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Copyright Issues Concerning Cheat Software: A Comparative Analysis of EU and US Law

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Copyright

Abstract

On October 17, 2024, the Court of Justice of the European Union issued a ruling, stating that the use of 'Cheat Software'—provided it only temporarily alters variables in the system's memory—is permissible under copyright law when assessed solely within the framework of the EU Software-Directive. This decision comes shortly after significant rulings in the US where courts have sided with video game publishers and developers, finding that, in certain circumstances and depending on the technical design of the software, the use of cheat software constitutes a copyright infringement. At first glance, this contrast suggests that European software copyright law appears to be more lenient, while the US, particularly under the Digital Millennium Copyright Act, takes a stricter approach to 'Cheat Software'. In the context of this paper, the aim is to determine whether this is indeed the case. Therefore, it delves into the recent Court of Justice of the European Union ruling and explores how a similar legal issue might have been addressed under US software copyright law.

The analysis focuses primarily on the questions referred to the CJEU, particularly concerning whether variables stored in RAM fall within the scope of protection under Article 1 of the Software Directive and draws comparisons between European and American legislation and case law. Additionally, it investigates whether modifying such variables constitutes an alteration under Article 4 of the Software Directive, which would be within the exclusive rights of the copyright holder. From a US standpoint, the evaluation centers on whether the variables in Random Access Memory qualify as derivative work and whether their reproduction falls outside the scope of the Fair Use doctrine. The analysis thereby considers both statutory laws, including the Copyright Act of 1976 and the Digital Millennium Copyright Act of 1998, as well as key case law, such as *Lewis Galoob Toys Inc v Nintendo of America Inc* (9th Cir 1992) and *MDY Industries LLC v Blizzard Entertainment Inc and Vivendi Games Inc* (2010).

Some argue the 'Cheat Software' decision of the CJEU holds significant importance for both the gaming and software industries, particularly in relation to its applicability to other relevant issues like 'Ad-blockers'. That's why various experts describe the decision as '*game-changing*'. But it should be emphasized that this ruling applies solely to 'Cheat Software' that temporarily modifies variables in the system's memory and does not take into account the EU InfoSoc Directive or any other EU directives besides the Software Directive. Therefore, the ruling does not extend to other types of cheat software, particularly those that modify the underlying code. As a result, the decision may not carry as much significance as it initially appears. This should be considered when assessing the decision in comparison to how it would be evaluated under US law.

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I. INTRODUCTION

1. Video Games and Software Copyright

'In the same way, the author of a detective novel cannot prevent the reader from skipping to the end of the novel to find out who the killer is, even if that would spoil the pleasure of reading and ruin the author's efforts to maintain suspense.'[1]

One of the most remarkable aspects of the video game industry is the surge of creativity it has sparked within this new medium.[2] What sets video games apart from other forms of media is their interactivity.[3] Unlike passive media consumption, players play an essential role in shaping the gaming experience - however, developers often try to manage that interactivity by enforcing the game's rules.[4] But what happens when players want to alter those rules or introduce their own modifications and creativity into the game world created by the developers?[5] Developers have the option to pursue legal action against cheaters.[6]

Video game litigation has often set the precedent for legal battles involving computer software.[7] The question whether copies in machine language are covered by copyright was first addressed in the context of video games, long before it was settled for regular computer programs.[8]

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[1] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar para 57; also referred to in Jan Pfeiffer, 'EuGH: Cheat-Software urheberrechtlich zulässig' (2024), Computer & Recht 5(24) 52-53

[2] Thomas Hemnes, 'The Adaptation of Copyright Law to Video Games' (1982) 131(1) University of Pennsylvania Law Review 207

[3] M Lemley and S Maitra, *Video Game Law* (Stanford Law School, 2nd edition 2024) 73

[4] M Lemley and S Maitra, *Video Game Law* (Stanford Law School, 2nd edition 2024) 73

[5] M Lemley and S Maitra, *Video Game Law* (Stanford Law School, 2nd edition 2024) 73

[6] Richard Stern, 'Copyright infringement by add-on software: Going beyond deconstruction of the Mona Lisa moustache paradigm and not taking video game cases too seriously' (1991) 31(2) Jurimetrics 205, 206

[7] Richard Stern, 'Copyright infringement by add-on software: Going beyond deconstruction of the Mona Lisa moustache paradigm and not taking video game cases too seriously' (1991) 31(2) Jurimetrics 205, 206

[8] Richard Stern, 'Copyright infringement by add-on software: Going beyond deconstruction of the Mona Lisa moustache paradigm and not taking video game cases too seriously' (1991) 31(2) Jurimetrics 205, 206

Similarly, the issue of whether screen displays are independently protected by copyright, apart from the underlying code that generates them, was decided in video game cases well before it became relevant to computer software in general.[9] In this sense, video game copyright law has influenced the development of copyright law for software or to use the legal terminology '*computer programs*'.[10] This issue also arises when examining the legal question surrounding the extent of protection for variables modified within Random Access Memory[11]. The recent Court of Justice of the European Union[12] ruling in Case C-159/23[13] addressed cheat software in video games, though the same principle could be applied to software elements in general, such as 'Ad-Blockers'.[14] Also in this regard, litigation in the video game sector has once more proceeded more quickly than in cases involving general software.

2. The CJEU case C-159/23

The CJEU 'Cheat Software' case C-159/23 originated from a legal dispute between *Datel Design and Development Ltd and Datel Direct Ltd* and *Sony Computer Entertainment Europe Ltd* in Germany, which progressed through various courts.[15] The German Federal Court of Justice[16] then referred the matter to the CJEU for a preliminary ruling.[17]

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[9]Richard Stern, 'Copyright infringement by add-on software: Going beyond deconstruction of the Mona Lisa moustache paradigm and not taking video game cases too seriously' (1991) 31(2) Jurimetrics 205, 206

[10] Richard Stern, 'Copyright infringement by add-on software: Going beyond deconstruction of the Mona Lisa moustache paradigm and not taking video game cases too seriously' (1991) 31(2) Jurimetrics 205, 206

[11] Hereinafter referred to as 'RAM'

[12] Hereinafter also referred to as the 'CJEU'

[13] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363

[14] Christian Solmecke, 'Verletzt AdblockPlus Urheberrecht?' (*WBS*, 07.11.2024) https://www.wbs.legal/urheberrecht/axel-springer-vs-werbeblocker-verletzt-adblockplus-urheberrecht-80144/ accessed 15 November 2024

[15] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887

[16] Meaning the 'Bundesgerichtshof' or short 'BGH'

[17] J H Schmidt and J Großekettler, 'Is cheating copyright infringement? CJEU clarifies specific protection of computer programs' (*Hogan Lovells Engage*, 24 October 2024) <https://www.engage.hoganlovells.com/knowledgeservices/news/is-cheating-copyright-infringement-cjeu-clarifies-specific-protection-computer-programs> accessed 25 October 2024

a. Parties and Subject

Sony Computer Entertainment Europe Ltd, headquartered in the UK, was the exclusive European licensee for PlayStation consoles and games.[18] Until 2014, Sony marketed the PlayStation Portable[19] and the associated game '*MotorStorm: Arctic Edge*.'[20] Datel Design and Development Ltd and Datel Direct Ltd[21], also based in the UK, developed, and sold software and accessories for Sony consoles.[22] Their products included '*Action Replay PSP*' and '*Tilt FX*,' – which enabled players to cheat and alter elements of the game, e.g. by granting unlimited lives and other unauthorized advantages to users,[23] like a '*Turbo*' or unlocking additional content.[24] Datel's software was designed to work exclusively with Sony's original games.[25]

Therefore, in C-159/23, the case focused on the extent of copyright protection afforded to software[26] under the European Software-Directive[27].[28] The question whether this protection extends beyond the literal code itself had already been addressed in prior CJEU rulings, such as *Bezpečnostní softwarová asociace v Ministerstvo kultury*[29] and *SAS Institute Inc v World*

[18] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar, para 16
[19] Hereinafter referred to as 'PSP'
[20] Christian Solmecke, 'EuGH erlaubt Cheat Software' (*WBS*, 17 October 2024) <https://www.wbs.legal/urheberrecht/bgh-verhandelt-zu-rechtsstreit-von-sony-urheberrechtsverletzung-durch-cheat-software-61144/> accessed 21 October 2024
[21] Collectively referred to as *Datel*
[22] Christian Solmecke, 'EuGH erlaubt Cheat Software' (*WBS*, 17 October 2024) <https://www.wbs.legal/urheberrecht/bgh-verhandelt-zu-rechtsstreit-von-sony-urheberrechtsverletzung-durch-cheat-software-61144/> accessed 21 October 2024
[23] Unkown Author, 'CJEU clarifies modifying variables in RAM does not infringe copyright' (*European Innovation Council and SMEs Executive Agency*, 25 October 2024) <https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/cjeu-clarifies-modifying-variables-ram-does-not-infringe-copyright-eu-trade-mark-dispute-support-fit-2024-10-25_en> accessed 27 October 2024
[24] Christian Solmecke, 'EuGH erlaubt Cheat Software' (*WBS*, 17 October 2024) <https://www.wbs.legal/urheberrecht/bgh-verhandelt-zu-rechtsstreit-von-sony-urheberrechtsverletzung-durch-cheat-software-61144/> accessed 21 October 2024
[25] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887
[26] The European Union always uses the term 'computer programs' within the context of software copyright law
[27] Council Directive 2009/24/EC on the legal protection of computer programs [2009] OJ L 111/16
[28] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887
[29] Case C-393/09 *Bezpečnostní softwarová asociace v Ministerstvo kultury* [2010] ECR I-1397

Programming Ltd[30]. However, a key aspect of this specific case was that the defendants' software did not directly modify the game's code, which is indisputably protected as a computer program.[31].[32] Instead, when the game stored values in the console's working memory, the defendants' software substituted those values with others.[33] As a result, while the computer continued to execute the original instructions, it did so using the modified data.[34]

b. Case History

aa. Hamburg Regional Court

Before the 'Cheat-Software' case reached the Federal Court of Justice of Germany and was subsequently referred to the CJEU for a preliminary ruling, the Hamburg Regional Court[35] largely ruled in favor of Sony in its lawsuit seeking an injunction, disclosure of information, and confirmation of liability for damages.[36] The court held that users were altering Sony's computer programs by using the defendant's software to introduce external commands into the execution of Sony's video games.[37] According to the court, it made no difference, either from

[30] Case C-406/10 *SAS Institute Inc v World Programming Ltd* [2012] ECR I-8473 ECLI:EU:C:2012:259
[31] Case C-355/12 *Nintendo v PC Box Srl and 9Net Srl* [2014] ECLI:EU:C:2014:25
[32] Bohdan Widła, 'Interference with the computer program at runtime: C-159/23 Sony Computer Entertainment Europe' (*Kluwer Copyright Blog*, 10 January 2024) <https://copyrightblog.kluweriplaw.com/2024/01/10/interference-with-the-computer-program-at-runtime-c-159-23-sony-computer-entertainment-europe/> accessed 20 September 2024
[33] Bohdan Widła, 'Interference with the computer program at runtime: C-159/23 Sony Computer Entertainment Europe' (*Kluwer Copyright Blog*, 10 January 2024) <https://copyrightblog.kluweriplaw.com/2024/01/10/interference-with-the-computer-program-at-runtime-c-159-23-sony-computer-entertainment-europe/> accessed 20 September 2024
[34] Bohdan Widła, 'Interference with the computer program at runtime: C-159/23 Sony Computer Entertainment Europe' (*Kluwer Copyright Blog*, 10 January 2024) <https://copyrightblog.kluweriplaw.com/2024/01/10/interference-with-the-computer-program-at-runtime-c-159-23-sony-computer-entertainment-europe/> accessed 20 September 2024
[35] Case 310 O 199/10 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2012]
[36] R Golz and V Dimov, 'Gaming: BGH Asks ECJ About the Copyright Admissibility of Cheat Software' (*Härting*, 28 February 2023) <https://haerting.de/en/insights/gaming-bgh-asks-ecj-about-the-copyright-admissibility-of-cheat-software/> accessed 27.10.2024
[37] R Golz and V Dimov, 'Gaming: BGH Asks ECJ About the Copyright Admissibility of Cheat Software' (*Härting*, 28 February 2023) <https://haerting.de/en/insights/gaming-bgh-asks-ecj-about-the-copyright-admissibility-of-cheat-software/> accessed 27.10.2024

the user's or the author's perspective, whether the changes to the game were made by modifying the software itself or by altering data in the RAM.[38]

bb. Hamburg Higher Regional Court

On appeal, the Hamburg Higher Regional Court overturned this decision and dismissed the lawsuit[39].[40] The Higher Regional Court[41] ruled that a modification only exists if '*a change is made to the program itself*' or '*alterations are made to a copy of the program uploaded to the working memory*.'[42] Thus, no copyright infringement exists, as the actual code of the video game remains unaltered.[43] Thereby the court adopted the software provider's argument that modifying the software would require altering the actual software files.[44] In its decision, the CJEU (later) largely upheld the reasoning of the Hamburg Higher Regional Court.[45]

c. Legal Questions and Answers

The German code of Federal justice sought clarification on whether the protection granted by Article 1(1) to (3) of the Software-Directive extends to the content of variables created by a

[38] R Golz and V Dimov, 'Gaming: BGH Asks ECJ About the Copyright Admissibility of Cheat Software' (*Härting*, 28 February 2023) <https://haerting.de/en/insights/gaming-bgh-asks-ecj-about-the-copyright-admissibility-of-cheat-software/> accessed 27.10.2024
[39] Case 5 U 23/12 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2021]
[40] Daniel Herbig, 'ECJ rules against Sony: Cheat tools are not copyright infringements' (*heise online*, 17 October 2024) <https://www.heise.de/en/news/ECJ-rules-against-Sony-Cheat-tools-are-not-copyright-infringements-9984906.html> accessed 27 October 2024
[41] 'Oberlandesgericht Hamburg' to be precise
[42] Daniel Herbig, 'ECJ rules against Sony: Cheat tools are not copyright infringements' (*heise online*, 17 October 2024) <https://www.heise.de/en/news/ECJ-rules-against-Sony-Cheat-tools-are-not-copyright-infringements-9984906.html> accessed 27 October 2024
[43] Kai Bodensiek, 'Federal Court asks ECJ about Cheating' (*Brehm & v. Moers*, 24 February 2023) <https://www.bvm-law.de/index.php/en/blog/federal-court-asks-ecj-about-cheating> accessed 27 October 2024
[44] Kai Bodensiek, 'Federal Court asks ECJ about Cheating' (*Brehm & v. Moers*, 24 February 2023) <https://www.bvm-law.de/index.php/en/blog/federal-court-asks-ecj-about-cheating> accessed 27 October 2024
[45] Daniel Herbig, 'ECJ rules against Sony: Cheat tools are not copyright infringements' (*heise online*, 17 October 2024) <https://www.heise.de/en/news/ECJ-rules-against-Sony-Cheat-tools-are-not-copyright-infringements-9984906.html> accessed 27 October 2024

protected computer program in computer memory and used during its operation, especially if another program, running concurrently, alters this content without changing the object code or source code of the latter program.[46] Specifically, the first preliminary question was formulated as follows:

'Is there an interference with the protection afforded to a computer program under Article 1(1) to (3) of Directive 2009/24/EC (1) in the case where it is not the object code or the source code of a computer program, or the reproduction thereof, that is changed, but instead another program running at the same time as the protected computer program changes the content of variables which the protected computer program has transferred to the working memory and uses in the running of the program'[47]

The Court of Justice of the European Union responded to the first question as follows:[48]

'Article 1(1) to (3) of Directive 2009/24 must be interpreted as meaning that the content of the variable data transferred by a protected computer program to the RAM of a computer and used by that program in its running does not fall within the protection conferred by that directive, in so far as that content does not enable such a program to be reproduced or subsequently created.'[49]

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[46] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (*EU law, Law and computer games*, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024

[47] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others Request for a preliminary ruling from the Bundesgerichtshof (Germany)* [2023] OJ C184/13

[48] J H Schmidt and J Großekettler, 'Is cheating copyright infringement? CJEU clarifies specific protection of computer programs' (*Hogan Lovells Engage*, 24 October 2024) <https://www.engage.hoganlovells.com/knowledgeservices/news/is-cheating-copyright-infringement-cjeu-clarifies-specific-protection-computer-programs> accessed 25 October 2024

[49] J H Schmidt and J Großekettler, 'Is cheating copyright infringement? CJEU clarifies specific protection of computer programs' (*Hogan Lovells Engage*, 24 October 2024) <https://www.engage.hoganlovells.com/knowledgeservices/news/is-cheating-copyright-infringement-cjeu-clarifies-specific-protection-computer-programs> accessed 25 October 2024

The referring court further asked whether the situation described in the first preliminary question constitutes an act of alteration of a computer program, which would be covered by the exclusive rights of the author under Article 4(1)(b) of the Software-Directive.[50]

‚Is an alteration within the meaning of Article 4(1)(b) of Directive 2009/24 present in the case where it is not the object code or the source code of a computer program, or the reproduction thereof, that is changed, but instead another program running at the same time as the protected computer program changes the content of variables which the protected computer program has transferred to the working memory and uses in the running of the program?‘[51]

The CJEU answered the question by stating that, due to the response to the first question, the second question must also be answered in the negative.[52] Even though, this question is independent of the answer to the first question and focuses on whether an alteration of a computer program can occur even if the content of variables is not protected by the Software-Directive.[53]

3. Disclaimer

It is essential to clarify that the case at hand specifically involves ‘Cheat Software' that is engineered to alter only certain variables in the RAM without changing the program code itself. In terms of ‘Cheat Software’ that operates by changing the underlying code, the legal evaluation

[50] Glyn Moody, ‘Top EU Court’s Advisor Explains Why Video Game Cheats Are Not Copyright Infringement’ (*TechDirt*, 25 September 2024) https://www.techdirt.com/2024/09/25/top-eu-courts-advisor-explains-why-video-game-cheats-are-not-copyright-infringement/ accessed 27 September 2024
[51] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others Request for a preliminary ruling from the Bundesgerichtshof (Germany)* [2023] OJ C184/13
[52] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887
[53] Glyn Moody, ‘Top EU Court’s Advisor Explains Why Video Game Cheats Are Not Copyright Infringement’ (*TechDirt*, 25 September 2024) https://www.techdirt.com/2024/09/25/top-eu-courts-advisor-explains-why-video-game-cheats-are-not-copyright-infringement/ accessed 27 September 2024

is unequivocal. Such software is illegal under the Software-Directive and constitutes a copyright infringement concerning the core elements of copyright protection - source and object code. Several European court rulings have definitively established this as legally unacceptable. The Higher Regional Court of Dresden for example ruled in 2015 that the distribution of bots constitutes a copyright infringement[54].[55] The court considered the bots to be an unlawful modification of the game software because they interfered with the program's operation and altered its code.[56] Additionally, the bots were found to bypass technical protection measures, which the court deemed an independent copyright violation.[57] In 2017, the Federal Court of Justice upheld the lower courts' decisions, finding that the cheat bots constituted both anti-competitive interference and copyright infringement through unauthorized modification and circumvention of technical protection measures.[58] The respective bots "*Honorbuddy*" and "*Gatherbuddy 2*" deeply interfered with game mechanics and bypassed protection measures.[59]

Additionally, the CJEU only addressed the questions presented by the Federal Court of Germany based on the EU Software-Directive in the 'Cheat Software' case. For a thorough copyright assessment, considerations from the InfoSoc-Directive[60] and other relevant EU

[54] Case 14 U 1127/14 *Bossland v Blizzard* [2015]
[55] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (*EU law, Law and computer games*, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[56] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (*EU law, Law and computer games*, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[57] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (*EU law, Law and computer games*, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[58] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (*EU law, Law and computer games*, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[59] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (*EU law, Law and computer games*, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[60] Council Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society [2001] OJ L 167/10

directives should have been incorporated. With this in mind, the CJEU ruling doesn't seem particularly '*game-changing*'[61].

[61] A Wachowska and M Ręgorowicz and K Dymek, 'A "game-changing" opinion from the CJEU's Advocate General offers legal perspective on cheat software' (*TKP inspires*, 09 July 2024) <https://www.traple.pl/en/a-game-changing-opinion-from-the-cjeus-advocate-general-offers-legal-perspective-on-cheat-software/> accessed 15 October 2024

II. The European Perspective on Cheat Software

1. Judgment of the CJEU following the Opinion of Advocate General Szpunar (2024)

On October 17, 2024, the Court of Justice of the European Union delivered its judgment in the 'Cheat Software' case, concluding that there was no copyright infringement associated with the Cheat Software.[62] The CJEU largely agreed with the previous reasoning of Advocate General Maciej Szpunar, addressing nearly all aspects of the case, and specifically clarified that the protection in question is confined to the object and source code.[63] As already mentioned, the court further did not provide a substantive response to question 2, determining that the scope of protection did not apply to the variables in RAM as outlined in question 1.

a. Variables in RAM and restrictive scope of copyright protection under the Software Directive

Advocate General *Maciej Szpunar* had previously proposed that Article 1(1) to (3) of the Software-Directive should be interpreted as not extending protection to the content of variables created by the protected computer program in the computer's memory and used during the execution of that program, when another program running concurrently modifies this content without altering the object code or source code of the protected program.[64] This argumentation was followed by the CJEU when determining that Article 1(1) to (3) of the Software-Directive must be interpreted as follows "*the content of the variable data transferred by a protected computer program to the RAM of a computer and used by that program in its running does not*

[62] Case 310 O 199/10 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887 para 38
[63] Case 310 O 199/10 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887 para 38
[64] Jan Pfeiffer, 'EuGH: Cheat-Software urheberrechtlich zulässig' (2024), Computer und Recht 5(40), 52-53

fall within the protection conferred by that directive, in so far as that content does not enable such a program to be reproduced or subsequently created".[65] Therefore, from Article 1(2) of the Software-Directive and the Advocate General's observations in Opinion paragraph 37, it follows that source code and object code are covered as forms of expression of a computer program, as they enable its reproduction or future creation.[66] Other aspects of the program, such as its functionalities or user-accessible features are not protected by the Software-Directive, as they do not allow for the program's reproduction or re-creation.[67]

In addition, the court touched on question two in relation to potential alterations or reproductions, stressing that the law is designed to prevent unauthorized reproductions while also allowing for independent development.[68] In cases like *Datel's* 'Cheat Software', altering variable data in RAM during a program's operation does not qualify as unauthorized reproduction and therefore copyright infringement if it doesn't duplicate the original code or internal structure.[69] Competitors may analyze a program's underlying ideas and principles to create their own compatible products, provided they do not directly copy the expression of the original work.[70]

[65] Case 310 O 199/10 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887 para 38
[66] Case 310 O 199/10 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887 para 38
[67]Case 310 O 199/10 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887 para 38
[68] Case 310 O 199/10 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887 para 38
[69] Case 310 O 199/10 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887 para 38
[70] Case 310 O 199/10 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] ECLI:EU:C:2024:887 para 38

aa. Comment on C-406/10 - SAS Institute (2012)

Critics argue that the Court has not entirely ruled out the possibility of copyright protection for these elements in the *SAS Institute* case - a case that specifically dealt with the question whether functional elements can receive copyright protection under European copyright.[71] In the respective judgment, the court made clear, that the eligibility for copyright protection will be determined by national courts on a case-by-case basis, depending on whether the specific language or data file format meets the necessary threshold of intellectual creativity as outlined in the InfoSoc-Directive.[72] But the CJEU's statements in the *SAS Institute* case were related to a different situation and cannot be easily applied here.[73]

Additionally, in the *Sony v Datel* case, the court's evaluation was focused solely on assessing the scope of copyright protection within the context of the Software-Directive rather than considering other copyright related directives of the European Union. But Developers are likely to appreciate the CJEU's *SAS institute* decision arguing that functionality itself isn't protected by copyright.[74] However, this is too superficial and does not accurately reflect the relevant judgment of the court in *SAS Institute*, as this doesn't imply that a developer who mimics the functionality of competing software without looking at the source code is safe from infringement claims.[75] It's important to recognize the significant differences between the *SAS Institute* case and *Sony v. Datel* that should be considered.[76] In the *SAS Institute* case, the

[71] H *Sandison and E Parris*, 'SAS Institute Inc v World Programming Limited' (*Fieldfisher*, 1 July 2012) <https://www.fieldfisher.com/en/insights/sas-institute-inc-v-world-programming-limited> accessed 22 September 2024
[72] H *Sandison and E Parris*, 'SAS Institute Inc v World Programming Limited' (*Fieldfisher*, 1 July 2012) <https://www.fieldfisher.com/en/insights/sas-institute-inc-v-world-programming-limited> accessed 22 September 2024
[73] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[74] H *Sandison and E Parris*, 'SAS Institute Inc v World Programming Limited' (*Fieldfisher*, 1 July 2012) <https://www.fieldfisher.com/en/insights/sas-institute-inc-v-world-programming-limited> accessed 22 September 2024
[75] H *Sandison and E Parris*, 'SAS Institute Inc v World Programming Limited' (*Fieldfisher*, 1 July 2012) <https://www.fieldfisher.com/en/insights/sas-institute-inc-v-world-programming-limited> accessed 22 September 2024
[76] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705

original software remained intact and was neither altered through modifications to the code nor enhanced with additional functionalities.[77] Instead, the functionalities of the original software were replicated, resulting in new software that could operate independently of the original.[78] The purpose of the newly created software was solely to replace the original software.[79] To protect the underlying programming work of the creator, any modifications or additions to the intended functionality must always be classified as adaptations, regardless of whether they involve alterations to the program's core structure.[80]

bb. Comment on C-393/09 - Bezpečnostní softwarová asociace (2010)

An important aspect that must be consistently highlighted in relation to the ruling on 'Cheat Software' is that the court's decision solely addresses the preliminary questions and responds to them exclusively based on the Software-Directive. The Advocate General's response indicates that, according to case *BSA v Ministerstvo kultury*[81], the forms of expression of software protected under Software-Directive include both source code and object code.[82] However, it is only partially accurate to state that other aspects of software, such as its functionalities, fall outside the protection offered by the Software-Directive, as this specifically pertains to copyright provisions within the Software-Directive itself.[83] Even if one concludes that the variables are not protected by European software copyright law, they may be covered by the InfoSoc-Directive. The Court of Justice of the European Union has addressed similar issues in past cases. For instance, in the case of *Bezpečnostní softwarová asociace - Svaz softwarové*

[77] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[78] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[79] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[80] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[81] Case C-393/09 *BSA v Ministerstvo kultury* [2010] ECR I-13971
[82] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar para 38
[83] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705

ochrany v Ministerstvo kultury[84], the Court ruled that while a graphical user interface[85] can be eligible for copyright protection under the InfoSoc-Directive[86], it does not satisfy the requirements for copyright protection as a '*computer program'* under the Software-Directive.[87]

b. Restricted acts of alteration and rigid limitations

In certain situations, a game publisher may have the right to pursue claims against the developer or publisher of cheat software due to their alterations of the game software, as defined in Article 4(1)(b) of the Software-Directive.[88] However, the specifics depend significantly on how the cheat software operates.[89] In European copyright law, the principle states that any modifications to a work are exclusively reserved for the creator.[90] The concept of modification is broad and encompasses all changes made, particularly alterations or additions to the source code or its functionality.[91] The term 'alteration' is broadly interpreted, particularly encompassing changes or additions to the source code.[92] Importantly, an alteration involves a direct alteration of the program's core, and simply interacting with interfaces is insufficient.[93] It's important to note that the core substance of the program does not necessarily need to be altered for an alteration to be considered valid.[94] Alterations can also occur when the cheat software alters the game

[84] Case C-393/09 *BSA v Ministerstvo kultury* [2010] ECR I-13971
[85] Also referred to as 'GUI'
[86] Council Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society [2001] OJ L 167/10
[87] Unknown Author, 'Graphical user interfaces can be protected by copyright, rules European Court' (*Fieldfisher*, 8 February 2011) <https://www.fieldfisher.com/en/insights/graphical-user-interfaces-can-be-protected-by-copyright-rules-european-court> accessed 22 September 2024
[88] A Lober and T Conraths, 'Cheat software - 'doping' in online games (2019) Int Ent Law Rev 2(2) 78 - 84
[89] A Lober and T Conraths, 'Cheat software - 'doping' in online games (2019) Int Ent Law Rev 2(2) 78 - 84
[90] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[91] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[92] A Lober and T Conraths, 'Cheat software - 'doping' in online games (2019) Int Ent Law Rev 2(2) 78 - 84
[93] A Lober and T Conraths, 'Cheat software - 'doping' in online games (2019) Int Ent Law Rev 2(2) 78 - 84
[94] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705

data stored in external memory.[95] An intervention in the program's operation through external commands can be sufficient for it to qualify as an alteration.[96]

