nature of modern video games, taking into account their technical and structural peculiarities.

Following chapter will deal with the comprehensive overview of copyright protection of video games. Firstly, it will refer to their legal classification and problematic attribution to certain classes of works (audiovisual works and computer programs as literary works), because games' interactivity creates uncertainty in their play mode by providing multiple undetermined variants of its development and thus resulting in the inconsistent copyright protection in abovementioned jurisdictions.

Secondly, this chapter will refer to the threshold for copyright protection by referring to idea/expression dichotomy and tests aimed at specifying the degree of originality, fixation

[6] Aldous Huxley, Brave New World (Garden City, NY: Doubleday, Doran & Co., 1932), p. 1

[7] US patent 2455992, Goldsmith Jr., Thomas T. & Mann, Estle Ray, "Cathode Ray Tube Amusement Device", issued 1948-12-14

requirement and possibility of copyright protection of ideas in case of their specific nature and individual contribution of author. Identification of foregoing level of copyright protection that varies from jurisdiction to jurisdiction, will have a significant impact on the analysis in subsequent chapter of the copyrightability of separate key elements of video games such as gameplay, audiovisual elements, characters and computer code.

1.2. The notion and legal classification of video games

The notion and structure of video games is a central issue to be determined in order to understand their characteristics, distinctive from other works of art. Video game can be defined as a game played by electronically manipulating images produced by a computer program on a monitor or other display.[8]

From foregoing definition it becomes clear that a video game consists of audiovisual elements as different forms of audiovisual expression in a digitized format, such as images and sounds, text in the form of commands, pathways or score results[9] as well as computer program that manages audiovisual works and helps users to interact with the different elements of the game[10].

Therefore, considering the above mentioned two-sided nature of video games, current copyright law doctrine distinguishes various approaches in protection of video game as a whole by defining it, firstly, as a multimedia, audiovisual work or, secondly, as a computer program (software).[11]

According to the WIPO research on legal status of video games, there are three prevailing approaches in regard to games classification. First relates to consideration of video games

[8] "Art, n.1." OED Online, Oxford University Press, June 2017, www.oed.com/viewdictionaryentry/Entry/11125. Accessed 5 December 2017

[9] Irini A. Stamatoudi, Copyright and Multimedia Products: A Comparative Analysis, Cambridge University Press, ISBN 0 511 01940 8, 2002, p. 166

[10] A. Ramos and others, 'The Legal Status of Video Games: Comparative Analysis in National Approaches' (2013) WIPO 8, p. 10

[11] *Id* at 10

predominantly as computer programs due to specific nature of these works and their dependency on software for implementation.[12] According to the Berne Convention for the Protection of Literary and Artistic Works, computer programs are respectively protected as literary works.[13]

By defining video games simply as computer programs, the level of copyright protection is reduced only to the code embed in the software that is protected as a literary work, thus such essential elements as audiovisual works would be outside the copyright protection.[14]

Moreover, foregoing protection may add ancillary rights and their exceptions adherent to the computer games, such as decompilation, adaptation, and backup copying.[15] Decompilation and adaptation allow the program to be analyzed and used by lawful acquirer for achieving interoperability (compatibility with other independent programs) that usually involves translation from object into source code.[16] As a result of decompilation, object code could be available to the wide audience that may be detrimental in case of video games by allowing circumvention of technological measures.

In addition, backup copying, as the third right attributed to computer program, is aimed at protection of code in case of any data loss by making an additional copy of particular part or whole software.[17] However, users could misuse this right by making an enormous amount of copies, thus video games producers would be forced to control private copying of games software by introducing additional Digital Rights Management (DRM) technologies and licensing measures.[18]

Taking foregoing into account, protection of video games as computer programs may lead to its one-sided protection related only to the technical part, thus avoiding audiovisual and multimedia side of games that may seem even more identifying and significant in the video game

[12] *Id* at 11
[13] Berne Convention for the Protection of Literary and Artistic Works (1886), art. 2
[14] Jędrzej Raczyński, The Classification of Computer Games in European Copyright Law, LL.M. Master thesis, Faculty of Law Tilburg University, Tilburg 22.06.2010, p.24
[15] *Id* at 24
[16] *Id* at 24
[17] *Id* at 24
[18] *Id* at 24

than a simple code.[19] However, in some video games that substantially consist of computer code rather than graphic elements, it is still reasonable to register copyright on video game as a computer program (literary work). Foregoing statement is officially supported by the US Copyright Office that will be discussed later.

Second approach is followed by three discussed jurisdictions – the United States of America and the United Kingdom – and refers to distributive classification, which provides separate copyright protection for different elements of the game in regard to the nature of particular work (literary, graphic, and audiovisual).[20] In this sense video games differ from books or music works, which are protected as an object itself, while elements of video games can gain separate protection.[21]

Theoretically, it is may be seem useful not to complicate things by defining the common approach for protection of video games as a whole object and simply register the copyright on separate elements of a game. However, first argument against this approach lies in its practicability. Addressing this issue, Bruce Boyden in his article "Games and Other Uncopyrightable Systems" questioned the practicability of not granting copyright protection to novel and ensuring copyrightability to the novel's plot, characters, setting, dialog and cover art.[22]

Second contrarguement refers to the fact that modern games are becoming enormously sophisticated, comprising of hundreds of elements, and it seems to be impractical for authors to protect each particular element. Therefore, it is still a reasonable solution to provide protection for video game as a whole object and also for its substantive creative elements.

For example, the United States of America does not have a common legal classification in defining video games. Their attribution to the certain copyrightable work depends on the

[19] *Id* at p. 24
[20] A. Ramos and others, 'The Legal Status of Video Games: Comparative Analysis in National Approaches' (2013) WIPO 8, p. 11
[21] Jędrzej Raczyński, The Classification of Computer Games in European Copyright Law, LL.M. Master thesis, Faculty of Law Tilburg University, Tilburg 22.06.2010, p. 17
[22] Boyden, Bruce E. (2011a) 'Games and Other Uncopyrightable Systems,' George Mason Law Review 18: 445

predominance of particular characteristics of games. Thus, video games can be treated as computer program and considered as works of authorship with classifying of literary elements (source and object) as a literary work.

In contrast, in case of predominance of graphic and sound elements, a video game may be classified as an audiovisual work of art.[23] This approach is supported in *Stern Electronics Inc. v. Kaufman*, where court stated that "[t]he repetitive sequence of a *substantial portion of the sights and sounds* of the game qualifies for copyright protection as an audiovisual work".[24]

Having in mind two possible ways of video games copyrightability, the US Copyright Office in Circular 61 on the copyright registration of computer programs stated that the copyright holder shall "choose the type most appropriate to the predominant authorship".[25]

The United Kingdom adheres to the approach, according to which "moving images must be taken as simply a series of still images, each of which has its own copyright protection".[26]

Finally, following third approach, some countries consider computer programs to be of secondary importance by providing only "simple machine operability to the content created by developers and users". Therefore, video games are predominantly classified by them as audiovisual works[27], which are "*series of related images* that inherently intrinsically *intended to be shown* on some type of machine or device".[28]

[23] A. Ramos and others, 'The Legal Status of Video Games: Comparative Analysis in National Approaches' (2013) WIPO 8, p.89

[24] Stern Electronics., Inc. v. Kaufman, 669 F.2d 852, 855, 213 U.S.P.Q. (BNA) 443 (2d Cir. 1982)

[25]Circular 61 Copyright Registration of Computer Programs. US Copyright Office, www.bing.com/cr?IG=56F229762B284E30B107E0B6072049C5&CID=352D749EAC5660B31AD27F12ADF9614C&rd=1&h=QDcmceHgNLcDZibb4wR1o3JAAr4lUVhxEDs2knVBsk&v=1&r=https%3a%2f%2fwww.copyright.gov%2fcircs%2fcirc61.pdf&p=DevEx,5066.1.

[26] For details see: http://www.theregister.co.uk/2007/03/23/computer_games_copyright_law/, last access: December 5, 2017

[27] A. Ramos and others, 'The Legal Status of Video Games: Comparative Analysis in National Approaches' (2013) WIPO 8, p. 11

[28] William Patry, Electronic Audiovisual Games: Navigating the Maze of Copyright, 31 J. Copyright Soc'y U.S.A. (1983), p.21

However, some debates occurred regarding the application of "*intended to be shown*" wording to video games.[29] While audiovisual works entails passive viewer participation and are consumed in a passive manner, video games refer to interactive forms of media with active player's participation.[30]

Consequently, the main aim of video games is a physical interaction between a user and a media object (pressing a button, choosing a link, moving the body)[31] that creates the qualitatively new outcome in the play mode of a game, when a display may vary according to the route chosen, speed of player, etc.

One may argue that even being actively involved in playing video game, user exercises his choices under pre-determined and foreseen limits, thus interactivity is a relative notion and video games can be protected by copyright as audiovisual work.

This view was supported in the US case *Stern Electronics, Inc. v. Kaufman,* where court stated that all possible movements and characters are created by developers and fixed in the ROMs, just as all of a director's work is captured on film, thus the player's skill is determined just how long the display was seen and how many different movements and sequences challenged him before play ended.[32]

Earlier German courts, particularly the German Court of Appeal in Frankfurt in case *Donkey Kong Jr.*, denied the protection of a video game as an audiovisual work due to its inherent nature – interactivity, because player was able to initiate different approaches leading to a different sequence of images within each play through of the respective video game.[33]

[29] *Id* at 21
[30] *Id* at 21
[31] Garite, M. (2003) 'The Ideology of Interactivity or, Video Games and the Taylorization of Leisure', in Level Up, Digital Games Research Association Conference DiGRA, Utrecht, URL (accessed 14 May 2007): http://www.digra.org/dl/db/05150.15436

[32] Pamela K. McKenna, Copyrightability of Video Games: Stern and Atari, 14 Loy. U. Chi. L.J. 391 (1983), p. 411
[33] I.A. Stamatoudi, Copyright and Multimedia Products: A Comparative Analysis (Cambridge University Press 2001), p. 175

Consequently, Court decided that the lack of predefined sequences of images and, thus, the multitude of potential different outcomes, was contradictory to the notion of a film.[34]

However, later German Federal Court of Justice (Bundesgerichtshof, BGH) firmly defined that player's interactivity is limited within the boundaries as set-out by the video game authors, and thus, does not exclude the copyright protection of video games as audiovisual works.[35]

However, again the technologies brought a challenge to the given statement by introducing massively multiplayer online game (MMO or MMOG) that is served as a platform, where large number of users can interact with each other within a virtual world and create an indefinite number of possible outcomes that cannot even be predicted by computer program.

Nevertheless, nowadays video games are considered to be attributive to the audiovisual works, because of their multimedia nature and substantive part of audiovisual elements. For instance, Germany recognizes that video games are complex set of multimedia works, however the copyright protection should be granted as for the multimedia works (for a product in whole).[36]

In conclusion to analysis of advantages and disadvantages of two abovementioned approaches on granting the copyright protection to video game as a whole work of art, it shall be stated that despite of existence of some unique characteristics of video games, namely interactivity that complicates their attribution to a particular class of works of art, it is still reasonable to adjust copyright protection of video games within the existing national legal framework and not to create sui generis protection to this particular creative findings.

Consequently, some national and supranational legislators, in particular the European Parliament and the Council, challenged the reasonability and need for implementation of new

[34] *Id* at 175
[35] *Id* at 177
[36] The Classification of Computer Games in European Copyright Law, Jędrzej Raczyński, LL.M. Master thesis, Faculty of Law Tilburg University, Tilburg 22.06.2010, p.18

concepts for the protection of intellectual property. Therefore, the current law on copyright and related rights should be adapted and supplemented to respond adequately to economic realities such as new forms of works of art and develop new products and services.[37]

Admitting the existence and extension of copyright protection on video games in the national law, the World Intellectual Property Organization (hereafter - WIPO) has provided a compilation of best national practices in order to make a comparative analysis of national approaches to the legal status of video games[38] and business issues for video games developers.[39]

By doing this, international institution set guidance for countries that are on their way of development a workable and effective law on copyright protection of video games. However, foregoing practices shall be duly revised and updated in order to be in time with rapid development of technologies and address the emerging legal issues arisen in connection to the technical advancement.

