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“Pwnership”: Is copyright appropriately equipped to handle videogames?

An evaluation of the European legal framework for the
protection of creative works in video-games.

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0. Introduction

0.1 Context

“Pwnership” in the jargon of the video-game community subculture is the act of dominating an opponent – defeating them in a particularly impressive or categorical manner. If statistics from the Interactive Software Federation of Europe are to be believed this will not come as a surprise to most readers – who will themselves be gamers anyway¹. Certainly, at this point, the importance of the video-games industry in the global economy should not really need repeating: reports from industry analysts² imply that the videogame industry might have pulled in as much as \$116 billion in 2017³. This represents a huge proportion of the global entertainment market, and by some accounts is only predicted to grow further. In particular, the proliferation of mobile phones and improvements in internet infrastructure are expected to open up previously inaccessible markets. Simultaneously, new technologies like virtual and augmented reality (VR and AR) are expected to further expand the appeal of gaming to broader new audiences.

Given the huge economic importance of the intellectual labour which these games represent, one might expect the question of what “ownership” means for video-games in the context of IP law to be relatively straightforward. Certainly, this would seem to be the case for other forms of intangible forms of entertainment - as with a book, a film, or a piece of music. Not so with video-games, however. Rather, the protection of the various constituent elements of a video-game in Europe are scattered across a variety of disparate legal provisions at both the national and Community level. For instance, you might seek copyright protection for your game’s sound clips and creative coding under your national copyright act – which must itself⁴ be compliant with the European Union’s InfoSoc and Software Directives⁵ - whilst simultaneously seeking protection for the inventive way your servers process user data to improve input latency under the European Patent Convention⁶. The fractured nature of this system creates

¹ ‘Statistics | Interactive Software Federation of Europe’ <<http://isfe.eu/industry-facts/statistics>>. [accessed 22 February 2018].

² Newzoo, ‘Top 100 Countries by Game Revenues’, *Report - Top 100 Countries by Game Revenues*, 2017 <<https://newzoo.com/insights/rankings/top-100-countries-by-game-revenues/>> [accessed 22 February 2018].
SuperData Research, ‘Games Data and Market Research » Market Brief — 2017 Digital Games & Interactive Media Year in Review’, 2018 <<https://www.superdataresearch.com/market-data/market-brief-year-in-review/>> [accessed 22 February 2018].

³ UKIE (The Association for UK Interactive Entertainment), ‘UK Video Game Fact Sheet’, 2018 <[http://ukie.org.uk/sites/default/files/UK Games Industry Fact Sheet January 2018_0.pdf](http://ukie.org.uk/sites/default/files/UK%20Games%20Industry%20Fact%20Sheet%20January%202018_0.pdf)>.

⁴ On the vertical direct effect of Directives – see European Court of Justice, *Yvonne van Duyn v Home Office* C41-74 (OPOCE, 1974).

⁵ *Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society*, 2001. *Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the Legal Protection of Computer Programs*, 2009.

⁶ *Convention on the Grant of European Patents (European Patent Convention) of 5 October 1973 as Revised by the Act Revising Article 63 EPC of 17 December 1991 and the Act Revising the EPC of 29 November 2000*, 1973.

a potential to perturb the careful balance needed between creator and consumer interests. This creates an opportunity for both over- and under-protection which this thesis will seek to evaluate.

0.2 Regulatory Framework

To begin then, it might be useful to set out some of the basics of the regulatory background in this area. Readers familiar with intellectual property in other jurisdictions will recognise in all this the influence of the large international treaties which govern these areas at the international level. That is to say, the 1886 Berne Convention, the 1994 Agreement on Trade-Related Aspects of Intellectual Property Rights (“TRIPS”), and the 1996 World Intellectual Property Organisation Copyright Treaty (“WIPO Copyright Treaty” or just WCT). Indeed, one might potentially consider the influence of international agreements like Article 10bis of the Paris Convention which protects against unfair competition.