Therefore, one can't automatically assume that changes to the game's concept or the game itself may be prohibited as it depends on how the cheat specifically functions.[97] It is crucial, whether the change in program operation results from a permanent alteration of the game software or merely a temporary adjustment, or from influencing the software's functioning through program commands that modify data stored solely in the working memory.[98] In the context of restricted acts of alteration, this would necessarily involve reproduction to infringe the exclusive rights of the author. The next question would be whether such an infringement could be justified under any of the exceptions outlined in the Software-Directive, which leads to an interesting comparison with the American Fair Use doctrine. From the perspective of the CJEU, however, the answer to the second question had to be negative, particularly when viewed solely through the lens of the Software-Directive.[99] According to the CJEU the scope of exclusive rights under the Software-Directive cannot extend beyond what is protected by the Software-Directive itself.[100] In other words, when Article 4(1)(b) refers to the 'alteration of a computer program,' it necessarily means the elements protected under Article 1 of the Software Directive.[101] Thus,

[95] A Lober and T Conraths, 'Cheat software - 'doping' in online games (2019) Int Ent Law Rev 2(2) 78 - 84
[96] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[97] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[98] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[99] Glyn Moody, 'Top EU Court's Advisor Explains Why Video Game Cheats Are Not Copyright Infringement' (*TechDirt*, 25 September 2024) https://www.techdirt.com/2024/09/25/top-eu-courts-advisor-explains-why-video-game-cheats-are-not-copyright-infringement/ accessed 27 September 2024
[100] Glyn Moody, 'Top EU Court's Advisor Explains Why Video Game Cheats Are Not Copyright Infringement' (*TechDirt*, 25 September 2024) https://www.techdirt.com/2024/09/25/top-eu-courts-advisor-explains-why-video-game-cheats-are-not-copyright-infringement/ accessed 27 September 2024
[101] Glyn Moody, 'Top EU Court's Advisor Explains Why Video Game Cheats Are Not Copyright Infringement' (*TechDirt,* 25 September 2024) https://www.techdirt.com/2024/09/25/top-eu-courts-advisor-explains-why-video-game-cheats-are-not-copyright-infringement/ accessed 27 September 2024

the answer to the second question follows directly from the answer to the first question, making a separate response unnecessary.[102]

2. No Consideration of the European InfoSoc-Directive in the 'Cheat Software case'

a. Opinion of Advocate General

The previous sections have already emphasized and discussed that both the Advocate General and the CJEU considered only the Software-Directive when assessing the present case. Nevertheless, the Commission considered examining whether elements of Sony's video games beyond the software, such as graphics, sound, or narrative structure, are protected under the InfoSoc-Directive.[103] However, according to the Advocate General this analysis was unnecessary for several reasons: On the one hand the case focused only on Sony's rights under the Software-Directive, and questions related to the InfoSoc-Directive are therefore hypothetical.[104] No infringement under the InfoSoc-Directive was claimed, and if it were, it would likely involve game users, not *Datel*.[105] Moreover, the reproduction of game graphics on a screen is temporary and falls under an exception in Article 5(1) of the InfoSoc-Directive, and altering a game's narrative structure therefore doesn't infringe on copyright.[106] That's why the analysis of Advocate General focused solely on the Software-Directive.[107]

[102] Glyn Moody, 'Top EU Court's Advisor Explains Why Video Game Cheats Are Not Copyright Infringement' (*TechDirt,* 25 September 2024) https://www.techdirt.com/2024/09/25/top-eu-courts-advisor-explains-why-video-game-cheats-are-not-copyright-infringement/ accessed 27 September 2024
[103] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 70 - 77
[104] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 70 - 77
[105] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 70 - 77
[106] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 70 - 77
[107] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 70 - 77

b. Court of Justice of the European Union

The CJEU noted in its judgment that, within the cooperative framework set out by Article 267 TFEU, its role is to provide national courts with guidance to support their decisions.[108] The Court can reinterpret the questions from the referring court and apply relevant EU legislation—even if not explicitly requested—to offer a comprehensive legal interpretation for the case, as seen in the 2019 *Airbnb* ruling[109].[110] However, the national court alone decides the focus of its questions.[111] In this instance, since InfoSoc-Directive was not cited in the primary question nor necessary for a response, there is no reason to evaluate it in this context—especially given that the referring court clarified that reproduction is not a contested issue in the main case.[112]

c. Implications of the InfoSoc-Directive

As discussed in this section, neither the Advocate General nor the CJEU considered the InfoSoc-Directive during their assessment of the 'Cheat Software' case. This paper does not examine the procedural rules governing whether the court was required to consider additional copyright directives or was limited strictly to the questions posed for the preliminary ruling. However, it aims to highlight how essential it would have been to include other European directives in determining whether the 'Cheat software' in question was genuinely lawful under broader European copyright law, not just the European Software-Directive framework. Accordingly, a brief look at the relevant provisions of the InfoSoc-Directive is provided.

[108] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] OJ C184/13
[109] Case C-390/18 *Criminal Proceedings against YA and Airbnb Ireland UC* [2020] OJ C 61/8
[110] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] OJ C184/13
[111] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] OJ C184/13
[112] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] OJ C184/13

Article 1(2)(a) of the InfoSoc-Directive clarifies that it does not alter existing Community provisions on the legal protection of computer programs, except in the instances specified in Article 11.[113] This also implies that the provisions of the InfoSoc-Directive are applicable alongside.[114] According to Article 2(a) of the InfoSoc-Directive, Member States must grant authors the exclusive right to authorize or prohibit the reproduction of their works in any form, whether directly or indirectly, temporarily, or permanently.[115] According to what is now considered the prevailing opinion, the artistic aspect primarily includes the audiovisual (overall) presentation, which is protected as a cinematographic work under copyright law, as well as other distinct and protectable individual elements of the game, such as characters or music.[116] This suggests that the reproduction of the variables in the working memory was thus included under this category, meaning that its alteration in the RAM would infringe upon the author's exclusive rights.

aa. Comment on C-355/12 - Nintendo Co. Ltd. (2014)

The European Court of Justice ruled in *Nintendo v PC Box*[117] that a video game falls besides the Software-Directive also under the InfoSoc-Directive, as a video game it is not just a '*computer program*' but it also includes additional creative elements.[118] The ruling of the Court of Justice of the European Union in that case, which also addressed the protection given to technological protection measures in video games, has implications beyond just the gaming industry.[119] The CJEU confirmed that technical protection measures involving both software

[113] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[114] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[115] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[116] Timo Conraths, 'Der urheberrechtliche Schutz gegen Cheat-Software' (2016) Computer & Recht 11(32) 705
[117] Case C-355/12 Nintendo Co. Ltd v PC Box Srl and 9Net Srl [2014] ECLI:EU:C:2014:25
[118] Michael Coyle, 'Nintendo Co. Ltd v PC Box SRL and 9Net [C-355/12]' (*Lawdit Solicitors Law Firm*, 06 August 2014) <https://lawdit.co.uk/readingroom/nintendo-co-ltd-v-pc-box-srl-and-9net-c-355-12> accessed 22 September 2024
[119] Bohdan Widla, 'More than a game: did Nintendo v PC Box give manufacturers more control over the use of hardware?' (2017) Computer Law & Security Review 33(2)

and hardware are valid.[120] Additionally, the Court stated that when a software product includes other forms of copyrighted content, the broader rules of European copyright law take priority over software-specific regulations.[121] Considering this reasoning by the CJEU, it seems even less effective that the CJEU did not take the InfoSoc-Directive into account in the cheat software case. If third-party software or cheats are used to bypass technical protection measures, such actions should have been addressed under Article 6 of the InfoSoc-Directive.[122] This enforcement applies especially if the 'Cheat Software's' sole purpose is to override technical protections and does not simultaneously carry out legitimate technical functions.[123] Applying this idea to 'Cheat Software', no legitimate function is apparent other than to manipulate the original game.

bb. Comment on C-5/08 – Infopaq (2009)

The *Infopaq* case[124] comes also within the framework of the InfoSoc-Directive and deals with a particular setting the (temporary) reproduction of specific elements.[125] In this case, *Infopaq* sought a ruling stating that it was not necessary to obtain permission from the rights holders for reproducing newspaper articles.[126] This process involved using automated methods to scan the

[120] Bohdan Widla, 'More than a game: did Nintendo v PC Box give manufacturers more control over the use of hardware?' (2017) Computer Law & Security Review 33(2)
[121] Bohdan Widla, 'More than a game: did Nintendo v PC Box give manufacturers more control over the use of hardware?' (2017) Computer Law & Security Review 33(2)
[122] J H Schmidt and J Großekettler, 'Is cheating copyright infringement? CJEU clarifies specific protection of computer programs' (*Hogan Lovells Engage*, 24 October 2024) <https://www.engage.hoganlovells.com/knowledgeservices/news/is-cheating-copyright-infringement-cjeu-clarifies-specific-protection-computer-programs> accessed 25 October 2024
[123] J H Schmidt and J Großekettler, 'Is cheating copyright infringement? CJEU clarifies specific protection of computer programs' (*Hogan Lovells Engage*, 24 October 2024) <https://www.engage.hoganlovells.com/knowledgeservices/news/is-cheating-copyright-infringement-cjeu-clarifies-specific-protection-computer-programs> accessed 25 October 2024
[124] Case C-5/08 *Infopaq International A/S v Danske Dagblades* Forening [2009] ECR I-6569
[125] Johan Axhamn, 'Infopaq II – The CJEU elucidates some aspects of the exemption for certain acts of temporary reproduction' (*Kluwer Copyright Blog*, 7 February 2012) <https://copyrightblog.kluweriplaw.com/2012/02/07/infopaq-ii-the-cjeu-elucidates-some-aspects-of-the-exemption-for-certain-forms-of-temporary-reproduction/> accessed 22 September 2024
[126] Johan Axhamn, 'Infopaq II – The CJEU elucidates some aspects of the exemption for certain acts of temporary reproduction' (*Kluwer Copyright Blog*, 7 February 2012)

articles, convert them into digital files, and then process those files electronically.[127] The parties disagreed on whether certain actions taken during the data capture process qualified as reproduction under Article 2 of the InfoSoc-Directive.[128] Additionally, they debated whether, if these actions were deemed reproduction, they would fall under the exemption from the right of reproduction outlined in Article 5(1) of the same directive.[129] The court decided that '*the act of printing out an extract of 11 words, during a data capture process such as that at issue in the main proceedings, does not fulfil the condition of being transient in nature as required by Article 5(1) of the InfoSoc-Directive and, therefore, that process cannot be carried out without the consent of the relevant rightsholders*'.[130] Furthermore the Court made clear, that also a temporary reproduction can constitute a copyright infringement.[131] This would suggest that even the temporary copying in RAM by cheat software constitutes an act falling within the author's exclusive rights, and that none of the strict limitations under European copyright law would apply in this regard.

<https://copyrightblog.kluweriplaw.com/2012/02/07/infopaq-ii-the-cjeu-elucidates-some-aspects-of-the-exemption-for-certain-forms-of-temporary-reproduction/> accessed 22 September 2024

[127] Johan Axhamn, 'Infopaq II – The CJEU elucidates some aspects of the exemption for certain acts of temporary reproduction' (*Kluwer Copyright Blog*, 7 February 2012) <https://copyrightblog.kluweriplaw.com/2012/02/07/infopaq-ii-the-cjeu-elucidates-some-aspects-of-the-exemption-for-certain-forms-of-temporary-reproduction/> accessed 22 September 2024

[128] Johan Axhamn, 'Infopaq II – The CJEU elucidates some aspects of the exemption for certain acts of temporary reproduction' (*Kluwer Copyright Blog*, 7 February 2012) <https://copyrightblog.kluweriplaw.com/2012/02/07/infopaq-ii-the-cjeu-elucidates-some-aspects-of-the-exemption-for-certain-forms-of-temporary-reproduction/> accessed 22 September 2024

[129] Johan Axhamn, 'Infopaq II – The CJEU elucidates some aspects of the exemption for certain acts of temporary reproduction' (*Kluwer Copyright Blog*, 7 February 2012) <https://copyrightblog.kluweriplaw.com/2012/02/07/infopaq-ii-the-cjeu-elucidates-some-aspects-of-the-exemption-for-certain-forms-of-temporary-reproduction/> accessed 22 September 2024

[130] Case C-5/08 *Infopaq International A/S v Danske Dagblades Forening* [2009] ECLI:EU:C:2009:465

[131] Case C-5/08 *Infopaq International A/S v Danske Dagblades Forening* [2009] ECLI:EU:C:2009:465

cc. Comment on C-476/17 – Pelham (2018)

Another argument of the Advocate General is by referencing the CJEU case *Pelham*[132], that the reproduction or translation of program code may be allowed if it is essential to obtain the information needed to ensure the interoperability of an independently developed program with other software.[133] The concept of interoperability is fundamentally about fostering innovation, competition, and creative uses.[134] This was certainly one of the key considerations when the European Software-Directive was introduced. However, in the case of 'Cheat Software', the issue is not about fostering innovation or competition. Rather, it centers on exploiting an existing copyrighted product by creating a tool designed solely to alter a specific work without providing any standalone functionality. The concept of interoperability is intended to enable different, independently functioning systems to interact. This is not the case with the 'Cheat Software' in question, which does not represent a creative application but instead serves only to manipulate an already existing, copyright-protected work.

3. Direct and Secondary Liability

According to the General Advocate the primary responsibility in the 'Cheat Software' case lies with the users who modify Sony's software, as they are the ones directly altering it.[135] According to him *Datel* merely provides the tool that enable these alterations.[136] This doesn't seem fair considering that manufacturers like *Datel* provide the means for users to make these changes

[132] Case C-476/17 *Pelham GmbH et al v Hütter* et al [2019] ECLI:EU:C:2019:624
[133] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (EU law, Law and computer games, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[134] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (EU law, Law and computer games, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[135] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 68 - 69
[136] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 68 - 69

and should therefor also be held liable.[137] This argument draws on case law related to the 'right of communication to the public' under the InfoSoc-Directive, where intermediaries such as website operators were held liable for providing access to copyrighted works.[138] However the Advocate General argued, that the text points out that the right to modify software, as defined in the Software-Directive differs from the right of communication.[139] In software modification cases, there is no public component since users already have lawful access to the software, and no intermediary like *Datel* is involved in granting access.[140]

[137] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 68 - 69
[138] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 68 - 69
[139] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 68 - 69
[140] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 68 - 69

III. The US Perspective on Cheat Software

In the 'Cheat Software' case, the CJEU ruled that the variables generated by the program do not qualify as intellectual creations reflected in the source or object code and, therefore, are not considered the literal expression of the 'computer program', which is a sequence of commands allowing the computer to carry out tasks as intended by the author.[141] The court found that these variables are created by the program itself, making them external data, and not part of the software.[142] The question remains whether such variables would be considered an unauthorized derivative work of a copyright-protected work under US law.