1.3. Requirements for copyrightability and the "idea/expression" dichotomy as a threshold for copyright protection

One of the fundamental principles in copyright law is the existence of the required level of originality in expression of author's intellectual creation. The Berne Convention (the BC), being a central international copyright treaty, provides implicit general requirement of originality by stating in Article 2(1) that "[t]he expression "literary and artistic works include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression…"[40]

[37] Preamble to the Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society Official Journal L 167 , 22/06/2001 P. 0010 - 0019

[38] See - A. Ramos and others, 'The Legal Status of Video Games: Comparative Analysis in National Approaches' (2013) WIPO 8

[39] David Greenspan, Mastering the Game: Business and Legal Issues for Video Game Developers, Publication No. 959E, Creative industries - Booklet No. 8, 2014, available at WIPO official website: www.wipo.int

[40] Berne Convention for the Protection of Literary and Artistic Works 1886, Article 2 (1)

Therefore, two considerations can be made from the foregoing definition. Firstly, the threshold of originality and tests needed to be applied fall within the scope of the Berne Convention and shall be decided on the national level.[41]

Secondly, although Article 2(1) of the BC grants protection to works of any form of expression, the Article 2(2) specified that works in general or any specific categories of works shall not be protected unless they have been fixed in some material form.[42] Thus, this non-binding and arguably unhelpful term[43] allows the Convention's Member States to determine individually whether they wish the work to be fixed in a tangible format, abstain from any fixation requirements or impose other standards in between these extremes.[44]

The "idea/expression" dichotomy is considered to be the central, fundamental principle in the copyright law. Professor Samuels reasonably stated that "it is hard to find a single principle of copyright law more basic or more often repeated than the idea-expression dichotomy".[45]

On international level the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the World Intellectual Property Organization (WIPO) Copyright Treaty state that copyright protection [shall] extend[s] to expressions and not ideas, procedures, methods of operation or mathematical concepts as such.[46]

Having ratified aforementioned international treaties, countries are obliged to implement foregoing general approach in regard to the idea/expression dichotomy in their national law with subsequent specification and adaptation to the peculiarities of their legal system.

[41] T. Margoni, 'The Digitization of Cultural Heritage: Originality, Derivative Works and (Non) Original Photographs' (2015) SSRN 8 <https://ssrn.com/abstract=2573104> accessed April 2018

[42] Agarwai Girish, Implementing a digital first sale doctrine: Comparative study of the EU and the USA , Hamburg, Achor Academic Publishing, 2015, p. 10

[43] White, Elizabeth (2013) "The Berne Convention's Flexible Fixation Requirement: A Problematic Provision for User-Generated Content," Chicago Journal of International Law: Vol. 13: No. 2, Article 18, p. 687

[44] *Id* at p. 687

[45] Samuels, E. (1989), 'The Idea-Expression Dichotomy in Copyright Law', 56 Tenn. L. Rev. 321 [Online]. Available at: http://www.edwardsamuels.com/COPYRIGHT/BEYOND/articles/ideapt1-20.htm#h2 (Accessed: 09 February 2018)

[46] See – Article 9.2 of TRIPS and Article 2 of the WIPO Copyright Treaty

Idea/expression dichotomy has played an important role in the video games industry, because first video games were not enough developed, thus it was hard to distinguish between an idea and expression of this idea that lead to numerous litigation process regarding games' legal nature and protection.[47] Courts decided some forms of expression to be associated with the idea of a particular video game, refusing by this way to grant copyright protection to some creative elements, particularly visual components of video games.[48]

With the development of technologies, modern video games have become more sophisticated and include numerous forms of expression, thus shifting the discussion from idea/expression dichotomy to legal nature of video games[49] that can be clearly followed in further analysis of *Nova Production* case in the UK approach to copyrightability of gameplay.

Therefore, the aim of this subchapter is to identify the set threshold for originality and fixation requirements and examine the practice on the idea-expression dichotomy in discussed jurisdictions for its further applicability in analysis of copyrightability of separate video games' elements.

1.3.1. The US approach

Referring to the USA, the US Copyright Act, as a central legal framework for copyright protection, outlines general requirements for the subject matter to be granted the copyright protection. Particularly, a work must be original, fixed in a tangible medium, and more than a mere idea.[50]. Section 102 (b) specifies that "[i]n no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or

[47] A. Ramos and others, 'The Legal Status of Video Games: Comparative Analysis in National Approaches' (2013) WIPO 8, p.7
[48] *Id* at 7
[49] *Id* at 7
[50] 17 U.S.C., US Copyright Act, 1976, sec. 102 (a) and (b)

embodied in such work".[51] From abovementioned it becomes obvious that copyright protection can be applied only to expressive original elements of works of art, particularly to video games.

First threshold that works of art should overcome in order to be recognized as copyrightable, is identification of their originality and fixation in tangible medium, because copyright protection "subsists... in original works of authorship fixed in any tangible medium of expression".[52] This test has become frequently applicable, because potential infringers are used to argue the absence of originality and fixation in the copyrighted works in order to challenge the existence of the copyright infringement.

A landmark case as an example of foregoing challenge in the US video game industry is *Stern Electronics, Inc. v. Kaufman*, where defendant argued that images and sounds of plaintiff's video game cannot be protected by copyright law, because they are not "fixed in any tangible medium of expression…and are original"[53], due to interactive characteristic of the video game, when the sequence of sights and sounds can differ depending on the actions taken by the players during the play mode.

Court decided that foregoing set of visual elements can be copyrighted as audiovisual work by holding: "if a work is the product of an artist's individual efforts, it is original and one need not prove that it is either novel or unique".[54] Moreover, Court considered the memory devices as a "copy", in which the work is "fixed" and concluded that "the player's participation does not withdraw the audiovisual work from copyright eligibility".[55]

Therefore, standard stated *in Stern* balances the competing constitutionally protected interests of the individual artist and the public by, firstly, refusing to grant a protection to works that are no more than trivial variations of prior-existing creations.[56]

[51] 17 U.S.C., US Copyright Act, 1976, sec. 102 (b)
[52] 17 U.S.C., US Copyright Act, 1976, sec. 102 (a)
[53] *Id* at sec. 102 (a)
[54] Stern Electronics., Inc. v. Kaufman, 669 F.2d 852, 855, 213 U.S.P.Q. (BNA) 443 (2d Cir. 1982)
[55] Stern Electronics., Inc. v. Kaufman, 669 F.2d 852, 855, 213 U.S.P.Q. (BNA) 443 (2d Cir. 1982)
[56] Pamela K. McKenna, Copyrightability of Video Games: Stern and Atari, 14 Loy. U. Chi. L.J. 391 (1983), p. 396

Moreover, *Stern* court set a minimal originality standard of originality to enable more creative efforts to be qualified for copyright protection.[57] The U.S. Supreme Court further supported this finding in case *Feist Publications v. Rural Telephone Service Company*, stating that "the originality requirement is not particularly stringent" and "vast majority of works make the grade easily, as they possess some creative spark, no matter how crude, humble or obvious it might be".[58]

Additionally, although the US Copyright Act does not require any significant investment as a prerequisite to copyright protection, in most infringement cases plaintiffs were required to show substantial labor and financial investments in their works, because otherwise courts were reluctant to issue an injunction as it related to a long-term monopoly[59] and might strike public interest in development and progress of works of art.

Finally, while copyright is generally acquired automatically without formalities if there is an original expression, the US legislation states that copyright infringement suit can be brought only until preregistration or registration of the copyright claim has been made, because a certificate of registration of an application for copyright is a prerequisite to commerce a suit for copyright infringement.[60] Therefore, it is highly recommendable to register the copyright rights on intellectual creations in order to be entitled to judicial protection in case of infringement.

If the copyrightability requirements as to the form of the work are fulfilled, courts usually refer to the substance of the work by determining of the presence of protectable expression and distinguishing it from unprotectable idea, as a result of application of idea/expression dichotomy tests to copyright works in general and video games in particular.[61]

[57] *Id* at 396
[58] Feist Publications, Inc., v. Rural Telephone Service Co., 499 U.S. 340 (1991)
[59] Thomas M. S. Hemnes, The Adaptation of Copyright Law to Video Games, University of Pennsylvania Law Review, Vol. 131, No. 1 (Nov., 1982), p. 176
[60] 17 U.S.C., US Copyright Act, 1976, sec. 501
[61] Alan R. Glasser, Video Voodoo: Copyright in Video Game Computer Programs, 38 Fed. Comm. L.J. 103 (1986), p.106

First approach refers to the "abstraction test" or test of Justice Hand, according to which general statements and descriptions are considered as ideas and are less protectable by copyright in comparison to specific statements and descriptions – "the more idea present, the less expression, and vice versa".[62]

Therefore, according to the abstraction test, courts deny protection to those abstractions that are very broad and applicable to many works as to be only ideas, and grant protection only to those elements that are sufficiently detailed or particular to a work as to be the author's own artistic representation of an idea.[63]

Later the applicability of this test was broadened in *Computer Associates International, Inc. v. Altai* by the Abstraction-Filtration-Comparison Test, where court stated that "while abstractions test was originally applied in relation to literary works such as novels and plays, it is adaptable to computer programs".[64]

Professor Stephen Eland defined the Abstraction-Filtration-Comparison test as a method for segregating the protectable elements of a computer program and determining whether the protected elements have been infringed upon by another work.[65] Respectively, it separates a technical part from expressive and defines the scope of copyrighted work as well as compares it to the potentially infringing one.

Thus, foregoing test is inherently flexible for its adaptation to various technological situations that allow courts to decide cases equitably, though without provision of firm rule upon which software developers can rely.[66]

Therefore, the USA establishes the minimum originality requirement to enable bigger amount of author's individual creations be granted a copyright protection. Moreover, one should

[62] Nichols v. Universal Pictures Corporation et al. 45 F.2d 119 (2d Cir. 1930)
[63] M. Nimmer, Nimmer on Copyright: A Treaty on the Law of Literary, Musical and Artistic Property, and the Protection of Ideas, § 13.03[A]I1]
[64] Computer Associates International, Inc. v. Altai, 982 F.2d [1992] 693, par. 76-108
[65] Stephen H. Eland, The Abstraction-Filtration Test: Determining Non-Literal Copyright Protection for Software, 39 Vill. L. Rev. 665 (1994), p. 671
[66] *Id* at 671

proof that copyrightable work is an expression of idea, not unprotectable idea as well as in case of infringement present a substantive labor and financial investments put in the creation of his work.

1.3.2. European harmonized approach

The central legal instrument in harmonization of European copyright law is the Directive 2001/29/EC on the harmonization of certain aspects of copyright and related rights in the information society (the InfoSoc Directive), which implemented the provisions of the WIPO Copyright Treaty. Particularly, the InfoSoc Directive has copied international approach to idea/expression dichotomy by stating that copyright protection extends to expressions and not to ideas, procedures, and methods of operation or mathematical concepts.[67]

Idea/expression dichotomy was further interpreted and complemented in several cases of the Court of Justice of European Union (the CJEU). In cases *Bezpečnostnísoftwarová asociace v Ministerstvo kultury and Football Association Premier League v. Media Protection Services*, Court stated that if an expression is determined by technical or functional rules, for example, when an idea is only expressible in one way, or the expression is constrained by narrow rules, copyright protection for this expression cannot be granted, because the idea and the expression become indissociable.[68]

Though, the notion of "work of authorship" was not defined in the InfoSoc Directive, the CJEU solely developed criteria of originality in its case law. In case *Infopaq International v. Danske Dagblades Forening*, Court defined that in order to be copyrightable, an original subject-matter shall be the own intellectual creation of authors, who exercise their free and creative choice and put their personal stamp in the applicable work.[69]

[67] F.W. Grosheide, H. Roerdink and K. Thomas, 'Intellectual Property Protection for Video Games: A View from the European Union' (2014) 9 JICLT 5.

[68] See - C 403/08 and C 429/08 Football Association Premier League and Others v. Media Protection Services Ltd [2011] ECR I-09083, para 98 and Case C 393/09 Bezpečnostnísoftwarová asociace v Ministerstvo kultury [2010] ECR I-13971, para 49

[69] Case C-5/08 Infopaq International A/S v. Danske Dagblades Forening [2009] ECR I-06569, par. 37

Moreover, according to the case *Football Dataco v Yahoo! UK*, skill and labor are not considered to be a determining factor in establishing originality of a work, because it does not contribute to the necessary free and creative choices of an author, and thus, do not lead to the creation of a work possessing the required originality.[70]

Moreover, the EU does not have any legal or practical registration requirement for copyright works, thus works are gained copyright protection as soon as they have been created.[71]

In addition, the EU Directives do not mention fixation requirement for copyright protection[72], as well as case law does not require any translation of the work in a conventional form, which is more convenient for its conservation and distribution.[73] Therefore, in the EU an authorship is the main requirement for copyright protection and exploitation by fixation or any other form is not required.[74]

This approach, being similar to the US, establishes the minimum threshold in order to grant copyright protection for greater amount of works, however states the existence of copyright protection from the time of work's creation, while the USA acknowledges the registration of copyright rights in works in order to effectively enforce them in case of infringement.

1.3.3. The UK approach

Modern UK copyright act - Copyright, Designs and Patents Act 1988 (the CDPA) - defines a closed-list system of eight enumerated subject-matters, which are subject to copyright protection, including literary, dramatic, musical or artistic works, sound recordings, films, broadcasts and the typographical arrangement of published editions[75]. Thus, the scope of copyright protection is limited without the possibility of its extension and new emerging works of art shall be fit into existing firm legal framework.