However, the focus of this thesis will be on the implementation of these concepts in the particular European context. As such reference to these legal sources will generally be omitted unless we are comparing their implementation in another jurisdiction – for example, the United States. Similarly, the provisions of the European Convention on Human Rights (ECHR) which could potentially be engaged (Art. 1 of Protocol 1 protecting the right to free possession of property and Art. 10 protecting the right to freedom of speech and information) and the EU Charter of Fundamental Rights will not merit detailed discussion. Rather, what will form the focus of our study will be that handful of legislation from the European Union and the European Patent Organisation. In particular, the 2001 InfoSoc Directive; the 1991 Computer Software Directive (codified in 2009); 1973 European Patent Convention; and the 2010 Unified Patent Package.

0.3 Research Question and Objectives

In this work, I will ask the question “is copyright law in Europe appropriately equipped to handle videogames?”. This will involve evaluating the existing regime for the protection of intellectual property in videogames from both sides of the traditional policy tension - between creators on the one hand and consumers on the other. My argument will be that considered in this way, the current approach is at once over- and under-inclusive. That is, that if one adopts the “distributive approach”⁷ or “general model”⁸ where individual parts of the videogame product

⁷ Andy Ramos and others, ‘The Legal Status of Video Games: Comparative Analysis in National Approaches’, *World Intellectual Property Organisation*, 2013, 1–96.

⁸ Daithí Mac Síthigh, ‘The Game’s the Thing: Property, Priorities and Perceptions in the Video Games Industries’, in *Research Handbook on Intellectual Property in Media and Entertainment*, ed. by Megan Richardson and Sam Ricketson (Cheltenham: Edward Elgar Publishing, 2017), pp. 344–67.

are given different legal protections individually it leaves room for some of the most economically significant elements of videogames to be left without adequate protections⁹. I will endeavour to show how this results in the under-protection of creators. Concurrently, I will suggest the application of the “quasi-copyright” rules for the enforcement of Digital Rights Management (DRM) systems, including Technological Protection Measures (TPMs) and licencing systems specifically, has led to broad controls on access to videogames, which may not have been envisaged by the legislator. I will argue these amounts to over-protection which is to the detriment of the consumer. However, I will not go so far as those extreme voices¹⁰ which identify criticisms like these as justification for abandoning copyright law altogether. Rather, I will try to show how the main goals these critics seem to pursue, could be better achieved by adaptations the existing regime. In the words of Boyden “focusing on the precise nature of games – and why they are not within the scope of copyright – helps us define where the boundaries are”¹¹ and I would add: where they ought to be.

0.4 Structure

In order to make these arguments, this thesis will be organised around three questions.

In the first Part, we will ask whether the multimedia nature of videogames means they should be considered in some sense “greater than the sum of their parts” and if the current EU copyright law accounts for this? This will require us to evaluate the “distributive approach” identified by WIPO in its 2010 comparative study on the protection of videogames¹² at the national level and contrast this with the “unitary” approach which the Court of Justice of the European Union (CJEU) would seem to prefer. It will be argued that although the “unitary” approach would be preferable, this position has not been adequately confirmed either in legislation or caselaw, and that an element-by-element approach must be presumed to persist. As such, the remaining subsections of this part will systematically proceed from those parts of a videogame we can identify as uncontroversially protected, out to those where there is some uncertainty, and finally to that signature element of videogames – the gameplay itself - which is expressly excluded from protection but perhaps ought not to be.

In the second Part, we will ask whether the different methods for enforcing intellectual property rights in videogames have in practice allowed for an unwarranted extension of copyright? This will require us to evaluate those enforcement mechanisms which are provided for in the

⁹ See Sections 1.2 and 1.3 “What might not be protected”, and “What is definitely not protected”.

¹⁰ See, for instance – F. M. Scherer, ‘Michele Boldrin and David K. Levine: Against Intellectual Property’, *Constitutional Political Economy*, 20 (2009), 94–97. Consider also political movements like The European Pirate Party (‘Who We Are – European Pirate Party’ <<https://european-pirateparty.eu/sample-page/>> [accessed 15 March 2018].)