1. Variables in RAM as a copyrighted derivative work

Video games are considered 'audiovisual works' according to 17 U.S.C. § 102(a)(6) and may be eligible for copyright protection.[143] Video games are also built upon source code and object code, both of which are protected as literary works under US copyright law. The United States evaluates video games individually to determine their appropriate legal classification, relying on established case law and significant precedent.[144]

The right to create a derivative work is one of the exclusive rights granted to the owner under copyright law, as stated in 17 U.S.C. § 106(2).[145] To prove a claim of copyright infringement,

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[141] Claas Oehler, 'Streit ums Urheberrecht: Cheats gehören nicht zum Spiel' (*Beck aktuell*, 17 October 2024) <https://rsw.beck.de/aktuell/daily/meldung/detail/eugh-c159-23-sony-cheat-software-psp-spiele-urheberrecht> accessed 18 October 2024

[142] Claas Oehler, 'Streit ums Urheberrecht: Cheats gehören nicht zum Spiel' (*Beck aktuell*, 17 October 2024) <https://rsw.beck.de/aktuell/daily/meldung/detail/eugh-c159-23-sony-cheat-software-psp-spiele-urheberrecht> accessed 18 October 2024

[143] M Lemley and S Maitra, *Video Game Law* (Stanford Law School, 2nd edition 2024) 5

[144] Michael Wang, 'Original idea or illegal copying? Video game copying in china and its effects on the U.S. video game industry, future steps for U.S. developers and publishers' (2022) Santa Clara High Technology Law Journal 38(2)

[145] Susan Ross, 'Copyright, cryptocurrency and video games' (*The Brand Protection Blog*, 16 October 2018), https://www.thebrandprotectionblog.com/2018/10/copyright-cryptocurrency-video-games/, accessed 14 October 2024

the plaintiff must demonstrate (1) ownership of a valid copyright and (2) unauthorized copying of original elements of the plaintiff's work.[146] To qualify for copyright protection, the RAM variables would need to satisfy the criteria of a derivative work of the original video game.[147]

The US copyright law defines a 'derivative work' as '*A work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgement, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications, which, as a whole, represent an original work of authorship*"[148]

a. Lewis Galoob Toys Inc v Nintendo of America Inc (9th Cir. 1992)

In 1991, Nintendo of America Inc filed a lawsuit against Lewis Galoob Toys Inc for copyright infringement concerning its Nintendo video games, which arose from Galoob's promotion of the '*Game Genie*'.[149] The Game Genie was a device that could be inserted between the Nintendo Entertainment System and the game cartridge.[150] The Game Genie operated by intercepting the value of a single data byte transmitted from the game cartridge to the NES's central processing unit.[151] This allowed players to modify aspects of the game, such as granting extra lives or

[146] M Lemley and S Maitra, *Video Game Law* (Stanford Law School, 2nd edition 2024) 33
[147] Claas Oehler, 'Streit ums Urheberrecht: Cheats gehören nicht zum Spiel' (*Beck aktuell*, 17 October 2024) <https://rsw.beck.de/aktuell/daily/meldung/detail/eugh-c159-23-sony-cheat-software-psp-spiele-urheberrecht> accessed 18 October 2024
[148] Susan Ross, 'Copyright, cryptocurrency and video games' (*The Brand Protection Blog,* 16 October 2018), https://www.thebrandprotectionblog.com/2018/10/copyright-cryptocurrency-video-games/, accessed 14 October 2024
[149] Carol S. Curme, 'Derivative Works of Video Game Displays: Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.' (1993) 61 U Cin L Rev 999
[150] Jack Newell, 'Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.' (*Quimbee*, Unknown) <https://www.quimbee.com/cases/lewis-galoob-toys-inc-v-nintendo-of-america-inc>, accessed 23 September 2024
[151] Carol S. Curme, 'Derivative Works of Video Game Displays: Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.' (1993) 61 U Cin L Rev 999

changing how characters moved.[152] Nintendo argued that the Game Genie created unauthorized derivative works and sued Galoob for copyright infringement.[153]

This case is a strong parallel to the European cheat software case. Here, too, an external component—a third-party product—was used to manipulate data processing in a way that altered the flow of the game without directly affecting the original game code. The only difference is that in this instance, hardware is involved instead of software.

The United States District Court for the Northern District of California determined that the Game Genie did not infringe on any of Nintendo's copyrights, including Nintendo's exclusive right to create derivative works based on its games without using the Nintendo game cartridge.[154] It clarified that a derivative work must embody the original in some permanent or tangible form.[155] Since the Game Genie didn't store, reproduce, or create any enduring version of the original game, the court concluded it didn't meet the criteria for infringement.[156] The Game Genie didn't modify the data stored in the game cartridge itself.[157] Instead, it intercepted and temporarily altered data during gameplay, but only while connected to the system and when the console was powered on.[158] The changes made by the user, via input codes, affected the audiovisual output briefly but left no lasting impact on the game or the data in the cartridge.[159]

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[152] Jack Newell, 'Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.' (*Quimbee*, Unknown) <https://www.quimbee.com/cases/lewis-galoob-toys-inc-v-nintendo-of-america-inc>, accessed 23 September 2024

[153] Jack Newell, 'Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.' (*Quimbee*, Unknown) <https://www.quimbee.com/cases/lewis-galoob-toys-inc-v-nintendo-of-america-inc>, accessed 23 September 2024

[154] Carol S. Curme, 'Derivative Works of Video Game Displays: Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.' (1993) 61 U Cin L Rev 999

[155] Eric Johnson, Innovative Add-on Device for Video Game Console Not Copyright Infringement (*Museum of Intellectual Property*, 2008) <http://www.museumofintellectualproperty.org/features/game_genie.html> accessed 23 September 2024

[156] Eric Johnson, Innovative Add-on Device for Video Game Console Not Copyright Infringement (*Museum of Intellectual Property,* 2008) <http://www.museumofintellectualproperty.org/features/game_genie.html> accessed 23 September 2024.

[157] *Nintendo of America Inc v. Lewis Galoob Toys Inc* [1991] 923 F. 2d 862

[158] *Nintendo of America Inc v. Lewis Galoob Toys Inc* [1991] 923 F. 2d 862

[159] *Nintendo of America Inc v. Lewis Galoob Toys Inc* [1991] 923 F. 2d 862

In short, the decision consisted of two sections: Part I concluded that the Game Genie device was not considered a derivative work;[160] Part II determined that even if the device were deemed a derivative work, the home consumer's use of the Game Genie would still qualify as Fair Use.[161]

Lewis Galoob Toys Inc v Nintendo of America Inc is likely the most relevant reference case for understanding how the CJEU cheat software case might be evaluated under US copyright law. Similar to Datel's products, the Game Genie did not alter the actual code of the copyrighted work. According to the US court the modified variables do not qualify as a derivative work. This illustrates that a US court might have ruled similarly to European courts on 'Cheat Software', recognizing that variables in RAM or processor memory may not qualify for copyright protection, and thus, no copyright infringement would occur as long as there's no alteration of the original code. Additionally, it's notable that the court considers that a relevant Fair Use defense could apply in such cases. This will be further explored in the course of this paper, as there may be differences between European and American law, given the flexible Fair Use principle in the US versus the rigid limitations outlined under European copyright directives.

b. Midway Mfg. Co. v. Artic Int'l, Inc. (1982)

The Court in *Lewis Galoob Toys Inc v Nintendo of America Inc* also referenced the case of *Midway Mfg Co v Artic Int'l Inc*, which dealt with copyright issues related to the popular arcade game *Galaxian*.[162] In that case, a third party added a completely new computer chip that

[160] Carol S. Curme, 'Derivative Works of Video Game Displays: Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.' (1993) 61 U Cin L Rev 999
[161] Carol S. Curme, 'Derivative Works of Video Game Displays: Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.' (1993) 61 U Cin L Rev 999
[162] Joseph Rothberg, 'Cheating In Gaming: Will Copyright Laws Level Up?' (*Forbes*, 01 September2016) <https://www.forbes.com/sites/legalentertainment/2016/09/01/cheating-in-gaming-will-copyright-laws-level-up/> accessed 27 September 2024

significantly accelerated gameplay.[163] The court determined that this modification constituted a derivative work of the original game.[164] However, the Nintendo Court differentiated this situation by pointing out that the *Game Genie* did not physically include any part of a copyrighted work, nor did it replace demand for any elements of that work, unlike the chip used in *Galaxian*.[165]

In *Midway Mfg Co v Artic Int'l Inc*, direct modifications were made to the gameplay and other mechanics, though not to the code itself; however, the court found that this still constituted copyright infringement under US law, as game mechanics may be protected as integral parts of the game.[166] The decision emphasized that altering gameplay, even without modifying the original code, could still infringe the creator's rights by producing an unauthorized derivative work.

This reference is significant in the context of comparative law, as it demonstrates that, under US copyright law, protection is not strictly limited to the source and object code, as the CJEU interprets it. Instead, other game components and mechanics can constitute unauthorized derivative works and thus a copyright infringement. This highlights the relative flexibility of US copyright law, which allows for case-by-case analysis, whereas the CJEU's limitation of software protection to source and object code appears more restrictive. It is fair to clarify, however, that the CJEU's interpretation applies only to the Software-Directive and not to other

[163] Joseph Rothberg, 'Cheating In Gaming: Will Copyright Laws Level Up?' (*Forbes*, 01 September2016) <https://www.forbes.com/sites/legalentertainment/2016/09/01/cheating-in-gaming-will-copyright-laws-level-up/> accessed 27 September 2024
[164] Joseph Rothberg, 'Cheating In Gaming: Will Copyright Laws Level Up?' (*Forbes*, 01 September2016) <https://www.forbes.com/sites/legalentertainment/2016/09/01/cheating-in-gaming-will-copyright-laws-level-up/> accessed 27 September 2024
[165] Joseph Rothberg, 'Cheating In Gaming: Will Copyright Laws Level Up?' (*Forbes*, 01 September2016) <https://www.forbes.com/sites/legalentertainment/2016/09/01/cheating-in-gaming-will-copyright-laws-level-up/> accessed 27 September 2024
[166] Joseph Rothberg, 'Cheating In Gaming: Will Copyright Laws Level Up?' (*Forbes*, 01 September2016) <https://www.forbes.com/sites/legalentertainment/2016/09/01/cheating-in-gaming-will-copyright-laws-level-up/> accessed 27 September 2024

copyright directives. Nonetheless, given that this case concerns actual game mechanics, the Software-Directive would likely be the relevant European counterpart.

c. Take-Two Interactive Software Inc v Zipperer (2018)

In the case of Take-Two Interactive Software Inc v Zipperer, Take-Two sought a preliminary injunction against David Zipperer.[167] David Zipperer was alleged to have developed and distributed cheating software designed to manipulate Take-Two's game Grand Theft Auto V.[168] These two cheating programs were called '*Menyoo*' and '*Absolute*'.[169] The judge concluded that Zipperer's software produced an 'alternative' version of GTAV, which was deemed an unauthorized derivative work, thereby violating Take-Two's copyright.[170] Furthermore they were developed without Take-Two's permission and therefore in breach of the user license agreement between him and the company.[171] The user license agreement allowed Zipperer to run GTAV on his computer, but only if he followed the terms of the agreement, which included rules against modifying the software, cheating, or creating derivative works.[172]

In essence, '*Menyoo'* and '*Absolute*' functioned by altering the game's memory, injecting custom code during the game's operation, and circumventing security systems to offer players

[167] Adam Philipp, 'Video Game "Cheats" Can Infringe Copyrights (*AEON Law*, 23 September 2018) <https://aeonlaw.com/video-game-cheats-can-infringe-copyrights/> accessed 27 September 2024
[168] Adam Philipp, 'Video Game "Cheats" Can Infringe Copyrights (*AEON Law*, 23 September 2018) <https://aeonlaw.com/video-game-cheats-can-infringe-copyrights/> accessed 27 September 2024
[169] G Zhu and M Esquenet and N Kilaru, 'Cheaters Never Prosper—And They Also Can Be Liable for Copyright Infringement' (Finnegan, 12 September 2018) <https://www.finnegan.com/en/insights/blogs/incontestable/cheaters-never-prosperand-they-also-can-be-liable-for-copyright-infringement.html> accessed 22 October 2024
[170] Adam Philipp, 'Video Game "Cheats" Can Infringe Copyrights (*AEON Law*, 23 September 2018) <https://aeonlaw.com/video-game-cheats-can-infringe-copyrights/> assessed 27 September 2024
[171] G Zhu and M Esquenet and N Kilaru, 'Cheaters Never Prosper—And They Also Can Be Liable for Copyright Infringement' (*Finnegan*, 12 September 2018) <https://www.finnegan.com/en/insights/blogs/incontestable/cheaters-never-prosperand-they-also-can-be-liable-for-copyright-infringement.html> accessed 22 October 2024
[172] G Zhu and M Esquenet and N Kilaru, 'Cheaters Never Prosper—And They Also Can Be Liable for Copyright Infringement' (*Finnegan*, 12 September 2018) <https://www.finnegan.com/en/insights/blogs/incontestable/cheaters-never-prosperand-they-also-can-be-liable-for-copyright-infringement.html> accessed 22 October 2024

a wide range of cheat features that greatly affected the gameplay.[173] This illustrates that an external interference with game mechanics and operations can, under US law, constitute an unauthorized derivative work and therefore copyright infringement.

Additionally, it's essential to address the aspect of circumventing protective measures, which is also regarded as a distinct violation under the DMCA and the breach of EULAs, which results in unauthorized use of the copyrighted work and may likewise constitute copyright infringement. This makes this decision a useful point of comparison with the CJEU ruling in the 'Cheat Software' case and helps demonstrate that US software copyright law is notably stricter, as modifying variables in the RAM could potentially constitute a violation of copyright under US law.

d. MAI Systems Corp v Peak Computer (1993)

The cases previously described provide valuable insights into how US law might assess 'Cheat Software'. The US courts seem to be stricter when it comes to the copyright protection of specific software elements and also more flexible when it comes to granting exemptions due to the Fair Use doctrine. However, these cases have not yet addressed a direct connection to the RAM of a video game. The unique aspect of variables in RAM is that they represent a temporary and transient modification. The following *MAI Systems Corp v Peak Computer* case illustrates how these temporary modifications in RAM could be evaluated under US copyright law.