[70] Case C 604/10 Football Dataco Ltd and Others v Yahoo! UK Ltd and Others [2012] Digital reports 2012, para 53
[71] For information on Copyright Registration and Documentation, see www.wipo.int/copyright/en/activities/copyright_registration
[72] Estelle Derclaye, Research Handbook on the Future of the EU Copyright (Edward Eldar, UK 2009), p. 140
[73] *Id* at 140
[74] *Id* at 141
[75] Copyright, Designs and Patents Act, 1988, c. 48, Section 1(1)

Thus, the UK approach is more liberal in contrast to the US, because the scope of protection in the former under copyright is broader, and this difference is "particularly visible in relation to copyright works concerned with functionality and of compilations".[76] However, the UK closed-list system creates some challenges in allocation of video games' elements within existing copyright subject matters that were evidently shown in *Nova Productions Ltd v Mazooma Games Ltd* case and discussed in subchapter 3.2.3.

Referring to the fixation requirement to obtain copyright protection, Section 3 (2) of the CDPA firmly states that copyright does not subsist in a literary, dramatic or musical work unless and until it is recorded, in writing or otherwise.[77] By having specified this, the United Kingdom demands fixation in some material form as a traditional proof of the protection.[78]

Regarding the idea/expression dichotomy, it shall be stated that ideas are excluded from copyright protection under the UK legislation. First case that addressed the issue of idea/expression dichotomy was *Jeffrey's v Boosey*, where court stated that copyright claims should refer to the order of words, which has a marked identity and a permanent endurance, rather than to the ideas.[79]

After that the Copyright Act 1956 specified that "ideas, thoughts and plans existing in a man's brain are not works", but ideas that are in material form and, being a collection or compilation, acquire substantial part in the work, may receive copyright protection.[80]

Following approach was further supported in case *British Leyland v. Armstrong*, where court found that "where an idea was sufficiently general, then even if an original work embodied it, the mere taking of that idea would not infringe a copyright. But if the idea were to be detailed,

[76] K.P. Abinava Sankar, Nikhil L.R. Chary, The Idea - Expression Dichotomy: Indianizing An International Debate, Journal of International Commercial Law and Technology Vol. 3, Issue 2 (2008), p.133
[77] Copyright, Designs and Patents Act, 1988, c. 48, Section 3(2)
[78] Estelle Derclaye, Research Handbook on the Future of the EU Copyright (Edward Eldar, UK 2009), p. 141
[79] Jeffreys v. Boosey, 4 H.L.C. 815.98
[80] K.P. Abinava Sankar, Nikhil L.R. Chary, The Idea - Expression Dichotomy: Indianizing An International Debate, Journal of International Commercial Law and Technology Vol. 3, Issue 2 (2008), p.133

then there is a possibility of infringement, the determination of which remained a question of degree".[81]

Thus, the approach of the UK is relatively similar in comparison to the US, however, with several framework differences regarding the closed-list system of copyrightable subject matters, forcing by this way new emerging works of art be fit into existing firm legal framework.

1.3.4. German approach

Under the German legal framework, copyrighted work is created by molding of author's intellectual "Content" (Inhalt), as an equivalent to the idea in common law, into a certain "Form" (Form), as an equivalent of expression.[82]

Previously, German law treated "Content" as non-copyrightable element of work of art and "Form", respectively, as copyrightable.[83] Modern German copyright law states that despite of the general rule of non-copyrightability of mere abstract thoughts and ideas, if an author has made individual intellectual contributions to both Content and Form, each can be protected by copyright.[84] Consequently, Form is copyrightable when it is an original reflection of author's individuality, while Content is subject to copyright protection if it contains author's individual manner of thinking ("structuring of train of thoughts").[85]

Moreover, according to the German Copyright Act (Urheberrechtsgesetz (UrhG)), only the author's "own intellectual creations"[86] constitute works within the meaning of the UrhG. German Federal Court of Justice (Bundesgerichtshof (BGH)) interpreted foregoing definition in *Blackberry pattern case,* where it was stated that author's "own intellectual creation" is "a

[81] British Leyland v. Armstrong [1986] R.P.C. 279 at 296.
[82] Beldiman, Dana, Functionality, information works, and copyright/ by Dana Beldiman. S.l.: Yorkhill Law Publ., 2008, p.76
[83] *Id* at 76
[84] Copyright Act of 9 September 1965 (Federal Law Gazette I, p. 1273), as last amended by Article 1 of the Act of 20 December 2016 (Federal Law Gazette I, p. 3037)
[85] Beldiman, Dana, Functionality, information works, and copyright/ by Dana Beldiman. S.l.: Yorkhill Law Publ., 2008, p.77
[86] Copyright Act of 9 September 1965 (Federal Law Gazette I, p. 1273), as last amended by Article 1 of the Act of 20 December 2016 (Federal Law Gazette I, p. 3037), sec. 2(2)

creation of individual character when its degree of creativity is sufficiently high that the relevant public, which is sensitive to art and familiar with concepts of art, perceives the work as an artistic achievement".[87]

Therefore, the German copyright law has become famous for the high standard of originality required in order for a work to receive copyright protection, thus it can be difficult for a creative work to receive protection, no matter how competently it is written, unless it stands out for its individuality.[88]

The adoption of the InfoSoc Directive and ruling in the landmark case of the CJEU - *Infopaq International v. Danske Dagblades Forening* – Germany has been compelled to low its high originality threshold. Consequently, the Federal Court of Justice in case *Birthday Train* clearly restricted old threshold to be further applied, however it did not state the level of new threshold and kinds of works to be protected.[89] Subsequent *Birthday Train II* case eliminated foregoing issues, when the Higher Regional Court of Schleswig developed two criteria for copyrightability of works, namely elements determined only by functionality cannot be granted a copyright protection and work needs to have a "creative leeway" to be recognized as copyrightable.[90]

In addition, it should be noted that a permanent and physical form of work of art is not legally necessary according to the German law.[91] This approach is very reasonable one as it eliminates the possible subsequent case law regarding the arguing of impossibility of copyright protection of certain works of art, particularly video games, because of absence of their fixation on the tangible medium.

[87] BGH, Jan. 27, 1983, Case I ZR 177/80—Brombeer-Muster (blackberry pattern)

[88] Simon Newman, The development of copyright and moral rights in the European legal systems, European Intellectual Property Review 2011

[89] BGH I ZR 143/12 Geburtstagszug (Birthday train)

[90] BGH I 6 U 74/10Geburtstagszug II (Birthday train II)

[91] Copyright Act of 9 September 1965 (Federal Law Gazette I, p. 1273), as last amended by Article 1 of the Act of 20 December 2016 (Federal Law Gazette I, p. 3037)

Therefore, Germany provides relatively broad scope of protection by copyright, including possibility of copyrightability of specific, not abstract, ideas (content) in the form of author's individual manner of thinking. Previously, both expression (form) and ideas (content) were subject to the strict review on the matter of originality, degree of which should be high enough to constitute a creative achievement and copyrightable work of art.[92] Nowadays, work of applied arts need to be creative and apart from functionality in order to be copyrightable that has positively influenced on their development and advancement.

1.3.5. Comparison of approaches

Regarding the originality requirement, it should be noted that nowadays all discussed jurisdictions establish low threshold by requiring work to be an intellectual creation of an author and not just a trivial, simple work. While in the USA and the UK foregoing approach was primarily established, Germany has reached it due to the implementation of the InfoSoc Directive that required the lowering of threshold for granting the protection to the bigger amount of works of art. Therefore, it leads to the promotion and progress of works of art and is a fostering factor for the further smooth development of video games industry.

As for the fixation requirement, the USA and the UK have traditionally established the requirement to work to be fixed in any material form (tangible medium) in order to gain a copyright protection. Foregoing approach complicated at the first stages the copyrightability of video games, which were argued not to be fixed and consequently protected. Due to the extensive case law foregoing requirement has been adjusted to the new complicated multimedia works and with regard to their technical peculiarities. In contrast, Germany primarily refused to require the fixation of works of arts, thus having shielded itself from the multiple court claims and case law.

[92] BGH, Jan. 27, 1983, Case I ZR 177/80—Brombeer-Muster (blackberry pattern)

Referring to the idea/expression dichotomy, one should consider that while all countries have recognized foregoing principle in their legislation, its understanding varies from country to country. Whereas the USA grants copyrightability to the methods and ideas if they are sufficiently detailed and become an indissociable part of the copyrightable elements[93], the UK and Germany recognizes copyrightability of ideas if they are sufficiently fixed in material form and constitute a collection or compilation (the UK) or contain author's individual manner of thinking (Germany).

Consequently, foregoing analysis of the key requirements for copyright protection is an important step for the further examination in the subsequent chapters the copyrightability of separate key elements of video games, namely gameplay, audiovisual elements (images and sounds), characters and computer code.

Chapter 2 – Copyrightability of Multimedia Elements on a Display

2.1. Introduction to second chapter

Video games are complex works of authorship, containing multiple arts, such as music, plots or rules of a game, video, paintings and characters that involve human interaction while executing the game with a computer program on specific hardware.[94]

Therefore, video games are considered single works, but as "an amalgamation of individual elements that can each individually be copyrighted"[95] if they meet copyrightability requirements such as originality, fixation and "not mere an idea".[96]

Following chapter will refer to the analysis of copyrightability of multimedia elements within the display, namely gameplay, audiovisual works and characters. Each work of art will be

[93] For example see subchapter 2.2.2. – the US approach to copyrightability of gameplay
[94] A. Ramos and others, 'The Legal Status of Video Games: Comparative Analysis in National Approaches' (2013) WIPO 8, p. 7
[95] Id., p. 7
[96] 17 U.S.C., US Copyright Act, 1976, sec. 102 (b)

examined through its compliance with copyright requirements (originality, fixation and idea/expression dichotomy) applied in each discussed jurisdiction.

2.2. Copyrightability of gameplay

2.2.1. Notion of gameplay and fair balance in its copyright protection

With the development of video games and increasing of their complexity, gameplay has become one of central elements of modern video games that qualitatively distinguish some video games one from another and usually contains substantive intellectual and creative elements. The aim of this sub question is to analyze the possibility of gameplay copyrightability and its challenges arisen particularly in connection with the idea/expression dichotomy.

Before starting the analysis of the legal approaches in discussed jurisdictions, it is vital to understand the notion of gameplay and its constitutive elements. One should note that there is no universally accepted concept of gameplay, thus it has been comprehensively discussed in the academic fields that resulted in creation of different approaches to gameplay definition.

Respectively, Rollings and Adams, as followers of technical approach, defined gameplay as a "synergy emerging from the interaction of certain elements included in the game and one or more casually linked series of challenges in a simulated environment".[97]

However, the most common notion of gameplay relates to the player-centered approach, where gameplay is defined as rules of the game (what is allowed and how to play game)[98], because the goal of digital game is directed on the player's activities within artificially created and simulated environment. Consequently, gameplay refers to what the player can do and how the game responds to player's decisions.[99]

[97] Rollings, A. and Adams, E. (2003), on Game Design, New Riders Publishing, Indianapolis Law

[98] Fabricatore, Carlo (2007) Gameplay and Game Mechanics: A Key to Quality in Videogames. In: ENLACES (MINEDUC Chile) -OECD Expert Meeting on Videogames and Education, 29-31 October, 2007, Santiago de Chile, Chile, p. 3

[99] *Id* at 3

Therefore, a player-centered approach defines 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".[100]

Taking all abovementioned into account, it should be noted that gameplay is the combination of game mechanics, rules, goals, obstacles, rewards and penalties used in a particular videogame, which is made manifest through the audiovisual displays generated when the player interacts with the game.[101]

Game rules play one of the key roles in determination of the nature of a game, because as Katie Salen and Eric Zimmerman stated in their book "Rules of Play": "[a] game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome".[102]

Moreover, gameplay has become extremely important with the increase of games complexity, when some intellectual and financial efforts are invested in designing, implementing and testing the gameplay. Thus, in case of copying and further commercializing of game rules by "free riders", original developers are deprived of their working results and are not incentivized for the future to produce innovative and forward-going videogame play.

On the other hand, as Thomas Hemnes, copyright protection of gameplay may be contrary to the US constitutional principle that "monopolies shall be stated for limited Times".[103] Mr. Hemnes argues that it would create monopolies for relatively unlimited time, as copyright

[100] *Id* at 4

[101] On gameplay, see generally L. Konzack, "Computer Game Criticism: A Method for Computer Game Analysis" in F. Mäyrä (ed.), Computer Games and Digital Cultures Conference Proceedings (Tampere University Press, 2002); C. Fabricatore, "Gameplay and Game Mechanics Design: A Key to Quality in Videogames", OECD-CERI Expert Meeting on Videogames and Education, Santiago de Chile, October, 29–31, 2007.

[102] Salen, K. and Zimmerman, E. (2004). Rules of Play—Game Design Fundamentals. London: The MIT Press

[103] U.S. Constitution, Art. I, § 8, cl. 8

lasts for more than the life of a man, and would stifle the very progress copyright is designed to foster.[104]

Therefore, it becomes vital to find a fair balance between the right of authorship and further development of works of art by granting reasonable copyright protection against gameplay infringements. Foregoing need is supported in *Promusicae case* of the CJEU, where court stated the importance of finding the fair balance between fundamental rights and general principles of Community law, in particular the standard of proportionality.[105]

Consequently, following discussion of gameplay protection within stated jurisdiction will relate to the analysis of legislation and case law aimed at finding fair correlation between author's rights and public interest.