¹¹ Bruce E. Boyden, ‘Games and Other Uncopyrightable Systems’, *George Mason Law Review*, 18 (2011), 439–80.

¹² Ramos and others. (2013)

copyright legislation itself - the provisions prohibiting the circumvention of TPMs, and those relating to the “exhaustion” of rights – as well as those which are situated somewhere on the boundary between contract and IP law – namely, licensing schemes.

In the third Part, having identified what will be considered a number of insufficiencies with the current regime, we will then ask whether some of the alternatives to copyright law presented by the radicals present a preferable or even realistic alternative? This will require us to evaluate the FOSS (Free and Open Source Software) licensing schemes that are held up as most significant “challenger” to the copyright system; as well as the more radical proposals for alternative business models like crowdfunding.

In this way, we will move outwards from discussing the core of the IP rights, out to the boundaries of these rights and their enforcement, and finally to the potential for complete alternatives which could replace them.

0.5 Limitations

As should be clear from the above schema, there are a number of interesting topics relating to video-games and their intersection with intellectual property law which will fall outside the purview of this thesis.

Firstly, we will exclude reference to the debates surrounding where authorship vests – ie. between employer, publishers, producer’s, etc. I do consider this to be another area where one might consider video-games to be “greater than the sum of their parts” – the fact that video-game can be such vast interconnected tapestries of works, requiring different sorts of creative input from potentially thousands of different creators means the traditional rationales which explain where authorship should vest become significantly less convincing. However, it is submitted that this discussion would unnecessarily blur the focus of this work: namely, the appropriate scope of legal protection for intellectual creations expressed in video-games. How that protection is then divided up amongst the various co-creators seemed less significant than evaluating the total scope of protection – or lack thereof.

For much the same reason, we will exclude discussion of the ownership of user-created content, virtual currencies and assets. We consider that these in essence amount to a debate between the games creators and their users as far as property law is concerned. By contrast, the nebula of interconnected issues these subjects engage often stray into contract law, tax law, and the regulation of gambling. Again, it was felt that this would inappropriately shift focus for an IP law master’s thesis.

Lastly, reference to trademark law will largely be omitted, on the basis that its function and application do not present many unique features in the video-game context. Indeed, the author prefers the view that the “conventional wisdom” which categorises trademark law as an element of intellectual property as opposed to unfair competition law ought to be reviewed, on consideration of their significantly overlapping justifications and objectives¹³.

0.6 Methodology

We will not, however, deal with the European copyright law framework as if it existed in a vacuum. Although a large part of this thesis will apply traditional legal dogmatics – that is to say an exegetical examination of the typical legal sources (treaties, statutes, court rulings, and the like) - we consider that any thesis on this topic would be severely lacking without a broader perspective.

First of all, although this will come as no shock to anglo-saxon jurists, continental readers will note that we will follow in the tradition of the “Chicago school” of “legal realists”. That is to say, rather than focusing on what the law “is” in some abstract exegetical sense, our main concern will be how the law acts in response to practical real-world questions. In concrete terms, this will mean we will consider individual court cases (and the details of their peculiarities) to be in some sense the truest, detailed expression of the law - whereas treaties and statutes often set out only the general rules. I recognise that this may sit uncomfortably with continental readers more accustomed to seeing the analysis structured the other way around (statutes as the expression of the law, and individual cases as mere examples thereof)¹⁴. However, it is submitted that (as is suggested by Vogenaur) this choice of emphasis might merely be highlighting the opposite side of the same coin¹⁵.

The decision to adopt this realist approach is partly motivated by the author’s understanding that this style of analysis has become not only dominant in IP law academia, but in IPR policy making¹⁶. In addition, I am persuaded that early attempts at empirical analysis seem to confirm

¹³ See for example, Tim W. Dornis, ‘Substantive Policy—Convergent Foundations’, in *Trademark and Unfair Competition Conflicts* (Cambridge: Cambridge University Press, 2017), pp. 273–380.section 2.IV.A

¹⁴ Konrad Zweigert, Hein Kötz and Tony Weir, *Introduction to Comparative Law* (Clarendon Press, 1998). Part 5: “The Style of Legal Families”.