[173] G Zhu and M Esquenet and N Kilaru, 'Cheaters Never Prosper—And They Also Can Be Liable for Copyright Infringement' (Finnegan, 12 September 2018) <https://www.finnegan.com/en/insights/blogs/incontestable/cheaters-never-prosperand-they-also-can-be-liable-for-copyright-infringement.html> accessed 22 October 2024

This landmark case established that loading a program into a computer's memory is sufficient for fixation according to US copyright law.[174] The Ninth Circuit sided with MAI by ruling that loading a program into RAM constitutes 'copying' under copyright law.[175] The conclusion restated that '*a copy created in RAM can be 'perceived, reproduced, or otherwise communicated'... and that loading software into RAM constitutes making a copy under the Copyright Act.*'[176] However, it notably left out the part of the same statutory sentence which specifies that for something to be considered '*fixed*,' it must have a '*non-transitory duration*.'[177] It is certainly true that this ruling does not provide an in-depth discussion on the issue of 'non-transitory duration'.[178] Nonetheless, the decision demonstrates that US courts can view a reproduction in RAM as a potentially copyright-infringing action. Section 106(2) of the Copyright Act, which deals with the derivative work, doesn't require that a derivative work be fixed permanently in copies.[179]

On the other hand, it should be clearly stated that a temporary reproduction in RAM can also constitute a reproduction under European copyright law. The issue surrounding the 'Cheat Software' case did not address the temporary nature of the reproduction properly under other relevant copyright related directives. Rather, it focused on whether the variables, which are primarily data, can receive any copyright protection as components of a literary work.

[174] Andrew Lloyd, 'Inherently transitory transistors: Legal, factual, and policy issues with "Ram Fixation" in Copyright' (2010) <https://new.law.msu.edu/king/2009-2010/Lloyd.pdf> accessed 15 October 2024
[175] Andrew Lloyd, 'Inherently transitory transistors: Legal, factual, and policy issues with "Ram Fixation" in Copyright' (2010) <https://new.law.msu.edu/king/2009-2010/Lloyd.pdf> accessed 15 October 2024
[176]Andrew Lloyd, 'Inherently transitory transistors: Legal, factual, and policy issues with "Ram Fixation" in Copyright' (2010) <https://new.law.msu.edu/king/2009-2010/Lloyd.pdf> accessed 15 October 2024
[177]Andrew Lloyd, 'Inherently transitory transistors: Legal, factual, and policy issues with "Ram Fixation" in Copyright' (2010) <https://new.law.msu.edu/king/2009-2010/Lloyd.pdf> accessed 15 October 2024
[178] Richard Stern, 'Copyright infringement by add-on software: Going beyond deconstruction of the Mona Lisa moustache paradigm and not taking video game cases too seriously' (1991) Jurimetrics 31 (2) 211-212
[179] Richard Stern, 'Copyright infringement by add-on software: Going beyond deconstruction of the Mona Lisa moustache paradigm and not taking video game cases too seriously' (1991) Jurimetrics 31 (2) 211-212

e. Atari Games Corp v Nintendo of America Inc (1992)

The decision in *Atari v Nintendo*[180] narrowed the scope of copyright protection for software, emphasizing that certain aspects of software, such as functional elements, are not protectable under copyright law.[181] This was also confirmed by the Supreme Court in the Google v Oracle case.[182] Therefore, it is also crucial to determine whether the variables in memory are of a functional nature, which appears likely to be affirmed. This is directly relevant to the European focus on the reproduction of variables in memory and how such reproductions are treated under copyright law.[183] The *Atari Games Corp v Nintendo of America Inc* case is particularly significant for a comparative analysis as it aligns closely with the rulings in major European software copyright cases, *BSA* and *SAS Institute*. These decisions underscore the distinction between protected expressive elements, such as graphical user interfaces, which—according to the *BSA* ruling—do not receive copyright protection under European law, and unprotected functional aspects of software, as affirmed in the *SAS Institute* case, which are similarly not eligible for such protection.[184]

2. Fair Use

Under US law Section 107 provides a Fair Use defense against claims of copyright infringement that would otherwise be valid.[185] The statute outlines four factors that courts must consistently

[180] *Atari Games Corp v Nintendo of America Inc* [1992] 975 F.2d 832
[181] Susan E Dallas, 'Computer Copyright Protection Narrows as Video Game Giants Battle in Atari v. Nintendo' (1990) 18 J Marshall J Computer & Info L 435
[182] Unknown Author, 'Google LLC v. Oracle America, Inc (2021) Harvard Law Review, 135(1)
[183] Susan E Dallas, 'Computer Copyright Protection Narrows as Video Game Giants Battle in Atari v. Nintendo' (1990) 18 J Marshall J Computer & Info L 435
[184] Susan E Dallas, 'Computer Copyright Protection Narrows as Video Game Giants Battle in Atari v. Nintendo' (1990) 18 J Marshall J Computer & Info L 435
[185] Petra Heindl, 'A Status Report from the Software Decompilation Battle: A Source of Sores for Software Copyright Owners in the United States and the European Union?' (2008) 87 TTLF Working Paper No. 1 <http://www.law.stanford.edu/program/ centers/ttlf/papers/heindl_wp1.pdf> accessed 17 November 2024

consider when determining whether a use qualifies as Fair Use:[186] (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work.[187]

The following examines to what extent these factors would apply in the CJEU 'Cheat Software' case, if assessed under US law.

a. Sony Computer Entertainment America Inc v Connectix Corp (2000)

The Ninth Circuit ruled in Sony Computer Entertainment America, Inc. v. Connectix Corp[188] in favor of Connectix, finding that the intermediate copying of Sony's Basic Input/Output System in RAM for the purpose of creating a new, non-infringing product (the Virtual Game Station emulator) qualified as Fair Use.[189] The Virtual Game Station was a PlayStation emulator created by Connectix in 1999.[190] It allowed users to play PlayStation games on their PCs or Macs by emulating the PlayStation hardware entirely through software.[191] This was especially appealing to Mac users, as there were very few console emulators available for the platform at the time.[192] It included its own version of the PlayStation BIOS, which simulated essential

[186] Petra Heindl, 'A Status Report from the Software Decompilation Battle: A Source of Sores for Software Copyright Owners in the United States and the European Union?' (2008) 87 TTLF Working Paper No. 1 <http://www.law.stanford.edu/program/ centers/ttlf/papers/heindl_wp1.pdf> accessed 17 November 2024
[187] Petra Heindl, 'A Status Report from the Software Decompilation Battle: A Source of Sores for Software Copyright Owners in the United States and the European Union?' (2008) 87 TTLF Working Paper No. 1 <http://www.law.stanford.edu/program/ centers/ttlf/papers/heindl_wp1.pdf> accessed 17 November 2024
[188] *Sony Computer Entm't, Inc. v Connectix Corp* [2000] 203 F.3d 596
[189] Stan Karas, 'Sony Computer Entertainment, Inc. v. Connectix Corp' (2001) Berkeley Technology Law Journal 16(1) 33
[190] Stan Karas, 'Sony Computer Entertainment, Inc. v. Connectix Corp' (2001) Berkeley Technology Law Journal 16(1) 33
[191] Stan Karas, 'Sony Computer Entertainment, Inc. v. Connectix Corp' (2001) Berkeley Technology Law Journal 16(1) 33
[192] Stan Karas, 'Sony Computer Entertainment, Inc. v. Connectix Corp' (2001) Berkeley Technology Law Journal 16(1) 33

control logic and hardware initialization functions of the console and replicated both PlayStation RAM and memory card functions, which allowed users to save and load game data.[193]

The court in Sony Computer Entertainment America Inc v Connectix Corp emphasized that Connectix's use was transformative—it did not simply reproduce Sony's work, but instead created a new platform where PlayStation games could be played on personal computers, which provided new functionality and options for users.[194] The ruling established that copying software into RAM can be protected by Fair Use if it leads to a transformative purpose and does not harm the market for the original product.[195] In the context of cheat software, the relevance lies in the potential to argue that reproducing software code temporarily in RAM could also be justified as Fair Use, especially if the use is transformative.[196]

b. Oracle America Inc v Google LLC (2021)

The Supreme Court found in Oracle v Google[197] that Google's use was transformative because it enabled the creation of new, innovative works—namely Android applications—by allowing programmers to build on their existing knowledge of the Java APIs.[198] But this doesn't mean the use in the CJEU 'Cheat Software' case would have also been determined as Fair Use, as it undermined the integrity of the original video game rather than contributing to its creative ecosystem. Furthermore, the US Supreme Court concluded in this case that Google's actions

[193] Stan Karas, 'Sony Computer Entertainment, Inc. v. Connectix Corp' (2001) Berkeley Technology Law Journal 16(1) 33
[194] Stan Karas, 'Sony Computer Entertainment, Inc. v. Connectix Corp' (2001) Berkeley Technology Law Journal 16(1) 33
[195] Stan Karas, 'Sony Computer Entertainment, Inc. v. Connectix Corp' (2001) Berkeley Technology Law Journal 16(1) 33
[196] Stan Karas, 'Sony Computer Entertainment, Inc. v. Connectix Corp' (2001) Berkeley Technology Law Journal 16(1) 33
[197] *Oracle America Inc v Google LLC* [2021] 141 S. Ct. 1183
[198] Unknown Author, 'Google LLC v. Oracle America, Inc (2021) Harvard Law Review, 135(1)

added value to the technological ecosystem by empowering programmers and generating public benefits, which outweighed the potential revenue losses for Oracle.[199] In the 'Cheat Software' case the software caused direct harm to the video game market by degrading the user experience and diminishing the value of the game. This harm would justify a stricter stance against infringement in the CJEU 'Cheat Software' case. Therefore, the Oracle v Google case does not provide direct guidance to support a Fair Use determination in a case similar to the CJEU's cheat software ruling.

3. Copyright infringement by violation of DMCA anti-circumvention provisions

In 1998, the US Congress introduced the Digital Millennium Copyright Act[200] to address copyright issues in the digital age.[201] Since then, the DMCA has significantly restricted the freedoms of computer users, making the United States one of the most limiting countries in this regard.[202] The DMCA inter alia addresses the circumvention of technical protection measures such as digital rights management.[203] It also provides legal protection against the development and distribution of software that circumvents these protections.[204] Cheat software that bypasses technical measures to access or manipulate protected content can violate the DMCA, particularly section 1201, which tackles the evasion of copy protection mechanisms.[205]

[199] Unknown Author, 'Google LLC v. Oracle America, Inc (2021) Harvard Law Review, 135(1)
[200] Also referred to as DMCA
[201] Petra Heindl, 'A Status Report from the Software Decompilation Battle: A Source of Sores for Software Copyright Owners in the United States and the European Union?' (2008) 5 TTLF Working Paper No. 1 <http://www.law.stanford.edu/program/ centers/ttlf/papers/heindl_wp1.pdf> accessed 17 November 2024
[202] Petra Heindl, 'A Status Report from the Software Decompilation Battle: A Source of Sores for Software Copyright Owners in the United States and the European Union?' (2008) 5 TTLF Working Paper No. 1 <http://www.law.stanford.edu/program/ centers/ttlf/papers/heindl_wp1.pdf> accessed 17 November 2024
[203] Ismail Ekin Gürünlü, 'Video Games and Copyright Protection Under International, European, and U.S. Law'(2020) 32 TTLF Working Paper No. 59 <https://law.stanford.edu/publications/no-59-video-games-and-copyright-protection-under-international-european-and-u-s-law/> accessed 17 November 2024
[204] Petra Heindl, 'A Status Report from the Software Decompilation Battle: A Source of Sores for Software Copyright Owners in the United States and the European Union?' (2008) 5 TTLF Working Paper No. 1 <http://www.law.stanford.edu/program/ centers/ttlf/papers/heindl_wp1.pdf> accessed 17 November 2024
[205] Ismail Ekin Gürünlü, 'Video Games and Copyright Protection Under International, European, and U.S. Law'(2020) 32 TTLF Working Paper No. 59 <https://law.stanford.edu/publications/no-59-video-games-and-copyright-protection-under-international-european-and-u-s-law/> accessed 17 November 2024

a. MDY Industries LLC v Blizzard Entertainment Inc and Vivendi Games Inc (2010)

Blizzard Entertainment Inc and Vivendi Games Inc developed and manage a multiplayer online role-playing game called World of Warcraft.[206] MDY Industries LLC develops and distributes a software program called 'Glider,' which automates gameplay in World of Warcraft on behalf of its users, allowing the game to be played even when they are not actively using their keyboards.[207][208] MDY requested a court ruling to clarify that the use of 'Glider' does not violate Blizzard's rights.[209] Blizzard filed a counterclaim and a third-party complaint against Michael Donnelly, the founder of MDY.[210][211] Blizzard's accusations against MDY and Donnelly involved an allegation based on Section 1201 and the following provisions of the Digital Millennium Copyright Act.[212][213] Blizzard alleged that MDY and Donnelly have violated the DMCA by trafficking in technological products and services designed to circumvent technological measures Blizzard implemented to regulate access to its copyrighted material and safeguard its ownership rights over WoW.[214] The Court ruled in favor of MDY on Blizzard's claim under section 1201(a)(2) of the DMCA, specifically as it related to the actual software code of World of Warcraft, but denied summary judgment in all other respects.[215][216]

The case of Blizzard Entertainment Inc and Vivendi Games Inc is another crucial example for understanding how US copyright law views 'Cheat Software'. Unlike in *Lewis Galoob Toys*

[206] *MDY Industries, LLC v. Blizzard Entertainment, Inc* [2009] CV-06-2555-PHX-DGC
[207] Unknown Author, 'MDY Industries, LLC v. Blizzard Entertainment, Inc' (2009) Berkeley Technology Law Journal 24 (1) 478
[208] *MDY Industries, LLC v. Blizzard Entertainment, Inc* [2009] CV-06-2555-PHX-DGC
[209] Gordon Kwan, 'MDY Industries, LLC v. Blizzard Entertainment, Inc.' (2010) Intellectual Property Law Bulletin 15(1) 149
[210] Craig Hawkins, 'MDY Industries, LLC v. Blizzard Entertainment, Inc' (2008) Intellectual Property Law Bulletin 14(1) 75
[211] *MDY Industries, LLC v. Blizzard Entertainment, Inc* [2009] CV-06-2555-PHX-DGC
[212] Gordon Kwan, 'MDY Industries, LLC v. Blizzard Entertainment, Inc.' (2010) Intellectual Property Law Bulletin 15(1) 149
[213] *MDY Industries, LLC v. Blizzard Entertainment, Inc* [2009] CV-06-2555-PHX-DGC
[214] *MDY Industries, LLC v. Blizzard Entertainment, Inc* [2009] CV-06-2555-PHX-DGC
[215] Gordon Kwan, 'MDY Industries, LLC v. Blizzard Entertainment, Inc.' (2010) Intellectual Property Law Bulletin 15(1) 149
[216] *MDY Industries, LLC v. Blizzard Entertainment, Inc* [2009] CV-06-2555-PHX-DGC]