2.2.2. The US approach

First of all, the USA, as the second biggest video games producer, has developed the extensive framework for protection of gameplay. Thus, the US approach will be firstly examined.

According to the US Copyright Act, Section 102(b), copyright protection shall not extend to the ideas, procedure, process or method of operation. On the first look, the affording the protection of game's method would be treated as inconsistent with venerable principles of copyright law that does not protect ideas, but only their expression.[106] In support of this argument, court in *Baker v. Selden* stated that rules of a game are "utilitarian" and therefore outside the scope of copyright protection.[107]

One may ask subsequent question – how the intellectual and creative efforts of authors of game rules can be protected by intellectual property law? If rules of game are ideas itself, it is

[104] Thomas M. S. Hemnes, The Adaptation of Copyright Law to Video Games, University of Pennsylvania Law Review, Vol. 131, No. 1 (Nov., 1982), pp. 172
[105] Case C-275/06, Productores de Música de España (Promusicae) v Telefónica de España SAU, 29 January 2008, par. 68
[106] Thomas M. S. Hemnes, The Adaptation of Copyright Law to Video Games, University of Pennsylvania Law Review, Vol. 131, No. 1 (Nov., 1982), pp. 172
[107] Baker v. Selden, 101 U.S. 99, 25 L. Ed. 841, 1879 U.S. LEXIS 1888, 11 Otto 99 (U.S. Jan. 19, 1880)

logical to protect them by registering patent. However, it is quite unusual approach and there are a few cases supporting it. Namely, authors rights on the rules of Monopoly game was protected by patent.[108] However, it is an exception rather than a rule, therefore US courts in its practice tried to find a fair balance between necessity to protect author's creative findings and public interest in absence of copyright monopoly by application of idea/expression dichotomy tests.

In *Chamberlin v. Uris Sales Corp*, court decided that rules of "Acy-D" game did not deserve the copyright protection because of evident lack of originality, when it was fundamentally based on the rules of old and well-known Maskee game with only few new twists added.[109] Therefore, if game rules are found by court to have a lack of creativity, it is obvious that they are not afforded the copyright protection as the main requirement of protection is originality of work of art.

Relatively, in case *Affiliated Enterprises, Inc. v. Gruber*, court, being in opposition to copyrightability of gameplay, refused to grant copyright protection for the rules of game lied in elementary principle of distribution of prizes, because such a decision would grant a monopoly to the plaintiff, preventing any other person from entering the field.[110]

In addition, taking into account the possibility of disguise of game rules in games' audiovisual elements, courts examined the distinction between method-of-play and nonessential graphics. Respectively, in *Durham Industries, Inc. v. Tomy Corp*., court found two games mechanically identical and structurally similar, because each of them involved the use of push-buttons to move an object from starting point to goal. Despite of this finding, the plaintiff's artwork differed significantly from the defendant's one. Thus, court distinguished utilitarian and pictorial elements of the game stating that game rules exist separately from the visual elements and can be played even without reference to them.[111]

[108] Anti-Monopoly, Inc. v. General Mills Fun Group, 515 F. Supp. 448 (N.D. Cal. 1981)
[109] Chamberlin v. Uris Sales Corporation, 150 F.2d 512 (2d Cir. 1945)
[110] Affiliated Enterprises, Inc. v. Gruber, 86 F.2d 958 (lst Cir. 1936)
[111] Durham Industries. Inc. v. Tomy Corp., 630 F.2d 905, 913 n.11 (2d Cir. 1980)

Despite of the fact that courts do not directly consider the rules of a game to be copyrightable, *Atari, Inc. v. North American Philips Consumer Electronics Corp*. case is an example of court decision, where court confirmed the copyright infringement of audiovisual elements that had firmly embed the rules of a game. In present case, plaintiff's Pac-Man game contained rules that "gobbler" may consume "monsters" if the "monsters" are blue.[112] Additionally in support to the foregoing statement, court found that mazes, being a graphic element the game, affected tactics and techniques in the play mode.[113] Therefore, indirectly methods of play were recognized copyrightable if they constituted a part of copyrightable elements of a game.

Therefore, in the USA rules of a game are not considered to be copyrightable, because US copyright law does not cover ideas, methods of operation and procedures, thus considering them to be utilitarian and creating a long-time monopoly that slows the development of works of art. However, while ideas are not copyrightable, particular expressions of video game ideas are.[114] Particularly, rules of the game can also obtain copyright protection in case of identical copying, when idea is firmly embed in the copyrightable elements as it becomes indistinguishable from the expression of idea and lead to the formation of the "idea-expression unity".[115]

2.2.3. The UK approach

Referring to the UK, as the second largest in Europe and the fifth largest country globally in terms of video games development, it should be stated that its approach to copyright protection of gameplay is relatively similar to US.

[112] Atari, Inc. v. North American Philips Consumer Electronics Corp., 672 F.2d 607 (7th Cir. 1982)
[113] Atari, Inc. v. North American Philips Consumer Electronics Corp., 672 F.2d 607 (7th Cir. 1982)
[114] Theodore J. Grabowski Jr., Copyright Protection for Video Game Programs and Audiovisual Displays; and - Substantial Similarity and the Scope of Audiovisual Copyrights for Video Games, 3 Loy. L.A. Ent. L.J. (1983), p.152
[115] *Id* at 152

As stated previously in explanation of the UK approach to idea/expression dichotomy, general ideas are excluded from the copyright protection. However, case law defined that if an idea is detailed and it is embodied in original work, there is a possibility of its copyright infringement.[116]

Thus, the relevant issue, discussed by courts in case law on videogame play, is whether the ideas are specific enough to be protected by copyright and whether the rules of game can fit within restrictive scope of copyright protection of Copyright, Designs and Patents Act 1988.

The most "significant judicial pronouncement to date"[117] in legal status of video games in the UK is the decision in *Nova Productions Ltd v Mazooma Games Ltd*. According to facts of the case, plaintiff claimed the copy of game's screen appearance ("outputs") instead of software code. Court examined the similarities between games on the basis screen shots and relevant games features and came to the conclusion that defendant's games contained a limited number of general ideas that were not copyrightable and did not constitute the substantial part of plaintiff's game.

The great attention at the following stage shall be drawn at court's analysis of possibility of copyright protection of gameplay and its allocation within the existing copyright scope. Professor Yin Harn Lee, the recognized expert in copyright issues of video games, states that, at the initial reading of *Nova Productions* case, the copying of a videogame's gameplay elements alone does not amount to infringement, if no copying of its graphics, sounds or underlying computer code has occurred.[118]

This approach tries to find a fair balance between author's rights and public interest in development of works of art, because extending of copyright protection to gameplay and,

[116] See - British Leyland v. Armstrong [1986] R.P.C. 279 at 296.
[117] Yin Harn Lee, Play again? Revisiting the case for copyright protection of gameplay in videogames, European Intellectual Property Review, E.I.P.R. 2012, 34(12), p. 868
[118] *Id* at 869

consequently, ideas will prevent subsequent creators from using those ideas in the future[119]. Judge Jacob L.J. stated that granting copyright protection to general ideas would cause copyright to "be an instrument of oppression rather than the incentive for creation which it is intended to be".[120]

Though, court explained previous case law in order to understand the level of certainty that should be present in gameplay to make it copyrightable. In case *Green v Broadcasting Corp of New Zealand* it was defined that if distinctive, repeated features in a television series could not be isolated from the changing material presented in each separate episode, they shall be protected by copyright as a dramatic work.[121] If features were "conspicuously lacking" in the certainty, copyright protection cannot be ordered in order to avoid injustice to the rest of the world.[122]

In *Nova Production Ltd*. case defendant's game contained general ideas and defendant had copied plaintiff's gameplay elements without a great level of detail, thus it was not considered as a copying of a substantial part of plaintiff's work.[123] If rules of defendant's game were more specified, they would have been considered as "sufficiently developed so as to be taken out of the realm of mere ideas and into that of detailed expression".[124]

Professor Yin Harn Lee is sure that this approach creates a fair balance in, on the one hand, preventing monopoly over basic game mechanics such as running and jumping and, on the other hand, in protecting author's innovative works of art.[125]

The second issue in relation to gameplay copyrightability is its allocation within the existing copyrightable subject matters, defined in section 1(1) of Copyright, Designs and Patents Act 1988. Court in the Nova Production case has examined foregoing issue in detail.

[119] *Id* at 871
[120] Nova Productions [2007] EWCA Civ 219; [2007] Bus. L.R. 1032 at [55].
[121] Green v Broadcasting Corp of New Zealand [1989] R.P.C. 700 PC (New Zealand)
[122] Green v Broadcasting Corp of New Zealand [1989] R.P.C. 700 PC (New Zealand)
[123] Nova Productions [2007] EWCA Civ 219; [2007] Bus. L.R. 1032
[124] Yin Harn Lee, Play again? Revisiting the case for copyright protection of gameplay in videogames, European Intellectual Property Review, E.I.P.R. 2012, 34(12), p. 872
[125] *Id* at 873

Firstly, court referred to the analysis of gameplay protection as a computer program (literary work). It decision to present case it was stated that defendants had not copied the literal code or architecture of plaintiff's computer code, but had taken only general ideas (gameplay) that constituted its outputs.[126]

According to the previous case law, namely *Navitaire Inc v Easyjet Airline Co*, the rule of law establishes that if subsequent computer program is written without copying of original code, though producing identical general results, no copyright infringement occurs.[127] Thus, it becomes obvious from the Nova Production case that computer program may copy all rules of another computer program without any infringement of copyright.[128] This view was also supported by CJEU's case - *SAS Institute Inc. v World Programming Ltd* - where court did not consider neither the functionality of a computer program nor programming language and the format of data files as a form of expression of that program under the Software Directive.[129]

Therefore, it is obviously hard to allocate gameplay within the computer program framework of copyright protection, thus court examined possibility of fitting rules of a game in other copyright subject matters.

As for the artistic works, court clearly stated that rules of game are essentially different from graphical works, as the latter refer to static bitmap graphics and composite frames generated from then, thus assessment of similarities and differences of graphics is made by visual comparison between bitmaps and frames, being totally different from game rules, methods and mechanics that have a dynamic character due to interactivity.[130]

[126] Nova Productions [2007] EWCA Civ 219; [2007] Bus. L.R. 1032
[127] Navitaire Inc v EasyJet Airline Co Ltd (No.3) [2004] EWHC 1725 (Ch)
[128] Nova Productions [2007] EWCA Civ 219; [2007] Bus. L.R. 1032
[129] Case C-406/10 SAS Institute Inc. v World Programming Ltd, Court of Justice of the European Union, Press Release No 53/12, Luxembourg, 2 May 2012
[130] Yin Harn Lee, Play again? Revisiting the case for copyright protection of gameplay in videogames, European Intellectual Property Review, E.I.P.R. 2012, 34(12), p. 873

Referring to the films as third copyrightable subject matter, Professor Yin Harn Lee believes that in order to capture the dynamic character of gameplay, films as a series of moving images seem to be a better fit for gameplay allocation within scope of copyright protection.[131]

The Copyright, Designs and Patents Act defines film as a "recording on any medium from which a moving image may by any means be produced".[132] In *Norowzian v Arks Ltd* court interpreted film copyright as prohibiting the copying of the whole or a substantial part of the recording itself, however even in case of copying of entire film without including of original single frame, copyright would not be violated.[133] Therefore, film copyright provides a "thin" protection and will not be an effective tool for copyright protection against the cloning of gameplay by subsequent developers.[134]

The last but not the least discussion of the court in *Nova Production* refers to the allocation of gameplay within the scope of dramatic works protection. Previously, *Norowzian v Arks* defined dramatic work as a "work of action, with or without words or music, which is capable of being performed before an audience" and made a broad interpretation of dramatic work "performability" that did not stick only to the physical performance before audience.

However, in *Nova Production* case court examined the requirement for dramatic work to have "a sufficient unity to be capable of performance"[135] and concluded that plaintiff's game did not have a sufficient unity, because the sequence of images displayed on the screen might vary on the basis of the way of videogame play.[136] In the opinion of Professor Yin Harn Lee, otherwise without foregoing limited interpretation of sufficient unity, videogame play would have been generally fit within the scope of dramatic works protection.[137]

[131] *Id* at 873
[132] Copyright, Designs and Patents Act, 1988, c. 48, Section 5 B (1)
[133] Norowzian v Arks Ltd and Others [1998] EWHC 315 (Ch) (17 July 1998)
[134] Yin Harn Lee, Play again? Revisiting the case for copyright protection of gameplay in videogames, European Intellectual Property Review, E.I.P.R. 2012, 34(12), p. 873
[135] Green v Broadcasting Corp of New Zealand [1989] R.P.C. 700 PC (New Zealand)
[136] Nova Productions [2007] EWCA Civ 219; [2007] Bus. L.R. 1032
[137] Yin Harn Lee, Play again? Revisiting the case for copyright protection of gameplay in videogames, European Intellectual Property Review, E.I.P.R. 2012, 34(12), p. 874

Therefore, in the UK, according to the existing case law gameplay has not been granted a copyright protection within the existing scope of copyright subject matters, because it seemed hard to allocate it to specific class of work primarily due to the its nature and interactivity issues. However, it is still possible to protect the rules of game in case of their high specification and embeddedness into other original copyrightable works.