¹⁵ Stefan Vogenauer, ‘Sources of Law and Legal Method in Comparative Law’, in *The Oxford Handbook of Comparative Law*, ed. by Mattias; Reimann and Reinhard Zimmermann (Oxford University Press, 2006), pp. 870–96.

¹⁶ For a history of this development see Dan L. Burk, ‘Law and Economics of Intellectual Property: In Search of First Principles’, *Annual Review of Law and Social Science*, 8.1 (2012), 397–414. Also consider Niva Elkin-Koren and Eli M. Salzberger, *The Law and Economics of Intellectual Property in the Digital Age, The Law and Economics of Intellectual Property in the Digital Age: The Limits of Analysis* (Routledge, 2012). Pg 4, 9, 52. on the diminishing role of natural law reasoning in Europe.

the realists' central proposition that in practice courts place a greater emphasis on specific factual circumstances than they do on textual exegesis¹⁷.

As such, the author hopes to add to the “second wave” of law and economics in focussing our analysis on a particular economic context¹⁸. Where we identify insufficiencies in the law or pose a choice between systems, I will be guided by the work of Landes and Posner in their efforts to make intellectual property law promote “allocative efficiency”¹⁹. I will consider “allocative efficiency” in this context to mean a state wherein videogame producers create games that represent consumer preference, and that therefore the “marginal benefit” to society of these game’s creation is no less than nor greater than the “marginal cost” of producing them.

Adopting this approach frees us to compare national approaches to videogames copyright with EU law. The objective of any such comparison will generally be the promotion of harmonization of laws in the area. Videogames being an inherently intangible and thereby cross-border commodity, it is submitted that such harmonisation is in the common interest – preventing the fragmentation of markets and facilitating international trade and cooperation. This is particularly the case in the context of the EU²⁰.

Further, we will not shy away from value-based and political questions, such as whether copyright law is simply no longer fit for service as a scheme for regulating the production and enjoyment of videogames. Rather, the discourse will be expanded to consider the role of the law in society more broadly. Here again, we adopt an economic narrative, attempting to promote a solution which maximises the production of video-games of a type demanded by the public; whilst ensuring adequate compensation for producers.

¹⁷ E.g Nikolaos Aletras and others, ‘Predicting Judicial Decisions of the European Court of Human Rights: A Natural Language Processing Perspective’, *PeerJ Computer Science*, 2 (2016), e93.

¹⁸ Robert P. Merges, ‘Economics of Intellectual Property Law’, in *The Oxford Handbook of Law and Economics: Volume 2: Private and Commercial Law*, ed. by Francesco Parisi (Oxford University Press, 2017).

¹⁹ William M. Landes and Richard A. Posner, *The Economic Structure of Intellectual Property Law* (Harvard University Press, 2003).

²⁰ For a pithy summary of these considerations, see recitals (1)-(13) of the InfoSoc Directive; though for a consideration whether there may be a “normative gap” in copyright lawmaking see Ana Ramalho, *The Competence of the European Union in Copyright Lawmaking* (Springer International Publishing, 2016).

1. COMBO: should video-games be treated as greater than the sum of their parts?

1.0 What do we mean by “parts”? A Taxonomy of Videogames

First then, it might be useful to define what we mean by video-games, and therefore what we mean when we refer to their constituent “parts”. Here we will here follow the example of Grosheide, Roerdink and Thomas²¹ and adopt the European Commission definition of a video-game as “an electronic computerized game played by manipulating images on a video display or television screen”. Those authors astutely identified that such a broad definition could encompass both a mere “digitisation” of existing games that could be played equally well without manipulating images in a digital environment (for example chess or Scrabble) as well as games which are essentially dependent on their digital environment to function properly (such as Pacman or Call of Duty).