Inc v Nintendo of America Inc, this case focused on the provisions of the DMCA, which were thoroughly examined. A key issue was the circumvention of technological protection measures, and whether this act alone constitutes copyright infringement. Since the court agreed that it does, any evaluation of cheat software under US law should consider the relevant DMCA provisions, as a copyright violation could arise based solely on these grounds. This view is further enhanced by *Activision vs EngineOwning UG et al*[217], where the defendants utilized tools specifically created to bypass the game's anti-cheat mechanisms and also copyright infringement was found.[218] Therefore, this case is highly relevant for understanding how 'Cheat Software' could constitute copyright infringement under the DMCA.

b. Bungie v Aimjunkies.com (2022)

In *Bungie v Aimjunkies.com* a US jury decided for the first time, that video game cheats can infringe on a developer's copyright.[219] The core of Bungie's copyright case rested on demonstrating that the defendants reverse-engineered the code from Destiny 2, produced derivative works, and included those derivatives with every copy of the cheats they sold, thereby infringing on Bungie's copyright for the original material.[220] This US case is of course worth mentioning because it is so significant, as it marked the first time a jury classified cheat

[217] Unknown Author, 'Can cheating on a video game be copyright infringement?' (*The Russel Firm*, 6 January 2022) <https://www.russellfirmip.com/blog/2022/01/can-cheating-on-a-video-game-be-copyright-infringement/> accessed 15 October 2024
[218] Unknown Author, 'Can cheating on a video game be copyright infringement?' (*The Russel Firm*, 6 January 2022) <https://www.russellfirmip.com/blog/2022/01/can-cheating-on-a-video-game-be-copyright-infringement/> accessed 15 October 2024
[219] Daniel Herbig, 'US jury classifies cheats as copyright infringement' (*heise online*, 27 May 2024) <https://www.heise.de/en/news/US-Jury-stuft-Cheats-als-Urheberrechtsverletzung-ein-9732936.html> accessed 16 September 2024
[220] Hayden McGuire, 'Fairness and Online Gaming: Bungie's Successful Use of Copyright Laws Against Cheat Developers' (*Journal Of High Technology Law at Suffolk University Law School*, 31 March 2023) <https://sites.suffolk.edu/jhtl/2023/03/31/fairness-and-online-gaming-bungies-successful-use-of-copyright-laws-against-cheat-developers/> accessed 27 September 2024

software as a copyright infringement.[221] This occurred in the context of reverse engineering, which, under European law, typically falls under an explicit exception. Since the CJEU 'Cheat Software' case did not even involve a justification based on the exception for reverse engineering, this US case becomes even more relevant as a reference for assessing the CJEU cheat software case under US law.

4. Direct and secondary liability

The DMCA provides a specific legal framework with concrete provisions against the circumvention of protective measures.[222] Under the DMCA, game developers can act against providers of 'Cheat Software' who have violated these protections to create cheat products. The DMCA also allows legal recourse against the distribution of products designed to bypass protective measures,[223] offering game developers a targeted approach to address and restrict the spread of 'Cheat Software'. For instance, in *MDY Industries LLC v Blizzard Entertainment Inc*, the court held MDY liable for both contributory and vicarious copyright infringement of Blizzard's World of Warcraft[224] software.[225]

[221] Daniel Herbig, 'US jury classifies cheats as copyright infringement' (*heise online*, 27 May 2024) <https://www.heise.de/en/news/US-Jury-stuft-Cheats-als-Urheberrechtsverletzung-ein-9732936.html> accessed 16 September 2024

[222] Del Pizzo, 'Emerging Case Law Exposes 'Bot' Makers to DMCA Absent Copyright Infringement' (2016) Westlaw Journal 23 (13) <http://www.rivkinradler.com/wp-content/uploads/2016/10/Del-Pizzo-Westlaw-Journal-of-IP-Emerging-Case-Law-Exposes-Bot-Makers-to-DMCA-Absent-Copyright-Infringement-10-19-16.pdf> accessed 22 September 2024

[223] Del Pizzo, 'Emerging Case Law Exposes 'Bot' Makers to DMCA Absent Copyright Infringement' (2016) Westlaw Journal 23 (13) <http://www.rivkinradler.com/wp-content/uploads/2016/10/Del-Pizzo-Westlaw-Journal-of-IP-Emerging-Case-Law-Exposes-Bot-Makers-to-DMCA-Absent-Copyright-Infringement-10-19-16.pdf> accessed 22 September 2024

[224] Also referred to as 'WoW'

[225] Unknown Author, 'MDY Industries, LLC v. Blizzard Entertainment, Inc' (2009) Berkeley Technology Law Journal 24 (1) 478

IV. COMPARATIVE ANALYSIS

In summary, the CJEU reached its conclusion in the 'Cheat Software' case based on three primary legal points:

1. The Software-Directive protects 'any form of expression' of a computer program, but clearly excludes its 'underlying ideas and principles'.[226]

2. The Software-Directive's recitals, particularly recital No. 15 emphasize the protection of 'the form of the code' (paragraphs 42 to 45).[227]

3. The Software-Directive's goals aim to safeguard against the easy and low-cost reproduction of software while also allowing for independent development and compatibility between different computer programs.[228]

As already pointed out, the treatment of 'Cheat software' varies from a copyright perspective between the EU and the US, reflecting differences in legal frameworks and cultural

[226] J H Schmidt and J Großekettler, 'Is cheating copyright infringement? CJEU clarifies specific protection of computer programs' (*Hogan Lovells Engage*, 24 October 2024) <https://www.engage.hoganlovells.com/knowledgeservices/news/is-cheating-copyright-infringement-cjeu-clarifies-specific-protection-computer-programs> accessed 25 October 2024; see also paras 31 to 41 Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] OJ C184/13

[227] J H Schmidt and J Großekettler, 'Is cheating copyright infringement? CJEU clarifies specific protection of computer programs' (*Hogan Lovells Engage*, 24 October 2024) <https://www.engage.hoganlovells.com/knowledgeservices/news/is-cheating-copyright-infringement-cjeu-clarifies-specific-protection-computer-programs> accessed 25 October 2024; see also paras 42 to 45 Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] OJ C184/13

[228] J H Schmidt and J Großekettler, 'Is cheating copyright infringement? CJEU clarifies specific protection of computer programs' (*Hogan Lovells Engage*, 24 October 2024) <https://www.engage.hoganlovells.com/knowledgeservices/news/is-cheating-copyright-infringement-cjeu-clarifies-specific-protection-computer-programs> accessed 25 October 2024; see also paras 46 to **51** Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] OJ C184/13

approaches.[229] The differences and similarities between the two legal systems will be analyzed and presented below, focusing on these three key aspects outlined above, as they were central to the CJEU case on 'Cheat Software'.

1. Similar form of expression in both systems

As *Pamela Samuelson* already pointed out in 1993 there is a key distinction, that needs to be considered when it comes to a comparative analysis between EU and US software-copyright law: While the European Software-Directive provides extensive detail on matters like the copyright status of decompilation and the components of programs needed for interoperability, it does not address whether copyright protection applies to certain valuable elements of software, such as user interfaces and program behavior.[230] This is why the CJEU has issued several key rulings on the scope of copyright protection for computer programs, such as in the *SAS Institute*[231], *BSA*[232], and most recently, the 'Cheat Software*'* case.

a. Copyright Protection of Variables: Similar Idea/Expression Distinction in the EU and the US

The distinction between ideas and their expression is crucial for determining which software elements are eligible for copyright protection under both US and EU copyright laws.[233] This is a common feature of both the European and American legal systems.

[229] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 279, 280
[230] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 279, 280
[231] Case C-406/10 *SAS Institute Inc v World Programming Ltd* [2012] ECLI:EU:C:2012:259
[232] Case C-393/09 *BSA v Ministerstvo kultury* [2010] ECR I-13971
[233] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 299 - 300

The protection under the Software-Directive focuses on the expression of '*computer programs*', such as source and object code, and excludes ideas and principles underlying the programs.[234] As already mentioned, the CJEU has ruled in various cases that software copyright protection is limited to the code form of software, not functionalities or user interfaces.[235] Variable values generated during a program's execution are considered data, not part of the program's code, and thus not protected.[236] Therefore, the Software-Directive's protection does not extend to changes made by other programs that alter variable values without modifying the program's code.[237]

Also, according to US law, copyright law does not protect ideas, but only expressions.[238] The American principle of the idea/expression dichotomy is also addressed in Article 2(1) of the Berne Convention, which defines 'literary and artistic works' to encompass all creations in the literary, scientific, and artistic fields, regardless of the form or manner in which they are expressed.[239] Essentially, while ideas themselves are not protected, the unique way in which those ideas are expressed can be protected.[240] This rule plays a central role in deciding the copyrightability of a given work and software elements under US law.[241]

[234] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (*EU law, Law and computer games*, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[235] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (*EU law, Law and computer games*, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[236] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (*EU law, Law and computer games*, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[237] Marian Härtel, 'Advocate General at the ECJ on the admissibility of cheat software' (EU law, Law and computer games, 14 June 2024) <https://itmedialaw.com/en/advocate-general-at-the-ecj-on-the-admissibility-of-cheat-software/> accessed 20 September 2024
[238] M Lemley and S Maitra, *Video Game Law* (Stanford Law School, 2nd edition 2024) 49
[239] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 299 - 300
[240] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 299 - 300
[241] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 299 - 300

b. No protection of functional elements in both systems, but more flexibility in the US due to case law

Functional components of software are generally not protected in both legal systems. But a key source of potential disharmony between the EU Software-Directive and US copyright law lies in their treatment of exclusions from software protection.[242] The CJEU consistently takes a restrictive approach to copyright-protected software elements under the Software-Directive, limiting protection primarily to source and object code. In contrast, US courts have interpreted American copyright law to extend protection to at least some external features of software.[243] The US case law system, allows courts to evaluate the copyright eligibility of individual software components on a case-by-case basis, which can lead to deviations from the relatively restrictive approach seen in CJEU interpretations, which follows detailed statutory rules.[244]

This flexibility extends to aspects like variables stored in RAM in 'Cheat Software' cases, where the US system can assess copyright claims from a more general perspective. Rather than limiting the analysis strictly to software-specific copyright rules, the US approach can encompass broader copyright considerations—an approach that might have been helpful in the CJEU 'Cheat Software' case as well. Despite the European Software-Directive's silence on issues like user interfaces and program behavior, US courts are more likely to address these through common law.[245] Depending on technical specifics, this means that variables in RAM could, under US law, constitute an unauthorized derivative work, thus allowing a finding of copyright infringement in 'Cheat Software' cases. Additionally, the *Google v. Oracle*[246]

[242] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 299 - 300
[243] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 299 - 300
[244] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 299 - 300
[245] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 299 - 300
[246] *Oracle America Inc v Google LLC* (2021) 141 S. Ct. 1183

Supreme Court case offers further insights into the individual evaluation of software components – to be specific, the declaring and implementing code - and their protection, which is also relevant to the legal assessment of cheat software components like the variables in RAM.[247] In this regard, the lower Courts ruled that the declaring code was protected by copyright, while the implementing code was not, due to its functional nature, and this was presumed by the Supreme Court as well.[248]

In summary, while the law in the European Community[249] is largely established by the text of the Directive, US law continues to evolve through its typical, though sometimes complex, common-law process.[250] Although certain legal developments in the US have aligned more closely with the Software-Directive, in other areas, US case law has taken different paths than what might have been anticipated during the Software-Directive's formulation.[251]

2. The same form of code –literary and audiovisual components under international treaties

Under European law, the protection of video games code as a literary work is governed by the Software-Directive and the protection of video game components by the InfoSoc-Directive, while in the United States, the key legislation addressing this issue is the Federal Copyright Act.[252] The US Copyright Act outlines key elements including the rights granted to copyright

[247] Del Pizzo, 'Emerging Case Law Exposes 'Bot' Makers to DMCA Absent Copyright Infringement' (2016) Westlaw Journal 23 (13) <http://www.rivkinradler.com/wp-content/uploads/2016/10/Del-Pizzo-Westlaw-Journal-of-IP-Emerging-Case-Law-Exposes-Bot-Makers-to-DMCA-Absent-Copyright-Infringement-10-19-16.pdf> accessed 22 September 2024
[248] Unknown Author, 'Google LLC v. Oracle America, Inc (2021) Harvard Law Review, 135(1)
[249] Also referred to as 'EC'
[250] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 279 - 280
[251] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 279 - 280
[252] Raquel Escada Carvalho, *The protection of software between patent and copyright law: Comparing the US and EU regulatory approaches* (*NOVA School of Law*, 15 September 2023) 46 < https://run.unl.pt/bitstream/10362/162371/1/EscadaCarvalho_2023.pdf> accessed 15 November 2024

holders, the types of works that are protected, the length of time protection lasts, limitations like Fair Use, and the federal legal actions and remedies available for copyright infringement.[253] However, in the United States a further complication arises regarding how to classify the video game as a whole.[254] Some experts argue it should be considered a multimedia work, while others view it as an audiovisual work or even as a computer program.[255]

International copyright law does not specifically address video games as a distinct category, nor does it clarify how they should be protected as authorial works.[256] Instead, frameworks such as the Berne Convention, the TRIPS Agreement, the WIPO Copyright Treaty[257], and the WIPO Performances and Phonograms Treaty provide the general basis for copyright protection, leaving national laws to apply these principles in practice.[258] This protection applies irrespective of the form or manner in which the programs are expressed.[259] Although international treaties do not explicitly categorize video games as a distinct subject, they still establish essential guidelines and global standards that apply to the general copyright protection of video games.[260] Following the introduction of Article 10 in the TRIPS Agreement in 1994, both the US and

[253] Unknown Author, 'Glossary Copyright Act' (*Thomas Reuters Practical Law*, 2024), <https://uk.practicallaw.thomsonreuters.com/7-501-4687?transitionType=Default&contextData=(sc.Default)&firstPage=true> accessed 16 October 2024
[254] Michael Wang, 'Original idea or illegal copying? Video game copying in China and its effects on the U.S. video game industry, future steps for U.S. developers and publishers' (2022) Santa Clara High Technology Law Journal 38 (2)
[255] Michael Wang, 'Original idea or illegal copying? Video game copying in china and its effects on the U.S. video game industry, future steps for U.S. developers and publishers' (2022) Santa Clara High Technology Law Journal 38(2)
[256] Ismail Ekin Gürünlü, 'Video Games and Copyright Protection Under International, European, and U.S. Law'(2020) 25 TTLF Working Paper No. 59 <https://law.stanford.edu/publications/no-59-video-games-and-copyright-protection-under-international-european-and-u-s-law/> accessed 17 November 2024
[257] Also referred to as 'WCT'
[258] Ismail Ekin Gürünlü, 'Video Games and Copyright Protection Under International, European, and U.S. Law'(2020) 25 TTLF Working Paper No. 59 <https://law.stanford.edu/publications/no-59-video-games-and-copyright-protection-under-international-european-and-u-s-law/> accessed 17 November 2024
[259] Case C-159/23 *Opinion of Advocate General Szpunar* [2024] EU:C:2024:363
[260] Ismail Ekin Gürünlü, 'Video Games and Copyright Protection Under International, European, and U.S. Law'(2020) 21 TTLF Working Paper No. 59 <https://law.stanford.edu/publications/no-59-video-games-and-copyright-protection-under-international-european-and-u-s-law/> accessed 17 November 2024

European legal systems ensure that computer programs are protected under copyright law.[261] Article 4 of the WIPO Copyright Treaty, adopted on December 20, 1996, specifies that '*computer programs'* are protected as literary works under Article 2 of the Berne Convention.[262] But also audiovisual works are relevant due to the wide variety of elements video games contain,[263] so there are other copyrighted elements to consider. The United States takes a different approach compared to the European Union, which maintains a clear separation between specific protections for software under the Software-Directive and the broader copyright safeguards established by Directives such as the InfoSoc-Directive. This distinction was highlighted in the recent CJEU ruling on 'Cheat Software,' which relied solely on the Software-Directive. Notably, the variables in question originated from a video game, suggesting that the InfoSoc-Directive should also have been considered.