2.2.4. Comparison of approaches

Taking all above mentioned into account, the US and UK approaches to gameplay are relatively similar, because both of them refused to grant a copyright protection to idea, methods of paly, treating them as "utilitarian" elements that create a monopoly for the use of them by other authors. Having been incorporated in copyrightable elements and became indissociable with them, gameplay may be indirectly protected by copyright. This approach is "better than nothing" solution in order to protect authors' intellectual efforts, thus they are forced to develop gameplay with high level of detalization and embeddedness into graphic elements.

While the USA has not even discussed a possibility of separate protection of game rules by clearly refusing its copyrightability, the UK has made an attempt to allocate the gameplay within the closed-list of copyright subject matter, though concluding that it in nature is not attributive to any existing works of art.

2.3. Copyrightability of audiovisual elements of video games

2.3.1. Notion and nature of audiovisual elements

Video games, being one of types of sophisticated video games, combine on one medium (either off-line or on-line) different forms of expression in a digitized format.[138] While computer program produces the effects and operates the game, audiovisual works communicate images, movements of characters and sounds of a game on the screen in the form of commands,

[138] Irini A. Stamatoudi, Are Sophisticated Multimedia Works Comparable to Video Games, 48 J. Copyright Society U.S.A. (2001), p. 470

pathways or score results.[139] Thus, being projected onto a screen of digital gadget, foregoing sights and sounds constitute an audiovisual expression of video game that qualitatively differ it from other similar works of art.

This subchapter is aimed at analyzing the approaches of discussed jurisdiction in the copyright protection of audiovisual and graphic works depicted on the display through the examination of copyrightability requirements and the issue of elements' attribution to different classes of works.

2.3.2. The US approach

The US Copyright Act in Section 101 clearly defines the notion of audiovisual works as "works that consist of a series of related images which are intrinsically intended to be shown by the use of machines or devices…together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied".[140]

Abovementioned definition of audiovisual work raised some issues in relation to video games, for example, some defendants argued the lack of fixation requirement in video games, which contained variable sequence of sounds and images, which depend on the player's actions.[141]

Particularly, in *Atari, Inc. v. Amusement World*, court in turn satisfied the fixation requirement, because "the audiovisual presentation can be communicated from the printed circuit board with the aid of the video game's display screen".[142] At that time, the same conclusion was made by the court in *Midway Manufacturing Co. v. Dirkschneider*, which held that the audiovisual displays of a video game were fixed in a tangible form.[143]

[139] *Id* at 470
[140] 17 U.S.C., US Copyright Act, 1976, sec. 101
[141] Thomas M. S. Hemnes, The Adaptation of Copyright Law to Video Games, University of Pennsylvania Law Review, Vol. 131, No. 1 (Nov., 1982), pp. 180
[142] Atari, Inc. v. Amusement World, Inc., No. Y-81-803 (D.Md. Nov. 27, 1981)
[143] Midway Mfg. Co., v. Dirkschneider et al. 543 F. Supp 466 (D. Neb. 1981)

Later in case *Midway Manufacturing Co. v. Artic International*, court gave an important interpretation to the definition of audiovisual work stated in the U.S. Copyright Act. Foregoing Act refers to a "series of related images" that was explained as "any set of images displayed at some kind of unit and not an entirely fixed sequence of sights and sounds which reappear every time the game is activated".[144] Thus, court's provision of a flexible interpretation of sequence of sights and sounds gave an opportunity to encompass the new emerging technologies, particularly video games.

Second issue in connection to copyrightability of video games relates to the separation of computer program as a technical basis for presentation of audiovisual elements on the screen, and sights and sounds itself. The majority of US courts held that audiovisual works shall be granted copyright protection independently from the underlying programs.[145]

In particular, in *Stern Electronics v. Kaufman*, court clearly stated that sights and sounds in the audiovisual display are original variations sufficient to render the copyright protection to the display even if the computer program exists independently and is itself eligible for copyright.[146] Moreover, court pointed out that original authorship occurred, when an author came up with how the audiovisual display and sound would look like and sound like, rather when later the program was written.[147]

Therefore, the US legislator and courts aimed at providing the broad interpretation of audiovisual works in order to protect emerging multimedia works, especially video games, by eliminating the requirement of fixed sequence of visual elements and differentiating them from underlying computer program.

[144] Midway Manufacturing Co. v. Artic International, Inc., 547 F. Supp. 999 (N.D. Ill. 1982)
[145] See, e.g., Stern Elecs., Inc. v. Kaufman, 669 F.2d 852, 856-57 (2d Cir. 1982); Amusement World, 547 F. Supp. at 226-27
[146] Stern Electronics Inc. v. Kaufman, 669 F.2d 852, 855, 213 U.S.P.Q. (BNA) 443 (2d Cir. 1982)
[147] Stern Electronics Inc. v. Kaufman, 669 F.2d 852, 855, 213 U.S.P.Q. (BNA) 443 (2d Cir. 1982)

2.3.3. The UK approach

Copyright, Designs and Patents Act 1988 clearly states the copyrightability of artistic and graphic works in Section 4(1) and 4(2) respectively, where artistic works are graphic works irrespective of artistic quality and graphic works refers to any painting or drawing.[148]

However, the sights embed in video game in *Nova Production* case, containing bitmap files and frames, were not recognized by the court as a separate copyrightable works. Though the court affirmed that bitmap files comprised of the images stored in the computer memory were "graphic works" and composed frames were artistic works, foregoing visual works were recognized as being created and generated by the computer program.[149] Thus, court denied the copyrightability of visual works within the plaintiff's video game and considered it to be a computer program.

Nova Production case was decided in 2007 and set a precedent in the UK to treat video games as a computer program. Stating differently, the computer code plays not supporting and technical, but fundamental and generating role that determines the reflection of other game elements on the screen. However, the decision of Court of Justice, adopted in 2012, set entirely opposite approach, thus being contrary to the UK case law.

Respectively, in case *Nintendo Co Ltd v PC Box Srl*, the CJEU stated that videogames constituted complex material comprising not only a computer program, but also graphic and sound elements which, although encrypted in computer language, had their own creative value.[150] Thus, graphic and sound elements are part of video game originality and shall be protected "together with the entire work" by copyright within the scheme of the Information Society Directive.[151]

[148] Copyright, Designs and Patents Act 1988, Section 4(1) and 4(2)
[149] Nova Productions [2007] EWCA Civ 219; [2007] Bus. L.R. 1032, par 101-105
[150] Case C-355/12 Nintendo Co Ltd v PC Box Srl [2014] E.C.D.R. 6 at 21, 22
[151] *Id* at 23

Therefore, the EU approach to audiovisual works in video games is similar to the US by recognizing them as separate copyrightable elements apart from the computer program that generates these elements. Before granting the CJEU decision in *Nintendo* case, the UK denied the separate copyrightability of audiovisual elements in video games, however still being a part of the European Union the UK shall adhere to the case practice of the EU supranational judicial body. Therefore, before exit of the UK from the EU the approach to audiovisual element of video games shall be in compliance with CJEU case law.

2.3.4. German approach

Article 2, Section I of the German Copyright Act of 1965 clearly stated the non-exclusive list of works of art that are considered to be copyrightable, which in regard to the multimedia elements includes cinematographic, photographic and analogous to them works. Consequently, foregoing classes of works are predominant for the copyrightability of elements within a display.

Primarily, the classification of computer games as film work was firmly rejected because of the specific peculiarity of video game, namely its interactivity.[152] In case *Donkey Kong Junior I* court decided that moving pictures can be protected as a film if they are uniform and unchanged, while visualizations on the screen are generated for individually for each user due to interactive nature of a game.[153] Foregoing decision is an example of the experienced difficulty of German courts in separation of software and audiovisual elements in order to grant a respective copyright protection.[154]

Nowadays the representations of a game on the screen may be respectively protected as a film work as an equivalent to the US audiovisual work.[155] However, by attribution of moving pictures to films, Germany, on the one hand, lowered the threshold of creativity in comparison to

[152] Tomasz Grzegorczyk, Qualification of computer games in copyright law, Scientific Journal WSFiP Nr 1/2017, DOI: 10.19192/wsfip.sj1.2017.9, p. 136

[153] OLG Frankfurt am Mein, GRUR 1983, C.H. Beck, Munich 1983, pp. 757-758 on Donkey Kong Junior I

[154] W. Bullinger, Ch. Czychowski, Digitale Inhalte: Werk und/oder Software? – Ein Gedankenspiel am Beispiel von Computerspielen, GRUR 2011, C.H. Beck, Munich 2011, pp. 19-21

[155] Copyright Act of 9 September 1965 (Federal Law Gazette I, p. 1273), as last amended by Article 1 of the Act of 20 December 2016 (Federal Law Gazette I, p. 3037), Section 2, subparagraph 1, point 6)

respective threshold applied to audiovisual works in the USA.[156] On the other hand, it has provided a narrower scope of protection in regard to the rights conferred to the author.[157]

Regarding the copyrightability of a single frame of a video game, it can be granted a protection as a photographic work according to the Section 2, subparagraph 2, point 5 of the German Copyright Act.

Therefore, the foregoing analysis shows that Germany provides the distributive classification of multimedia elements of video games, protecting moving images as film works and sole image as a photographic work. The attribution of images to films seems to be problematic as authors are deprived of the scope of protection granted to the similar audiovisual works in discussed common law countries. Taking into account that Germany established an open-list system of copyrightable subject matters, it is legally possible to broad the foregoing list by adding audiovisual works as an introduction of new efficient and profound copyright protection of multimedia elements within a gaming display.

2.3.5. Comparison of approaches

It can be evidently shown from the analysis that discussed jurisdictions primarily faced similar issues in connection to the separation of computer program, which depicts multimedia elements, and audiovisual works themselves. Having been generated by computer program, foregoing elements were not considered as separate copyrightable subject matter, because first video games had not been developed enough from the multimedia side. Later, with sophistication of video games, they have started containing substantial part of graphics and sounds, thus it was considered by analyzed national legislators to grant separate copyright protection and attribute them to certain class of works.

While the USA created a specific notion of audiovisual works, broad enough to encompass the rapid development of technologies, the UK allocated graphics within existed

[156] Tomasz Grzegorczyk, Qualification of computer games in copyright law, Scientific Journal WSFiP Nr 1/2017, DOI: 10.19192/wsfip.sj1.2017.9, p. 137
[157] *Id* at 137

closed-list as artistic and graphic works. In contrast, Germany, being able to adjust its copyrightable list to newly emerged video games, has treated them as films and photographic works, thus granting the thinner copyright protection to their authors.

Therefore, it can be advisable for developing nations to specifically define the notion of audiovisual works in broad manner, however taking into account the fixation challenges experienced by the USA, in order to provide authors and producers of video games with wide protection and secure their intellectual creations.

2.4. Copyrightability of video games characters

2.4.1. Notion and nature of video games characters

Characters are the one of the central elements in video games, because, from the one hand, they are a connecting factor between the idea of a game with its rules and visual elements depicted on the screen. From the other hand, characters provide ample avenues for earning money to the authors of characters, who have used their intellect and labor to form a character.[158] Indeed, characters are of particular commercial relevance as they can form spin-off products, such as video games and have the ability to take on a "life of its own".[159] Thus, there is a need for copyright protection of characters in order to prevent their unauthorized use by third parties and avoid the loss of economic profits.[160]

Level of copyright protection depends on the type of characters examined by courts that usually include graphic and fictional characters.[161] A graphic character is pictured by cartoon or other graphic representation, whereas fictional (literary) characters are the words portrait stated

[158] Sourav Kanti De Biswas, Copyrightability of Characters, Journal of Intellectual Property Rights, Vol 9, March 2004, p. 148
[159] Thomas Jochheim, Copyright Protection of Characters in Germany, IPRinfo 2/2014, p. 1
[160] *Id* at 148
[161] *Id* at 149

in the writing and then retranslated into visual appearance by developers.[162] Professor Kurtz stated that as fictional characters exist in tangible form within the specific words, pictures and sounds created by their authors and developed in minds of their perceivers, thus these characters could be recognized apart from their original contexts.[163]

Professor Nimmer strongly argued that "[a] character is most readily protectable where both the original work and the copied work consist of cartoons or other graphic representations rather than word portraits".[164] Davidow Lawrence supported foregoing statement by adding that images are more identifiable than literary descriptions, thus it is easier to protect graphic characters independently of their original content.[165]

With the development of technologies and emergence of video games, which combine both visual and sound elements, modern characters have become more sophisticated or hybrid, being depicted visually like graphic characters, but at the same time exhibiting personality traits or "characterization" like literary characters.[166] Professor Steven L. Nemetz argued that some courts still treat motion picture characters exclusively as literary creations, while others have given extensive weight to the visual depiction of the movie character.[167]

The following chapter will deal with the analysis of approaches to foregoing types of characters in discussed jurisdictions with application of different tests for determination of possibility to grant copyright protection.