However, whereas those scholars chose to narrow the Commission’s definition by excluding the former category of games (“digitisations”), here the original broader definition will be used. I would contest that the significant differences both experientially to the user, and in the production of a digitised version of a game to the creator mean the resulting product warrant a distinct approach when considering their protection. That is to say, that whilst playing Scrabble on a tablet rather than playing it with tiles on a board; or reproducing PacMan with plastic and ball-bearings is yes - perfectly possible - that does not mean these products are directly interchangeable or that the protection owing to them should be identical. It will be important to note, that in accepting such a broad definition one must accept that specific video-games can vary wildly one to another: from incredibly minimalistic text-based adventures; to rich multimedia virtual worlds with audio, visual and kinaesthetic elements. As such, in listing what we here consider common factors amongst video-games it is important to bear in mind that these are only *potential* elements which might not pertain in any particular video-game one has in mind (whether hugely commercially successful or not).

For the avoidance of confusion, therefore, below is a summary of those general categories of different elements which can be identified as typically inhering in a video-game, and how I will refer to them. Some examples are given as illustrations, but the list should not be considered exhaustive.

²¹ F Willem Grosheide, Herwin Roerdink and Karianne Thomas, ‘Intellectual Property Protection for Video Games’, *Journal of International Commercial Law and Technology*, 1.91 (2014).

Element Type	Examples
Computer Code	<ul style="list-style-type: none"> • Primary Game Engine • Platform and third party “middleware” • Individual event scripts • Server software • Plug-ins/subroutines
Video	<ul style="list-style-type: none"> • Still images such as .jpeg or .png • Moving images such as .gif or .mpeg • 3D models such as CAD files • Animation, lighting and “rigging” such as model movement and motion-capture
Audio	<ul style="list-style-type: none"> • Internal sound effects • Sound recordings stored in .mp3 files • Musical compositions such as Beethoven’s Moonlight Sonata or Koji Kondo’s Gusty Garden Theme
Gameplay <i>per se</i>	<ul style="list-style-type: none"> • Mechanics such as scoring system or virtual economy • Game formats such as MMORPG or MOBA
Other Elements	<ul style="list-style-type: none"> • Literary works such as script or character dialogue • VR proprioception/controller rumble • The composite “output” of gameplay which users receive on their display and can “stream” to others • Graphic User Interfaces (GUIs) • Programming Languages • The total composite of all the above elements into a finished “video-game” product

1.1 What are the alternatives? The “Unitary” and “Distributive” approaches

What should be clear from the above schema is there is a vast array of different types of media in any one video game which according to traditional principles would invoke a series of dislocated and separate intellectual property issues. For instance, you might seek copyright protection for the script of your game’s story as literary work; whilst simultaneously seeking patent protection for the inventive way your server’s process user data to improve input latency. Alternatively, one might consider that a modern intellectual property regime should deal with the completed product as a whole – perhaps within a separate category entirely unto itself. Indeed, in some countries this has historically been the approach; attempting to conceive of the video-game as a single object, falling into that category of intellectual property which “predominates”. We will call this the “unitary approach”. In 2013 a WIPO investigation into the legal status of video-games²² noted that countries like Argentina, Canada, China, Israel, Italy, the Russian Federation, Singapore, Spain and Uruguay all preferred this style of analysis – conceiving of video-games as predominantly computer programs and therefore regulating them as such. Similarly, the Republic of Korea was inclined to see the entirety as a single audio-visual work.

This is generally not the case in Europe, however. Apart from Italy and Spain, all the other European countries addressed in the investigation (to which we might add those legal systems in the United Kingdom as well) preferred a “distributive classification”. By this we mean that legal protection of each separate element of a game must be sought and identified *separately*, according to the specific nature of each work. A clear example of this is the UK system, where the Copyright, Designs and Patents Act 1988 (CDPA) systematically enumerates those categories of works which are protected, to the exclusion of all other works which fall outside this. Even if we exclude the UK on the basis of their plan to leave the EU following the Brexit referendum²³, the WIPO study suggests a comparable disentangling still occurs in countries like Belgium, France, Germany and Sweden.