3. Divergent doctrinal approaches to address interoperability and permit otherwise restricted actions

Under European Law, Article 5(1) of the Software-Directive states that, unless specified otherwise by contract, the actions described in Article 4(1)(a) and (b) of the Software-Directive do not need the rights holder's consent if they are necessary for the normal use of the computer program, including error correction, by the lawful acquirer.[264] The right to reproduce a program was designed to give copyright holders control over how their software is used.[265] This includes

[261] Raquel Escada Carvalho, *The protection of software between patent and copyright law: Comparing the US and EU regulatory approaches* (*NOVA School of Law*, 15 September 2023) 46 < https://run.unl.pt/bitstream/10362/162371/1/EscadaCarvalho_2023.pdf> accessed 15 November 2024
[262] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar para 8
[263] Michael Wang, 'Original idea or illegal copying? Video game copying in China and its effects on the U.S. video game industry, future steps for U.S. developers and publishers' (2022) Santa Clara High Technology Law Journal 38(2)
[264] Bohdan Widła, 'Interference with the computer program at runtime: C-159/23 Sony Computer Entertainment Europe' (*Kluwer Copyright Blog*, 10 January 2024) <https://copyrightblog.kluweriplaw.com/2024/01/10/interference-with-the-computer-program-at-runtime-c-159-23-sony-computer-entertainment-europe/> accessed 20 September 2024
[265] Bohdan Widła, 'Interference with the computer program at runtime: C-159/23 Sony Computer Entertainment Europe' (*Kluwer Copyright Blog*, 10 January 2024)

actions like loading or running the program, as these typically involve making at least a temporary copy in the system's memory, allowing the rights holder to regulate such operations.[266]

The right to modify a computer program grants the copyright holder significant control over secondary markets, as essential tasks like updates or bug fixes often require altering the protected aspects of the program.[267] This illustrates the strict and rigid nature of the exemptions and limitations under European software copyright law. A specific case must fit within this framework; if it does not, no exception applies, resulting in a copyright infringement. This applies also to the CJEU case involving 'Cheat Software', as such software is not essential for the normal use of software and does not contribute to error correction.

In contrast, US copyright law, with its Fair Use doctrine, offers a more flexible approach. Cases like *Atari v. Nintendo*[268] and *Sony v. Connectix*[269] show important and individual exceptions for interoperability and Fair Use, but these are usually narrowly defined. Fair Use permits limited use of copyrighted material without needing the creator's permission.[270] In the CJEU 'Cheat Software' case, the European Court of Justice reviewed a dispute involving the resale and use of 'Cheat Software'—software designed to alter or modify the gaming experience in ways unintended by the original developers. Analyzing the four Fair Use factors from US copyright law in this context highlights potential contrasts between EU and US law once more.

<https://copyrightblog.kluweriplaw.com/2024/01/10/interference-with-the-computer-program-at-runtime-c-159-23-sony-computer-entertainment-europe/> accessed 20 September 2024

[266] Bohdan Widła, 'Interference with the computer program at runtime: C-159/23 Sony Computer Entertainment Europe' (*Kluwer Copyright Blog*, 10 January 2024) <https://copyrightblog.kluweriplaw.com/2024/01/10/interference-with-the-computer-program-at-runtime-c-159-23-sony-computer-entertainment-europe/> accessed 20 September 2024

[267] Bohdan Widła, 'Interference with the computer program at runtime: C-159/23 Sony Computer Entertainment Europe' (*Kluwer Copyright Blog*, 10 January 2024) <https://copyrightblog.kluweriplaw.com/2024/01/10/interference-with-the-computer-program-at-runtime-c-159-23-sony-computer-entertainment-europe/> accessed 20 September 2024

[268] *Atari Games Corp v Nintendo of America Inc* (1992) 975 F.2d 832

[269] Sony Computer Entm't Inc v Connectix Corp (2000) 203 F.3d 596

[270] Unknown Author, What is Fair Use? (*Copyright Alliance*, 2024) <https://copyrightalliance.org/faqs/what-is-fair-use/> accessed 04 November 2024

European software copyright law imposes rigid limitations, making it unlikely to permit exceptions for restricted acts, while US law, with its flexible Fair Use doctrine, may allow such exceptions. The first factor to be considered is the Purpose and Character of the Use.[271] 'Cheat Software' is typically commercial in nature, developed to alter the gaming experience by circumventing standard gameplay rules. Unlike educational or transformative uses, which often favor Fair Use, 'Cheat Software' generally lacks social value or any new expression, so this factor would likely argue against Fair Use. However, in *Google v. Oracle*, Fair Use was upheld on the grounds of transformative use, despite the copying of commercially significant code.[272] This suggests that even commercial intent doesn't automatically negate Fair Use if a transformative purpose can be demonstrated.[273] However, it is questionable to what extent a transformative use can be assumed in the case of 'Cheat Software'. The second factor of Fair Use concerns the Nature of the Copyrighted Work.[274] Video games are highly creative works, combining storytelling, and interactivity. Therefore, 'Cheat Software' is less likely to qualify as Fair Use, as the underlying original video game heavily relies on creative and proprietary elements. However, it should also be considered that the variables in the RAM are primarily functional and represent data rather than expressing the creativity of the underlying original video game.

The third factor is the amount and substantiality of the portion taken.[275] 'Cheat Software' often targets and alters core gameplay features. Even minor changes weigh against Fair Use, so Cheat Software's extensive modification of essential game functions would likely argue against Fair Use. However, the variables in the RAM in the CJEU 'Cheat Software' case were altered only

[271] Rich Stim, 'Measuring Fair Use: The Four Factors' (*Stanford Copyright and Fair Use Center*, 2019) <https://fairuse.stanford.edu/overview/fair-use/four-factors/> accessed 04 November 2024
[272] *Oracle America Inc v Google LLC* (2021) 141 S. Ct. 1183
[273] *Oracle America Inc v Google LLC* (2021) 141 S. Ct. 1183
[274] Unknown Author, 'U.S. Copyright Office Fair Use Index' (*U.S. Copyright Office*, 2024) https://www.copyright.gov/fair-use/, accessed 03 November 2024
[275] Rich Stim, 'Measuring Fair Use: The Four Factors' (*Stanford Copyright and Fair Use Center*, 2019) <https://fairuse.stanford.edu/overview/fair-use/four-factors/> accessed 04 November 2024

temporarily and only to a limited extent. Given the *Google v. Oracle*[276] decision, which found that a small proportion of code use, relative to the whole, leaned toward Fair Use, this limited alteration here could similarly be viewed as favoring Fair Use.[277] The fourth factor evaluates the effect on the market for the Original.[278] Cheat Software can negatively impact the market for an original video game by altering the intended experience, potentially discouraging users from purchasing the original product. However, in this particular case, the impact likely does not result in market harm, as it does not directly threaten market demand, which would argue in favor of Fair Use.

Although the CJEU's approach differs from US Fair Use standards, this analysis indicates that 'Cheat Software' might potentially qualify as Fair Use, if assessed under US law. This highlights how different the outcome under US law could be compared to the strict and rigid limitations of the EU Software-Directive, which cannot provide case-by-case exemptions in the 'Cheat Software' case decided by the CJEU.

4. Direct and Secondary Liability

As outlined earlier, the DMCA plays a crucial role in addressing the distributors of 'Cheat Software' under US law, serving as a powerful legal basis for tackling copyright infringement in such cases. In comparison, in the European Union actions can be taken primarily against users who engage in copyright infringement, while pursuing distributors presents a far greater challenge.[279]

[276] Oracle America Inc v Google LLC (2021) 141 S. Ct. 1183
[277] Unknown Author, 'Google LLC v. Oracle America, Inc (2021) Harvard Law Review, 135(1)
[278] Unknown Author, 'U.S. Copyright Office Fair Use Index' (*U.S. Copyright Office*, 2024) https://www.copyright.gov/fair-use/, accessed 03 November 2024
[279] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar para 38

a. Absence of a Direct Equivalent to Section 1201 of the Digital Millennium Copyright Act in the EU

In the United States, a claim can indeed be brought under Section 1201 of the Digital Millennium Copyright Act, which prohibits the circumvention of technological protection measures used to secure copyrighted materials, including software.[280] Consequently, Section 1201 offers a solid legal foundation for rights holders to act against individuals who circumvent access controls or create, distribute, or sell tools for that purpose.[281] This is also relevant for 'Cheat Software', which bypasses technical protection measures that are often required for the software to operate in RAM and modify the necessary variables. The DMCA clearly prohibits not just the act of bypassing protections but also the creation, distribution, and sale of tools, services, or devices made to bypass these digital protections.[282] Furthermore, in the realm of bots and video games, the legal standard is that a DMCA violation can be proven without having to show copyright infringement.[283] Additionally, the US cases generally reinforce a strict application of the DMCA's anti-circumvention provisions, even when the modifications or alterations are made without directly tampering with the software's source code.[284][285] In summary, Section 1201 of the DMCA provides robust protection for video games in the United

[280] Del Pizzo, 'Emerging Case Law Exposes 'Bot' Makers to DMCA Absent Copyright Infringement' (2016) Westlaw Journal 23 (13) <http://www.rivkinradler.com/wp-content/uploads/2016/10/Del-Pizzo-Westlaw-Journal-of-IP-Emerging-Case-Law-Exposes-Bot-Makers-to-DMCA-Absent-Copyright-Infringement-10-19-16.pdf> accessed 22 September 2024

[281] Del Pizzo, 'Emerging Case Law Exposes 'Bot' Makers to DMCA Absent Copyright Infringement' (2016) Westlaw Journal 23 (13) <http://www.rivkinradler.com/wp-content/uploads/2016/10/Del-Pizzo-Westlaw-Journal-of-IP-Emerging-Case-Law-Exposes-Bot-Makers-to-DMCA-Absent-Copyright-Infringement-10-19-16.pdf> accessed 22 September 2024

[282] Del Pizzo, 'Emerging Case Law Exposes 'Bot' Makers to DMCA Absent Copyright Infringement' (2016) Westlaw Journal 23 (13) <http://www.rivkinradler.com/wp-content/uploads/2016/10/Del-Pizzo-Westlaw-Journal-of-IP-Emerging-Case-Law-Exposes-Bot-Makers-to-DMCA-Absent-Copyright-Infringement-10-19-16.pdf> accessed 22 September 2024

[283] Del Pizzo, 'Emerging Case Law Exposes 'Bot' Makers to DMCA Absent Copyright Infringement' (2016) Westlaw Journal 23 (13) <http://www.rivkinradler.com/wp-content/uploads/2016/10/Del-Pizzo-Westlaw-Journal-of-IP-Emerging-Case-Law-Exposes-Bot-Makers-to-DMCA-Absent-Copyright-Infringement-10-19-16.pdf> accessed 22 September 2024

[284] *RealNetworks Inc and Blizzard Entertainment Inc v Bnetd Inc* [2005] 422 F Supp 2d 1037

[285] Del Pizzo, 'Emerging Case Law Exposes 'Bot' Makers to DMCA Absent Copyright Infringement' (2016) Westlaw Journal 23 (13) <http://www.rivkinradler.com/wp-content/uploads/2016/10/Del-Pizzo-Westlaw-Journal-of-IP-Emerging-Case-Law-Exposes-Bot-Makers-to-DMCA-Absent-Copyright-Infringement-10-19-16.pdf> accessed 22 September 2024

States by prohibiting both the circumvention of protection measures and the development or distribution of tools designed to facilitate such circumvention.[286] In contrast, European law contains no comparable legal basis, as it lacks a counterpart to the DMCA's provisions that enable direct liability of distributors or suppliers of 'Cheat Software'.

b. Different secondary liability regulations in the US and EU

While the DMCA does not explicitly address liability for indirect infringement,[287] secondary liability for distributors of software, including Cheat Software, is primarily shaped by the principles of contributory infringement and vicarious liability in the United States.[288] A distributor may be held liable for contributory infringement if they knowingly support or facilitate infringing actions, such as by having direct knowledge of the infringement or remaining 'willfully blind' to it.[289] For instance, in *Metro-Goldwyn-Mayer Studios Inc v Grokster Ltd*[290], the Supreme Court held that *Grokster* was liable for contributory infringement because it promoted its software as a tool for infringement and was aware of users' infringing activities.[291] Distributors may also face vicarious liability if they have the ability to control infringing actions and gain financially from them: In *A&M Records Inc v Napster Inc*[292], the