[162] Davidow Lawrence L., Copyright protection for fictional character: a trademark-based approach to replace Nichols, 8 Columbia Journal of Law and the Arts, 1984, p. 513
[163] Leslie A. Kurtz, The Independent Legal Lives of Fictional Characters, 1986 WIS. L. REV., p. 430-431
[164] Nimtz, Computer Programs, in Current Developments in Patent Law 1982, § 2.12, at 2-175
[165] Davidow Lawrence L., Copyright protection for fictional characters: a trade-mark based approach to replace Nichols, 8 Columbia Journal of Law and the Arts, 1984, p. 513-514
[166] Steven L. Nemetz, Copyright Protection of Fictional Characters, Intellectual Property Journal, 14 I.P.J. 59, 1999-2000, p.87
[167] *Id* at 87

2.4.2. The US approach

According to the analysis of the US case law by Professor Alan Glasser, courts have found strong copyright protection for video game characters, however initially having faced some issues with their copyrightability.[168]

First case to be dealt with the copyright protection characters is *Nichols v Universal Pictures Corp*., where Judge Hand stated that copyright protection cannot be extended to the characteristics of stock (stereotypical) characters in a story, whether it is a book, play, or film, while well-developed literary characters merited copyright protection.[169] Thus, Justice Hand opined that "the less developed the characters, the less they can be protected".[170]

Subsequently, court in case *Warner Bros. Pictures v. Columbia Broadcasting System* court found that a written character cannot be granted a copyright protection if it is only the chessman in the game of telling the story.[171] Justice Stephen agreed with defendant's claim by adding that "characters were not the story told, and the vehicles did not go with the sale of the story".[172] Therefore, court allowed defendant to use the characters in other stories, although he had previously granted rights to the novel that created the characters to the plaintiff.

Foregoing rule of law was further developed in case *Filmvideo Releasing Corp v Hastings*, where court stated that the use of characters would constitute copyright infringement irrespectively and independently of the similarity of the story line.[173] This decision was very important as it recognized the separate copyright protection of characters apart from the story line, particularly gameplay in video games.

[168] Alan R. Glasser, Video Voodoo: Copyright in Video Game Computer Programs, 38 Fed. Comm. L.J. 103 (1986), p. 109
[169] Nichols v. Universal Pictures Corporation, 45 F.2d 119 (2d Cir. 1930)
[170] Nichols v. Universal Pictures Corporation, 45 F.2d 119 (2d Cir. 1930)
[171] Warner Brothers Pictures v. CBS, 216 F.2d 945 (9th Cir. 1954) [260]
[172] Warner Brothers Pictures v. CBS, 216 F.2d 945 (9th Cir. 1954) [260]
[173] Filmvideo Releasing Corp. v. Hastings, 426 F. Supp. 690 (S.D.N.Y. 1976)

Moreover, the court also allowed granting the rights to use literary characters separately from the right to use the work itself.[174] It was a vital decision for video games industry, because it enabled video game producers to use literary characters separately from the work, where they have been mentioned. Therefore, it has enabled game authors to come up with the greater amount of ideas and as a result to increase game quality as well as protect game plots from cloning if the characters were used without authorization. For instance, in case *Anderson v. Stallone*, the plot of defendant's movie was recognized by court to be uncopyrightable, because it used plaintiff's character without authorization.[175]

Walt Disney Productions v. Air Pirates is the case of a special importance, because it separated literary from graphic characters by stating that a graphically depicted cartoon character with such unique elements of expression as sufficiently defined shape, size and color can be granted a copyright protection.[176] Court emphasized that "the various drawings of each character have a consistency that gives each character a recognizable image quite apart from the setting of the particular panel".[177]

Later case law went even in granting and refusing a copyright protection to separate elements of video game characters. For example, in At*ari v. North American Phillips Consumer Electronics Corp*. in spite of refusing to recognize characters copyrightable due to the indefinite shape, court grant copyright protection to the characters' traits and antics.[178]

However, this rule was further limited in *Atari v. Amusement World*, where court allowed copyright protection only to characters' designs, traits and antics if they represent more than

[174] Warner Brothers Pictures v. CBS, 216 F.2d 945 (9th Cir. 1954)
[175] Anderson v. Stallone, 11 U.S.P.Q.2d 1161 (C.D.Cal. 1989) [261]
[176] Walt Disney Prods. v. Air Pirates,. 581 F.2d 751 (9th Cir. 1978), [108]
[177] *Id* at [106]
[178] Atari, Inc. v. North American Philips Consumer Electronics Corp., 672 F.2d 607 (7th Cir. 1982)

"required incidents" of the subject matter[179] or *scènes à faire* (in French - "scene to be made" – obligatory scene for a genre of its type).[180]

To sum up, the USA generally grants copyright protection to both literary and graphic characters of video games. Literary characters are copyrightable if they are well-developed and are not perceived by the public as stereotypic ones. In turn, graphic characters receive copyright protection if they have unique, sufficiently defined, definite elements of expression that are not scenes afaire.

2.4.3. The UK approach

First of all, considering the existence of exhaustive list of works affordable the copyright protection stated in the Copyright, Designs and Patents Act 1988[181], it is clear that the UK approach to copyrightability is strictly limited to existing works and it becomes harder to allocate some creative elements of a game within this narrow framework. Therefore, there is a traditional view that characters are not granted a separate copyright protection in English law[182], according to which a literary character can be only a literary work in itself or a component of a literary work.[183]

Consequently, foregoing approach of English academics is strongly supported in relevant case law. Respectively, in case *Kelly v Cinema Houses Ltd* court decided that copyright protection probably does not exist for literary characters outside of the work in which they appear and literary characters, even being novel and distinctive, cannot be copyrightable.[184]

In addition, foregoing view was also affirmed in case *Tyburn Productions v Conan Doyle*, where court rejected the claim of the last surviving child of Arthur Conan Doyle to be

[179] Atari, Inc. v. Amusement World, Inc., No. Y-81-803 (D.Md. Nov. 27, 1981)
[180] Brendan Brown, The idea/expression dichotomy and the games that people play, European Intellectual Property Review, [1995]
[181] Copyright, Designs and Patents Act, 1988, c. 48, Section 1(1)
[182] Martino "Popeye the sailor: man of letters – the copyright protection of literary characters", European Intellectual Property Review (EIPR), 1988, p. 76-77
[183] McCutcheon, Property in literary characters – protection under Australian copyright law, European Intellectual Property Review (EIPR), 2007, p. 140-141
[184] Kelly v Cinema Houses Ltd [1928-35] MacG. C.C. 362

entitled to decide where and when and under what circumstances the characters of 'Sherlock Holmes' and 'Dr. Watson' could appear in other works.[185] Thus, the purpose of rejection related to the lack of recognition of such a concept as in contract to the US approach.

Professor Martino argued that a literary character can be indirectly protected by copyright if it has distinctive features and forms an important part of work at issue[186]. Nevertheless, according to the Whitford Committee Report on Copyright and Designs Law it is still hard to define what are the essential features that make the character distinctive and which therefore worthy the protection.[187]

Thus, it becomes clear that is there is no copying of substantial parts of the literary work embodying the fictional character occurs, third parties in English law are lawfully entitled to use the concept and features of literary characters and attribute it to existing fictional characters to produce their own creative works and exploit them.

This situation may be somehow problematic for video games producers, because, from the one hand, they can freely use literary characters and embed them in new games; on the other hand, producers may be potentially sued by the authors of literary works, thus it is advisable to transfer the rights for use of characters by signing an agreement with an author.

2.4.4. German approach

According to the German legal doctrine, the copyright protection is granted both literary and graphical characters. Respectively, if a character is described in the novel (literary) and has a distinctive set of personality traits and unique physical appearance, it is granted a copyright protection itself regardless of the specific context and interplay in the novel.[188]

[185] Tyburn Productions Ltd v Conan Doyle [1990] 3 WLR 167 (Ch)
[186] Martino "Popeye the sailor: man of letters – the copyright protection of literary characters", European Intellectual Property Review (EIPR), 1988, p. 77
[187] "The Whitford Committee Report on Copyright and Designs Law", Cmnd 6732 (1977)
[188] Thomas Jochheim, Copyright Protection of Characters in Germany, IPRinfo 2/2014, p. 1

As an example, in case *Pippi Longstocking* the Supreme Court accepted the literary figure of Pippi Longstocking was a literary work, because she has a "distinct personal characteristics and external features".[189] The defendant had copied only few selected external features (style of closing) and even though the reasonable person could recognize Pippi's style in copied images, they have not been recognized as a copyright infringement.

Therefore, German Supreme Court made a precedent that requires plaintiff to proof copying of both internal (personal traits) and external (appearance) in order to win a copyright infringement case.

Referring to the graphical characters illustrated in pictures, cartoons or video games, both illustrations and characters itself can be protected by copyright as works of visual art, if these characters have distinctive features that constitute a unique personality.[190]

2.4.5. Comparison of approaches

The recognition of separate protection of characters apart from graphic or literary works varies from state to state. Whereas, the USA and Germany clearly admit the unique nature of characters, distinctive from other works of art, the United Kingdom grants a protection to characters as a part of a novel regardless their peculiar features.

Respectively, US and German approach refers to the identification of recognizable images, personal traits and external features in order to distinguish uncopyrightable stock character from distinctive copyrightable characters.

Therefore, it is advisable to grant protection to both literary and graphic characters with recognition of their separate nature – possibility to be embed in other works of art without reference to the original source - and granting separate copyright protection, thus protecting significant intellectual, labor and financial investments of authors.

[189] BGH 17 July 2013, I ZR 52/12, IIC 2014, 467 – Pippi Longstocking Costume
[190] Thomas Jochheim, Copyright Protection of Characters in Germany, IPRinfo 2/2014, p. 2

Chapter 3 – Copyrightability of Computer Program in Video Games

3.1. Copyrightability of computer program in video games

3.1.1. Notion of computer program in video games and its reasonability for its copyright protection

Computer has become very important invention for the humankind that was recognized in many countries, particularly in the USA, where it was granted prestigious "Man of the Year" and "Machine of the Year" awards.[191] Though, Professor James Canfield stated that a "Machine of the Year" is useless without a computer program.[192]

Video games include traditional works of authorship (such as pictorial and literary works, sounds and images) and software or "game engine" as a technical instrument used to drive the game in the console, smartphone or computer.[193] Despite of the fact that nowadays there are multiple genres of games with various constitutive elements, each game shares the common element: computer program that runs the game.[194]

Consequently, computer program in video games serves as a technical basis for the their operation, manages audiovisual elements and helps users to interact with the different elements of the game[195] on private computer, specific gaming computer (console), a smart phone, tablet or other electronic device. Thus, computer program can be defined as a set of instructions capable, when incorporated in a machine-readable medium, of causing a machine having information-processing capabilities to indicate, perform or achieve a particular function, task or result.[196]

[191] Machine of the Year, TIME, Jan. 3, 1983, at 14
[192] James Canfield, Copyrightability of Object Code, 59 Notre Dame L. Rev. (1984), p. 412
[193] A. Ramos and others, 'The Legal Status of Video Games: Comparative Analysis in National Approaches' (2013) WIPO 8, p.2
[194] *Id* at 2
[195] *Id* at 10
[196] WIPO Model Provisions on the Protection of Computer Programs, art. 1, available at: ftp://ftp.wipo.int/pub/library/ebooks/wipopublications/wipo_pub_814(e).pdf, last access: December 5, 2017

As a result, computer program consists of set of instructions: source and object code. Generally, source code, being a writing "written by a human author exercising the usual skills of human authorship, i.e., the selection of a particular mode of expression in a generally accepted language and using rules of syntax and grammar which insure intelligibility" or a “high-level computer language readable by humans”[197], is usually granted a copyright protection.[198]

Respectively, object code refers to a set of instruction codes, which is produced by a compiler that reads some higher level computer language source instructions and translates them into equivalent machine language instructions[199], thus being a binary code readable by computers[200].

Professor James Canfield argues that full protection of a computer program is possible only when both source and object code will be protected.[201] In case of sole protection of source code, object code might be deduced from source code copy and therefore infringed, whereas absence of object code protection would lead to the possibility of its unauthorized use by a third party.[202]

Thus, without establishment of effective copyright protection of computer program, the significant intellectual and financial investments in source code could be wasted if it could be easily duplicated and object code could be freely deduced from it.