[286] Del Pizzo, 'Emerging Case Law Exposes 'Bot' Makers to DMCA Absent Copyright Infringement' (2016) Westlaw Journal 23 (13) <http://www.rivkinradler.com/wp-content/uploads/2016/10/Del-Pizzo-Westlaw-Journal-of-IP-Emerging-Case-Law-Exposes-Bot-Makers-to-DMCA-Absent-Copyright-Infringement-10-19-16.pdf> accessed 22 September 2024
[287] Robert M. Hirning, 'Contributory and Vicarious Copyright Infringement In Computer Software' (2006), 6 Chi.-Kent J. Intell. Prop. 26 <https://studentorgs.kentlaw.iit.edu/ckjip/wp-content/uploads/sites/4/2013/06/02_6JIntellProp102006-2007.pdf> accessed 03 November 2024
[288] Robert M. Hirning, 'Contributory and Vicarious Copyright Infringement In Computer Software' (2006), 6 Chi.-Kent J. Intell. Prop. 26 <https://studentorgs.kentlaw.iit.edu/ckjip/wp-content/uploads/sites/4/2013/06/02_6JIntellProp102006-2007.pdf> accessed 03 November 2024
[289] Robert M. Hirning, 'Contributory and Vicarious Copyright Infringement In Computer Software' (2006), 6 Chi.-Kent J. Intell. Prop. 26 <https://studentorgs.kentlaw.iit.edu/ckjip/wp-content/uploads/sites/4/2013/06/02_6JIntellProp102006-2007.pdf> accessed 03 November 2024
[290] *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.* [2005] 545 U.S. 913
[291] Robert M. Hirning, 'Contributory and Vicarious Copyright Infringement In Computer Software' (2006), 6 Chi.-Kent J. Intell. Prop. 26 <https://studentorgs.kentlaw.iit.edu/ckjip/wp-content/uploads/sites/4/2013/06/02_6JIntellProp102006-2007.pdf> accessed 03 November 2024
[292] *A&M Records, Inc. v. Napster, Inc.* [2001] 239 F.3d 1004

court found Napster vicariously liable for copyright infringement since it could control user activity and financially benefited from it.[293]

In the European Union, on the other side and as mentioned above, only the users who modify the software are directly liable for any copyright infringement, and manufacturers like *Datel* may only bear secondary liability, but secondary liability is governed by national law and is not harmonized under European law.[294]

c. End User License Agreements – License and Copyright Infringement

One important distinction between the Software-Directive and US law that are relevant for commercial purposes[295] involves the regulations governing the terms of licensing agreements.[296] When a game is launched, the buyer of the video game consents to the terms specified in an End User License Agreement.[297] Central to the EULA is the licensing clause, which allows the user to install and play the game, as well as to utilize any related documentation.[298]

[293] Robert M. Hirning, 'Contributory and Vicarious Copyright Infringement In Computer Software' (2006), 6 Chi.-Kent J. Intell. Prop. 26 <https://studentorgs.kentlaw.iit.edu/ckjip/wp-content/uploads/sites/4/2013/06/02_6JIntellProp102006-2007.pdf> accessed 03 November 2024
[294] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar paras 68 - 69
[295] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 279 - 280
[296] Pamela Samuelson, 'Comparing U.S. and EC copyright protection for computer programs: are they more different than they seem?' (1994) 13 Journal of Law & Commerce 279 - 280
[297] Vincenzo Giuffre, 'Software cheating in videogames: contractual and copyright infringements' (*Gaming Tech Law*, 01 April 2020) <https://www.gamingtechlaw.com/2020/04/software-cheating-videogames/> accessed 20 September 2024
[298] Vincenzo Giuffre, 'Software cheating in videogames: contractual and copyright infringements' (*Gaming Tech Law*, 01 April 2020) <https://www.gamingtechlaw.com/2020/04/software-cheating-videogames/> accessed 20 September 2024

An End User License Agreement is essentially a license that grants permission to use a product.[299] It safeguards the software owner or licensor by preventing infringement, unauthorized copying, and distribution of the software.[300] Additionally, it prohibits duplicating the underlying code to create imitative or modified versions of the application.[301] In line with discussions in the European 'Cheat Software' case at the CJEU, the issue of whether and to what extent providers of 'Cheat Software' can be held liable under US copyright law has become increasingly significant. Under American law, End User License Agreements play a crucial role in this regard, explicitly prohibiting the creation of unauthorized derivative works. It is not necessary for end users themselves to directly create these derivative works through 'Cheat Software'; rather, it is sufficient if the provider supplies the software with the potential to infringe. This allows game developers to pursue legal action not only against end users but also, more importantly, against the creators and distributors of 'Cheat Software'. Additionally, EULAs often include various provisions regarding anti-cheating measures.[302] In *MDY Industries LLC v Blizzard Entertainment Inc and Vivendi Games Inc*,[303] Blizzard contended that breaching a contractual clause regarding gaming behavior—specifically, cheating—could be interpreted as a copyright infringement, even though it was unrelated to copyright itself, since software replicates itself during execution.[304] Also in *Oracle America Inc v Rimini Street Inc*,[305] *Rimini Street*, a third-party provider of software support services, was determined to have

[299] Unknown Author, Understanding End-User License Agreements (*Ream Law Firm*, 7 June 2023) <https://www.reamlawfirm.com/ip-law-101/understanding-end-user-license-agreements/> accessed 03 November 2024
[300] Unknown Author, Understanding End-User License Agreements (*Ream Law Firm*, 7 June 2023) <https://www.reamlawfirm.com/ip-law-101/understanding-end-user-license-agreements/> accessed 03 November 2024
[301] Unknown Author, Understanding End-User License Agreements (*Ream Law Firm*, 7 June 2023) <https://www.reamlawfirm.com/ip-law-101/understanding-end-user-license-agreements/> accessed 03 November 2024
[302] Vincenzo Giuffre, 'Software cheating in videogames: contractual and copyright infringements' (*Gaming Tech Law*, 01 April 2020) <https://www.gamingtechlaw.com/2020/04/software-cheating-videogames/> accessed 20 September 2024
[303] *MDY Industries, LLC v. Blizzard Entertainment, Inc* [2009] CV-06-2555-PHX-DGC
[304] Justin Van Etten, 'Copyright Enforcement of Non-Copyright Terms: Mdy v. Blizzard And Krause v. Titleserv' (2007) Duke Law & Technology Review 7 (1) <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1221&context=dltr> accessed 27 September 2024
[305] *Oracle v Rimini St* (2023) 2:10-cv-0106-LRH-VCF

breached Oracle's End User License Agreement by using Oracle's software in ways not permitted under the agreement.[306] The court ruled that this breach amounted to copyright infringement, as it involved the unauthorized reproduction of Oracle's software.[307]

5. Practical Considerations - Registration Requirement

While an author does not need to register their work with the US Copyright Office to gain copyright protection, registration is a legal requirement before filing a copyright infringement lawsuit, as specified by 17 U.S.C. §411(a).[308] The Berne Convention mandated automatic copyright protection, without requiring registration or a copyright notice.[309] This is why the United States could only join the Berne Convention after making significant changes to its copyright law.[310] In 1976, the Copyright Act removed the requirement for registration, making it entirely optional.[311] However, in the US, it remains a requirement to initiate a civil lawsuit for copyright infringement that the owner must first register the work with the Copyright Office.[312] Additionally, one can only claim statutory damages or recover attorney's fees if the work was registered before the infringement occurred or within three months after it was

[306] Lisa Morgan, 'Oracle v. Rimini Street Lawsuit: A Guide" (*Forbes*, 06 December 2018)' <https://www.forbes.com/sites/oracle/2018/12/06/oracle-v-rimini-street-lawsuit-a-guide/> accessed 03 November 2024
[307] Lisa Morgan, 'Oracle v. Rimini Street Lawsuit: A Guide" (*Forbes*, 06 December 2018)' <https://www.forbes.com/sites/oracle/2018/12/06/oracle-v-rimini-street-lawsuit-a-guide/> accessed 03 November 2024
[308] Brian T. Yeh, 'The copyright registration requirement and federal court jurisdiction: a legal analysis of Reed Elsevier, INC. V. Muchnick' (*Congressional Research Service,* 30 November 2009) 99 <https://www.everycrsreport.com/files/20091130_R40944_4d1f2d5c1d8016af404836149cc1120fd31d52da.pdf> accessed 17 November 2024
[309] Judith Kircher, 'International Copyright Law – A Comparison of the USA and Germany' (*HOFA-College*, Unknown) <https://hofa-college.de/en/blog/international-copyright-law-a-comparison-of-the-usa-and-germany/> accessed 01 November 2024
[310] Judith Kircher, 'International Copyright Law – A Comparison of the USA and Germany' (*HOFA-College*, Unknown) <https://hofa-college.de/en/blog/international-copyright-law-a-comparison-of-the-usa-and-germany/> accessed 01 November 2024
[311] D Oliar, N Pattison and K R Powell, 'Copyright Registrations: Who, What, When, Where, and Why' (2014) Texas Law Review 92 (2211)
[312] David R Carducci, 'Copyright Registration: Why the U.S. should Berne the Registration Requirement' (2020) Georgia State University Law Review 36 (3) 874

published.[313] In contrast, the European copyright system simplifies access to legal protection by allowing copyright holders to file lawsuits without prior registration, making it easier for them to defend their rights. This approach minimizes administrative burdens and costs, allowing copyright owners to focus on their work rather than navigating a registration process, and represents an important difference between the EU und US copyright systems, which is also relevant for video games and 'Cheat Software'.

[313] David R Carducci, 'Copyright Registration: Why the U.S. should Berne the Registration Requirement' (2020) Georgia State University Law Review 36 (3) 874

V. END NOTES

At first glance, copyright protections with regard to ‘Cheat Software’ in both the EU and the US appear aligned, particularly regarding the classification of software as literary works, the idea-expression dichotomy, and the functional differentiation principle, as both systems are rooted in international agreements such as the TRIPS Agreement and the Berne Convention.

However, on closer examination, the US system demonstrates greater flexibility in defining the scope of copyright protection and the eligibility of specific software components, owing to its common law foundation. The Fair Use doctrine adds to this flexibility by enabling a broader evaluation of whether certain 'Cheat Software' products could qualify as Fair Use, and thus be considered lawful. Moreover, the US legal framework does not enforce a strict separation between general copyright and software-specific copyright as seen in European law and CJEU decisions, enabling a more integrated and comprehensive evaluation.

Furthermore, it is clear that the US legal system offers more effective means of addressing 'Cheat Software,' particularly when security measures are bypassed, or End User License Agreements are violated. The DMCA and the more rigorous enforcement of EULA breaches in the US highlight a key difference in this regard. As a result, US copyright law, in contrast to its European counterpart, can identify and impose legal consequences for alterations to variables derived from copyrighted software code, even if the code itself remains intact and unaltered.

The comparative analysis started with the following quote by the Advocate General of the European Union in the 'Cheat Software' case:

'In the same way, the author of a detective novel cannot prevent the reader from skipping to the end of the novel to find out who the killer is, even if that would spoil the pleasure of reading and ruin the author's efforts to maintain suspense.'[314]

Upon analyzing the relevant decision and contrasting it with the US copyright perspective, the use of 'Cheat Software' is more accurately described by the following quote[315]:

'*This is analogous to someone infringing on a painter's copyrights by splattering some paint in the corner. It changes the original work for everyone else who views the painting, and thus violates the artist's copyright protections on the work.*'[316]

[314] Case C-159/23 *Sony Computer Entertainment Europe Ltd v Datel Design and Development Ltd and Others* [2024] EU:C:2024:363, Opinion of Advocate General Szpunar para 57; Jan Pfeiffer, 'EuGH: Cheat-Software urheberrechtlich zulässig' (2024), Computer & Recht 5(40)
[315] Unknown Author, 'Can cheating on a video game be copyright infringement?' (*The Russel Firm*, 6 January 2022) <https://www.russellfirmip.com/blog/2022/01/can-cheating-on-a-video-game-be-copyright-infringement/> accessed 15 October 2024
[316] Unknown Author, 'Can cheating on a video game be copyright infringement?' (*The Russel Firm*, 6 January 2022) <https://www.russellfirmip.com/blog/2022/01/can-cheating-on-a-video-game-be-copyright-infringement/> accessed 15 October 2024

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US:

1. *MDY Industries LLC v Blizzard Entertainment Inc and Vivendi Games Inc* [2010] 610 F.3d 917
2. *Lewis Galoob Toys Inc v Nintendo of America Inc* [1992] *964* F2d 965
3. *Midway Manufacturing Co. v Arctic International Inc* [1983] 704 F2d 1009
4. *Activision v EngineOwning UG CMN Holdings SA and 56 individuals* [2022] 102360
5. *Sony Computer Entertainment America Inc v Connectix Corp* [2000] 203 F.3d 596
6. *Bungie v Aimjunkies.com* [2022] 2:22-cv-00748
7. *Oracle America Inc v Google LLC* [2021] 141 S. Ct. 1183
8. *Atari Games Corp v Nintendo of America Inc* 975 [1992] F.2d 832
9. *Take-Two Interactive Software, Inc. v Zipperer* [2018] 5725
10. *MAI Systems Corp v Peak Computer Inc* [1993] 991 F.2d 511
11. *RealNetworks Inc and Blizzard Entertainment Inc v Bnetd Inc* [2005] 422 F Supp 2d 1037
12. *Oracle US v Rimini St* [2023] 2:10-cv-0106-LRH-VCF
13. *A&M Records Inc v Napster Inc* [2001] 239 F.3d 1004
14. *Metro-Goldwyn-Mayer Studios Inc v Grokster Ltd* [2005] 545 U.S. 913

TABLE OF ABBREVIATIONS

CJEU	=	Court of Justice of the European Union.
RAM	=	Randon Access Memory
BGH	=	Bundesgerichtshof
PSP	=	Playstation Portable
GUI	=	Graphical User Interface
EULA	=	End User License Agreement
DMCA	=	Digital Millenium Copyright Act
MDY	=	MDY Industries, LLC
WOW	=	World of Warcraft
WCT	=	World Copyright Treaty
ECJ	=	European Court of Justice
EC	=	European Community
OCSSP	=	Online content-sharing service provider
CFAA	=	Computer Fraud and Abuse Act
CDSMD	=	Copyright in the Digital Single Market Directive
TRIPS	=	Agreement on Trade-Related Aspects of Intellectual Property Rights
WPPT	=	WIPO Performances and Phonograms Treaty
MAI	=	MAI Systems Corp.
GTAV	=	Grand Theft Auto V
U.S.C.	=	United States Code
TFEU	=	Treaty on the Functioning of the European Union
US	=	United States
EU	=	European Union
NES	=	Nintendo Entertainment System
BIOS	=	Basic Input/Output System
VGS	=	Virtual Game Station
TPM	=	Technological protection measure
ISP	=	Internet service provider
DSA	=	Digital Services Act
USC	=	United States Code