[197] Howard Root, Copyright Infringement of Computer Programs: A Modification of the Substantial Similarity Test, 68 MnN. L. REv. 1264, 1266 (1984)

[198] Nimtz, Computer Programs, in Current Developments in Patent Law 1982, 143, Patents, Copyrights, Trademarks and Literary Property Course Handbook Series, 141, 148 (PLI) (1982).

[199] See – definition of object code in Technopedia by following the link: https://www.techopedia.com/definition/546/object-code

[200] Howard Root, Copyright Infringement of Computer Programs: A Modification of the Substantial Similarity Test, 68 MnN. L. REv. p. 1267, n.16. (1984)

[201] James Canfield, Copyrightability of Object Code, 59 Notre Dame L. Rev. (1984), p. 419

[202] Irini A. Stamatoudi, Are Sophisticated Multimedia Works Comparable to Video Games, 48 J. Copyright Society U.S.A. (2001), p.419

The TRIPs Agreement has taken into account foregoing considerations and incorporated them in Article 10(1), which states that computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention.[203]

WIPO Copyright Treaty specifies in Article 4 that copyright protection as literary works shall apply to computer programs, whatever may be the mode or form of their expression[204], thus granting minimum threshold for the computer program protection.

Thus, source and object code is protected on the international level from unauthorized literal copying that is, respectively, constituted a copyright infringement.[205]

Nevertheless, computer programs are complex works of art that, besides literal elements, include also non-literal elements of two following categories: “touch and feel" elements, which appears to the user (graphic user interface) and structure, sequence, and organization, which constitute the way of program’s design.[206] Therefore, an issue has arisen in connection of copyrightability of non-literal elements, the creation of which also involved significant investment of knowledge, time, labor and financial resources.

Therefore, the following chapter is aimed at analyzing the existing approaches in discussed jurisdictions regarding the copyright protection of computer program, eligibility requirements to be met and copyrightability of literal and non-literal elements in particular.

[203] TRIPS: Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994), Article 10(1)

[204] WIPO Copyright Treaty, adopted Dec. 20, 1996, WIPO Doc. CRNRIDC/94, Article 4

[205] Lisa C. Green, Copyright Protection and Computer Programs: Identifying Creative Expression in a Computer Program’s Nonliteral Elements, Fordham Intellectual Property, Media and Entertainment Law Journal, Volume 3, Issue 1, 1992, Article 9, p. 90

[206] *Id* at 90

3.1.2. The US approach

According to the US Copyright Act, computer programs are classified as a literary works, because it was considered by commentators that "code in which the programs are written is analogous to the text of other literary works".[207]

The framework for establishment of efficient copyright protection of computer programs was discussed in the USA by the National Commission on New Technological Uses (CONTU), which in its Final Report described four goals for their copyright protection. First relates to the elimination of unauthorized copying of these works.[208] Second refers to the impossibility of inhibition of the rightful use of these works.[209] Third is an absence of any blocks for the development and dissemination of these works.[210] Finally, copyright shall not grant more economic power than is necessary to achieve the incentive to create new works.[211]

One challenge, which authors might face with during acquiring the copyright protection on their computer programs, refers to the traditional originality requirement. As an example of the application of such a requirement is the landmark case *Leon v. Pacific Telephone,* where court decided a program "with only a few obvious steps – apply hook to wall" as insufficient intellectual labor to support a copyright.[212]

According to the US Copyright Act, a computer program is "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result".[213] Thus, foregoing definition by stating "directly and indirectly" was then interpreted to be referring to both source and object code.[214] As the source code, being a selection of particular

[207] Mary L. Kelvins, Computer Cases-Bound for the Supreme Court?, N.Y. LJ., July 31,1992, at 3.
[208] Final Report of the National Commission on New Technological Uses of Copyrighted Works, July 31, 1978, at 12
[209] *Id* at 12
[210] *Id* at 12
[211] *Id* at 12
[212] Leon v. Pacific Telephone & Telegraph Co., 91 F.2d 484 (9th Cir. 1937)
[213] 17 U.S.C. § 101 (1976), amended by 17 U.S.C. § 101 (1980).
[214] Midway Mfg. Co. v. Strohon, 564 F. Supp. 741 (N.D. Ill. 1983)

mode of expression written by an author[215] is considered to be fully copyrightable under the US law. In contrast, there were some debates regarding the granting of copyright protection to the object code.

While court in *Williams Electronics v. Artic International* afforded protection to ROM object code programs, subsequent decision in case *Apple v. Franklin* reversed rule of law of *Williams* court, stating that there was "no meaningful difference between source and object code".[216]

Later, the fixation requirement was comprehensively discussed in *Tandy Corp. v. Personal Micro Computer*, where court held that a ROM (Read-Only-Memory) computer program was a copy of the original copyrighted program and constituted a work of authorship, therefore being protected by the copyright laws.[217]

Moreover, court stated that computer program, fixed in the form of a ROM, was sufficiently fixed in a tangible medium of expression.[218] Thus, this decision was an important one, because court indirectly granted the protection to both source and object code, and subsequent computer programs, especially embed in the video games in the form of a ROM, were considered to be complaint with the fixation requirement under the US copyright law.

Subsequent court's decision in *GCA Corp. v. Chance* supported *Tandy Corp. v. Personal Micro Computer* rule of law by stating that as the object code encrypted the copyrighted source code, they should be treated as one, thus the copyright of the source code was considered to protect both.[219]

As a final step for recognition of copyrightability of object code, court in *Midway Mfg. Co. v. Strohon* interpreted the definition of computer program in the US Copyright Act and stated

[215] Nimtz, Computer Programs, in Current Developments in Patent Law 1982, 143, Patents, Copyrights, Trademarks and Literary Property Course Handbook Series, 141, 148 (PLI) (1982)
[216] Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240 (3d Cir. 1983)
[217] Tandy Corp. v. Personal Micro Computers, Inc., 524 F. Supp. 171 (N.D. Cal. 1981)
[218] Tandy Corp. v. Personal Micro Computers, Inc., 524 F. Supp. 171 (N.D. Cal. 1981)
[219] GCA Corp. v. Chance, 217 U.S.P.Q. (BNA) 718 (N.D. Cal. 1982)

that "instructions to be used directly or indirectly in a computer" evidenced a clear Congressional intent to protect the object as well as the source code under copyright law.[220]

Referring to the copyrightability of non-literal elements of computer program, in case *Lotus Development Corporation v Paperback Software International* it was stated that overall organisation and structure, the content and structure of commands, and the user interface can be protected by copyright if they are originated from author, do not embody uncopyrightable functional elements of an idea and are separable from the idea.[221]

Therefore, the USA provides the full and all-sided copyright protection for computer program that should represent a sufficient intellectual labor of an author invested in its creation. Moreover, by having granted full copyrightability to literal elements and conditional copyrightability to non-literal elements, the US legislator has created an incentive for the video games producers to gain the protection of their works in the USA, where their creative set of instructions would be effectively protected from the deducing, copying and unauthorized use by the third parties.

3.1.3. European harmonized approach

The central act of the European Union that harmonized the copyrightability of computer program is the Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (the Software Directive).

Article 1 of the Software Directive provides an obligation to Member States to protect a computer program by copyright law as literary works in compliance with the legal regime defined be the Berne convention. Moreover, the Software Directive expressed intent to treat both preparatory design materials for programs (such as flow charts) and hardware implementations of software designs as "computer programs", thus expanding the scope of their protection.[222]

[220] Midway Mfg. Co. v. Strohon, 564 F. Supp. 741 (N.D. Ill. 1983)
[221] Lotus Development Corporation v Paperback Software International, [740 F Supp 37 (D Mass 1990)]
[222] Directive 2009/24/EC of the European Parliament and of the Council of. 23 April 2009 on the legal protection of computer programs (OJ. L 111, 5.5.2009, p. 16), Recitals

Nevertheless, the Software Directive does not provide itself the direct definition of computer program, because it was argued that stated definition would become outmoded by the advance of technology.[223]

However, later the Explanatory Memorandum to the InfoSoc Directive has brought the notion of computer program as a "set of instructions the purpose of which is to cause an information processing device, a computer, to perform its functions".[224]

The Software Directive has developed the common EU approach in protection of computer programs that are original, where original should be understood as the author's own intellectual creation.[225]

Thus, the EU approach to the originality requirement of computer programs is similar to one stated in the Berne Convention that established the minimum threshold of originality for the works of art in general.

However, in the European Commission's report on the Computer Programs Directive it was specified that twelve Member States had the lower threshold, while three, including the United Kingdom and Germany, adhered to the higher threshold of copyright protection of computer programs[226], which will be respectively examined in the subchapters 3.1.4 and 3.1.5.

Idea/expression dichotomy principle in regard to the computer programs has been established in the preamble of the Software Directive, which specifies that "only the expression of a computer program is protected and that ideas and principles which underlie any element of a program, including …logic, algorithms and programming languages…are not protected by

[223] Jean-Francois Verstrynge, Protecting Intellectual Property Rights Within the New PanEuropean Framework: Computer Software, in Proceedings of the SOFTic Third International Symposium on Legal Protection of Computer Software 525, 530 (1991)

[224] Explanatory Memorandum to the Proposal for the European Parliament and Council Directive on Harmonization of Certain Aspects of Copyright and Related Rights on the Information Society, COM (1997) 628 final, Brussels, 10 December 1997, Article 1(3)

[225] Directive 2009/24/EC of the European Parliament and of the Council of. 23 April 2009 on the legal protection of computer programs (OJ. L 111, 5.5.2009, p. 16), Article 1 (3)

[226] Thomas Dreier and Bernt Hugenholtz, Concise European Copyright Law, Kluwer, Alphen aan den Rijn 2006, p. 217

copyright under this Directive".[227] However, while, the expression of those ideas and principles is not protected on the EU level, Member States are not eliminated from the possibility to grant the copyright protection to the expression of those ideas and principles.[228]

While having established the copyright protection of computer programs, the EU still have not recognized the copyrightability of their functionality. This view was supported by CJEU's case - *SAS Institute Inc. v World Programming Ltd* - where court did not consider neither the functionality of a computer program nor programming language and the format of data files as a form of expression of that program under the Software Directive.[229]

Court reasoned foregoing argument by stating that acceptance of copyrightability of functionality of a computer program (drawing a box or moving a cursor) would lead to monopolization of ideas that is detrimental for further technological and industrial development.[230]

As the Article 1(2) of the Software Directive provides protection to the expression in any form of a computer program, it should be concluded that both source and object code fall within the scope of protection of the Software Directive. By this way, the EU eliminated possible misinterpretations and misunderstandings connected with copyrightability of aforementioned literal elements of computer program.

As for the copyrightability of non-literal elements, in its recent case - *Case C-393/09 Bezpečnostnísoftwarová asociace v Ministerstvo kultury* – the CJEU ruled that graphical user interface (interface that allows users to interact with electronic devices through graphical icons and visual indicators) can be granted separate copyright protection under the InfoSoc Directive as a graphic or literary work, but does not qualify for copyright protection as a computer

[227]Directive 2009/24/EC of the European Parliament and of the Council of. 23 April 2009 on the legal protection of computer programs (OJ. L 111, 5.5.2009, p. 16), Section 17 of the Preamble

[228] *Id at* Section 17 of the Preamble

[229] Case C-406/10 SAS Institute Inc. v World Programming Ltd, Court of Justice of the European Union, Press Release No 53/12, Luxembourg, 2 May 2012

[230] Case C-406/10 SAS Institute Inc. v World Programming Ltd, Court of Justice of the European Union, Press Release No 53/12, Luxembourg, 2 May 2012

program under the Software Directive.[231] Thus, visual appearance and software code need to be assessed separately as copyrightable subject matter.[232]

Therefore, the Software Directive brought the common EU approach by harmonizing originality requirement for copyright protection and approach to idea/expression dichotomy in computer programs.

Therefore, while refusing to grant protection to the functionality of computer program, the EU legislator has admitted the copyrightability of source and object codes, graphic user interface as well as related preparatory materials to the computer program, thus avoiding case law on their arbitrary classification to graphic works instead of literary works.[233]

3.1.4. The UK approach

The Copyright, Designs and Patents Act 1988 (the CDPA) follows the approach set by the Software Directive) by protecting computer programs as literary works and treating the preparatory design materials as a part of computer program.[234]

Moreover, under the UK law copyright subsists in a computer program if it is original and if the qualification requirements are fulfilled.[235]

Foregoing requirements have been interpreted by courts, particularly in case *University of London Press Ltd v. University Tutorial Press Ltd* Justice Peterson stated that computer program is original if it has not been copied from another work and is the result of the computer programmer's own independent efforts and has been created independently.[236]

[231] See - Case C 393/09 Bezpečnostnísoftwarová asociace v Ministerstvo kultury [2010] ECR I-13971

[232] Rainer Filitz, Joachim Henkel, and Jörg Ohnemus, Digital Design Protection in Europe: Law, Trends, and Emerging Issues, Discussion Paper No. 17-007, Download this ZEW Discussion Paper: http://ftp.zew.de/pub/zew-docs/dp/dp17007.pdf, p.4

[233] See - analysis of the EU and US case law on preparatory materials in Pamela Samuelson, Comparing U.S. and EC Copyright Protection for Computer Programs: Are Tey More Different Tan Tey Seem, 13 J.L. & Com. 279 (1993) at p. 282

[234] Copyright, Designs and Patents Act, 1988, c. 48, Sections 1(1) and 3(1)

[235] *Id* at Section 1(1) (a)

[236] University of London Press Ltd v. University Tutorial Press Ltd [1916] 2 Ch 601

The UK Copyright, Designs and Patents Act 1988 also follows the approach of the Software Directive by refusing to introduce the definition of a computer program in order to allow courts to adjust its meaning according to the technological changes.[237]

The subsequent issue that the UK courts faced with relates not to the copyrightability of literal elements, but rather non-literal elements of computer program. In case *John Richardson Computers Ltd v Flanders*, which concerned literal and semi-literal copying, Court referred to the general rule that literal copying of substantial part of code amounts to copyright infringement.[238]

However, if the programs were written in different programming languages, no literal similarities can take place between them.[239] Thus, in present case, some similarities occurred at the user interface level, which were decided by Court to constitute an infringement by application of Abstraction-Filtration-Comparison test from the US case - *Computer Associates v Altai*. Therefore, *John Richardson Computers Ltd v Flanders* case opened the door to the copyright protection of non-literal elements or computer programs.

In subsequent *Ibcos Computers Ltd v Barclays Mercantile Highland Finance* case Court held that copyright subsists in the individual program and in the entire software package as a compilation, thus copying structural and design features may be found to constitute a copyright infringement.[240]

Therefore, the UK provides the broad scope of copyright protection for computer programs, which have to be a result of programmer's independent intellectual efforts. Moreover, by granting it to both literal and non-literal elements, the UK legislator has provided a profound protection of video games' authors.

[237] David I. Bainbridge, The Scope of Copyright Protection for Computer Programs, The Modern Law Review, Vol. 54, No. 5 (Sep., 1991), p. 645

[238] John Richardson Computers Ltd v Flanders [1993] FSR 497

[239] Simon Stokes, The development of UK software copyright law: from John Richardson Computers to Navitaire, Computer and Telecommunications Law Review, 2005

[240] Ibcos Computers Ltd v Barclays Mercantile Highland Finance Ltd (UK), [1994 FSR 275]

3.1.5. German approach

According to the Section 2 (2) of the German Copyright Act, work can be granted copyright protection if it constitutes "personal intellectual creation".[241]

Due to the introduced the Copyright Revision Act 1985 computer programs, particularly called in German law "programs for data processing", shall be treated and protected as literary works. Thus, during the lifetime of the author plus seventy years the author or author's licensees can prevent unauthorized copying, distribution, or demonstration of the original program and any of its derivative forms.[242]

Before the introduction of the Software Directive's harmonized approach, the level of originality of author's "own intellectual creation" should be sufficiently high.[243]

Foregoing general rule was respectively applied to computer programs in *Inkassoprogramm case*, where the Supreme Court stated that computer program's originality required that creative work involved the creativity in "selection, collation, organization and division of material and directions compared to the general and average ability".[244]

Thus, the Supreme Court developed two-step test in order to identify the level of originality. While first step referred to the comparison of the work with preexisting creations for identification of program's individual elements, second step was related to examination of these elements, which must considerably exceed the average, common creative working programming of the average programmer.[245] Therefore, by stating high level of creativity, foregoing rule resulted in lower amount of works to be considered as copyrightable.

After the implementation of Article 1 (3) of the Software Directive into German law, *Inkassoprogramm* case law of the Supreme Court has been withdrawn in the

[241] Copyright Act (Urheberrechtsgesetz), Section 2 (2), 1965 BGBl.I 1273, 1282 (Sept. 9, 1965)
[242] *Id* at Section 16-18
[243] BGH, Jan. 27, 1983, Case I ZR 177/80—Brombeer-Muster (blackberry pattern)
[244] BGH, 9th May 1985, I ZR 52/83 – Inkasso-Programm
[245] Roman Heidinger, The Threshold of Originality under EU Copyright Law, Co-reach Intellectual Property Rights In The New Media, Beijing Workshop, 18th October 2011, Accessed: http://www.coreach-ipr.org/documents/Roman%20Heidinger%202011.pdf

Buchhaltungsprogramm case, where the Supreme Court admitted the necessity of lowering the originality requirement threshold, at least for the software, but failed to elaborate the revised standard.[246]

Nevertheless, later the Supreme Court has brought originality requirement in line with the Directive's terms in case *Fash2000* by excluding only simple routine programming services that any programmer would provide the same way from copyright protection as well as granting the presumption for the protection of complex programs.[247]

Considering the copyrightability of both source and object codes in the Article 1(2) of the Software Directive and its harmonized effect in the Member States, Germany has taken its approach in copyrightability of literal elements of computer program.

According to the section 69 (a) of the German Copyright Act, the forms of expressing the conceptions and ideas of a computer program such as draft materials, block diagrams, logic flowcharts, source codes and even the object code are clearly considered to be copyrightable. At the same time, foregoing provision refers to the idea/expression dichotomy in software by stating that mere ideas for the conception of a computer program are not eligible for copyright protection.[248]

However, the issue has arisen in connection of copyright protection of non-literal elements of computer program. According to the decision of *the OLG Karlsruhe*, where the court of first instance found the screen displays and menu structure as circumstantial evidence for the copying of the internal structure of the program as an expression of the software protected by copyright.[249]

Respectively, *the OLG Karlsruhe* changed the rule, stating that user interface itself and individual screen display masks would be an expression according to the section 69a of the

[246] BGH, 14 July 1993, [1993] CR 752-755 - Buchhaltungsprogramm
[247] BGH, 3rd May 2005, I ZR 111/02 – Fash2000
[248] Copyright Act (Urheberrechtsgesetz), Section 69 (1) and (2), 1965 BGBl.I 1273, 1282 (Sept. 9, 1965)
[249] OLG Karlsruhe, [I994] NJW-CoR, pp. 301-303

German Copyright Act and Article 1 of the Software Directive, but the menu structure was not considered to be an intellectual creation and was not granted the copyright protection.

Thus, foregoing case extend the copyright protection to the program's 'look and feel' – first of the stated above non-literal elements of the software.[250]

Therefore, having implemented the Software Directive, Germany has admitted the harmonized European approach in lowering the originality requirement to its minimum and requiring computer programs to be author's intellectual creation and not just a standard simple programming, rather than the highly creative code. In order to protect the rights of authors and publishers, Germany has also accepted the copyrightability of the literal as well as non-literal elements of computer programs, thus granting all-sided protection of programmer's works of art.

3.1.6. Comparison of approaches

Considering the determinant role of computer program (software) for the efficient functioning of computer (hardware) and multimedia works (video games), discussed jurisdictions has developed a comprehensive legislation and case law in order to protect the intellectual, labor and financial efforts put into development of computer program.

All examined jurisdictions set a minimum threshold for originality requirement of software in order to grant copyright protection for the significant amount of programs, unless they are trivial compilations or has been copied from someone else's work.

Taking into account the possibility of deduction of object code from source code and its further copying and circumvention, it becomes an objective for countries to accept copyrightability of both literal elements. While in the EU foregoing approach has been established in the Software Directive and implemented into national law of Member States, the USA needed around 10 years of courts practice and interpretations in order to admit officially the copyrightability of both source and object code.

[250] Software Protection in Germany — Recent Court Decisions in Copyright Law, (1995) 11 Computer Law & Security Review 12, p. 15

The approach to copyright protection of non-literal elements varies of country to country, thus in the USA the structure and organization as well as user interface are protected if they are original and separated from the unprotectable idea, whereas in the UK protection is granted to the computer program as complex package that includes both content and form. In common law in order to define the copyright infringement in non-literal elements, the Abstraction-Filtration-Comparison test applies and serves as an effective tool for separation of technical and expressive elements, thus is advisable to be taken into practice of developing countries.

Germany has also made a focus on the analysis of technical features of computer program in order to grant protection to, in particular, individual user screens, while refusing the protection of main menu structure as a standard organizational element. However, the clear identification test has not been developed in Germany yet.

The fair balance between the right to authorship and public interest in the development of works of art has been achieved by refusing to grant a copyright protection to the functionality. Thus, the unprotectable idea embed in software functions are not protected, thus there is no monopolization for a significant time (authors' life plus, as a general rule, seventy years).

Conclusion

Having become one of the predominant sectors of entertainment industry, video games have made a big route from simple non-elaborated compositions to highly sophisticated multimedia works of art that contain various audiovisual elements and computer code as their technical basis. Therefore, the differences among countries have arisen in connection to the attribution of video games to the existing classes of works. Some countries make a focus on video games as computer programs, however thinning their protection only to the technical elements and attributing new rights of decompilation, back copying and adaptation that, due to the video games nature, are seem to be even harmful than useful. In contrast, some states refer to the distributive classification of video games, admitting the copyrightability of both computer program and multimedia works, thus granting wider protection to them. Conversely, third approach is connected to the recognition of video games as audiovisual works, because modern games contain substantial part of graphics and sounds that overtake the importance of computer code, which now serves as a tool for their operation. The wise approach to be followed by other countries at this point of time and technological development lies in the attribution of video games to the audiovisual works and granting the copyrightability to all its key elements – audiovisual works (sequence of moving images, pictures themselves and sounds), characters and computer code.

Regarding the copyrightability of video games significant elements, the requirement for copyright protection shall be taken into account, which generally include originality, fixation and idea/expression dichotomy rules. It is advisable to establish the minimum threshold for originality should be stated in order to enable more works to be copyrightable and consequently protected. As for the fixation requirement, on the international level foregoing requirement was left for consideration by national legislators, thus on the national level approaches to the fixation of works vary from country to country. While it is a traditional proof of existence of

copyrightable work in the USA and the UK, Germany has clearly refused to require fixation of work for its protection, avoiding in such way the extensive case law on allocation of new emerging works of art with technical peculiarities within this requirement. As for the idea/expression dichotomy, it is clearly recognized on both international and national level that leads to the refusal to grant copyright protection to ideas, methods and process in order to prevent the creation of monopoly for significant time (life of author plus, as a general rule, seventy years).

The idea/expression dichotomy is an issue of great importance during an examination of gameplay copyrightability. Rules of the game, being in their nature methods of play, are not generally recognized as a copyrightable subject matter. However the only possibility to protect authors' efforts put in their creation is to provide a great level of detalization and embed them into original copyrightable elements that was clearly admitted in case law of the USA and UK

Due to the previous underdevelopment of video games, graphics and sounds were not considered to be copyrightable, because of the dominance of computer code in complex game and its importance in its operation. However, later moving images and graphics have been comprehensively elaborated that lead to the recognition of foregoing works as separate elements for copyright protection. While the USA introduced term "audiovisual work" in broad sense in order to adjust it to the developing technologies, the UK allocated graphics within its closed-list of copyrightable subject matters as artistic and graphic works. In contrast, Germany, being able to adjust its copyrightable list to newly emerged video games, has treated them as films and photographic works, thus granting the thinner copyright protection to their authors.

Game characters, having a capability to be used apart from their original source, have become great commercial investments and tools for creation of spin-offs, particularly video games. Thus, the discussed jurisdictions granted a copyright protection to these creatures, including both literary and graphical characters. Whereas, the USA and Germany clearly recognize the unique nature of characters, distinctive from other works of art, the United

Kingdom grants a protection to characters as a part of a novel regardless of their peculiarities. The USA and Germany have clearly distinguished between stock characters and distinctive characters by referring to the examination of characters' recognizable images, personal traits and external features that can be considered as an effective test for granting a copyright protection to the game characters.

Computer program, as a determinative element for viability of video games, has been profoundly discussed and protected on international, supranational and national level. It naturally consists of source code, readable by humans, and object code aimed at computer examination that are both considered to be copyrightable, because of possibility of deduction of object code from source and its further copying and circumvention. Software also contains some structural and organizational elements, designs, user interfaces, in which some intellectual and labor efforts have been put, thus they are also recognized as copyrightable, although the approach to their copyright protection varies from country to country. The USA draws an attention to their originality and separation from the unprotectable idea by application of Abstraction-Filtration-Comparison test, whereas in the UK protection is granted to the computer program as complex package that includes both content and form. Germany focuses on the analysis of technical features of computer program in order to grant protection to, in particular, individual user screens, while refusing the protection of main menu structure as a standard organizational element. Finally, the functionality of computer program is not considered as a copyrightable subject matter, because otherwise it would lead to the monopolization of software functions for significant time that should be understood as a wise approach, which creates a fair balance between public interest and authors' rights.

Consequently, video games are evidently very complicated multimedia works that requires to be comprehensively examined from expressive and technical side and elaborated in the national copyright laws in order to provide an effective protection of authors and smooth development of video games industry.

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