Whether this divergence of opinion is in part responsible, or whether videogames were simply not a major consideration for the legislator at the time, none of the international treaties and neither the InfoSoc Directive nor the Software directive layout how Member States are to deal with the situation of complex multimedia works, like videogames. Potentially, one could argue that the Union has already started to recognise this issue and have tipped their hand in favour

²² Ramos and others. (2013)

²³ At the time of writing, the UK is still a member state of the EU, with an anticipated departure date of March 29, 2019 and would still be subject to EU law during a “transition period” ending on 31 December 2020 – BBC News, ‘The UK and EU Agree Terms for Brexit Transition Period’, *BBC News*, 2018 <<http://www.bbc.co.uk/news/uk-politics-43456502>> [accessed 21 March 2018].

of a “unitary” approach. For example, in the 2011 amendment to the Term Directive²⁴, the legislator recognised that “In some Member States, musical compositions with words are given a single term of protection, calculated from the death of the last surviving author, while in other Member States separate terms of protection apply for music and lyrics ... giving rise to obstacles to the free movement of goods and services, such as cross-border collective management services”²⁵. Therefore, they preferred to harmonise the term of protection for such a composite musical work to 70 years from the death of *either* the author of the lyrics or the composer – whichever should live the longest²⁶. Unfortunately, we have not seen any such clarification for other types of complex works like video games in any of the four current copyright reform proposals the EU legislator is considering²⁷. As such, the key to our current question will be the jurisprudence of the Court of Justice of the European Union (CJEU) – and in particular, their 2014 ruling in the case of *Nintendo v PC Box*²⁸.

1.2 What is the current EU approach? *Nintendo v PC Box*

In January of 2014, the fourth chamber of the Court of Justice of the European Union (CJEU) set down its opinion in *Nintendo v PC Box*. The case had been referred to the Court by the Italian Tribunale di Milano, in a case involving the circumvention of technological protection measures (TPMs). In short, Nintendo had used a recognition system in its DS and Wii consoles and games to prevent the use of illegal copies of those games. PC Box produced software (and equipment loaded with software) to circumvent this recognition system. In the two questions the Italian court referred to the CJEU they essentially asked two things: (1) were the TPMs implemented by Nintendo’s recognition system permissible under European Copyright law? (2) did it matter if, as PC Box argued, the circumvention was not intended predominantly to allow the playing of pirated games on the console, but also for the use of “homebrew”/competitor’s content?

²⁴ Directive 2006/116/EC Of the European Parliament and of the Council on the Term of Protection of Copyright and Certain Related Rights.

²⁵ Recitals (18)-(19)

²⁶ Art. 1

²⁷ (1) Proposal for a Directive of the European Parliament and of the Council on Copyright in the Digital Single Market, Brussels, 14.9.2016 COM(2016) 593 Final, 2016.

(2) Proposal for a Regulation Laying down Rules on the Exercise of Copyright and Related Rights Applicable to Certain Online Transmissions of Broadcasting Organisations and Retransmissions, COM DOCS, 2016.

(3) Proposal for a Regulation of the European Parliament and of the Council on the Cross-Border Exchange between the Union and Third Countries of Accessible Format Copies of Certain Works and Other Subject-Matter Protected by Copyright and Related Rights for, COM DOCS, 2016, p. 595.

(4) Proposal for a Directive on Permitted Uses of Works and Other Subject-Matter Protected by Copyright and Related Rights for the Benefit of Persons Who Are Blind, Visually Impaired or Print Disabled, COM DOCS, 2016.

²⁸ Court of Justice of the European Union (Fourth Chamber), *Nintendo Co. Ltd, Nintendo of America Inc., Nintendo of Europe GmbH v PC Box Srl, 9Net Srl, 9Net Srl* C-355/12, 2014.

Our interest is in the former. We will return to the specific issues relating to the permissible scope of TPMs in section 2, but for our purposes here, the key issue was what we were to understand as “European copyright law” to mean when it came to video-games? That is, did Art. 6 of the InfoSoc Directive or Art. 7 of the Software Directive govern? Put another way, were video-games merely the sum of their parts – did the Software Directive govern the code part, and the InfoSoc Directive covered the video, audio, etc. parts? Or, was the composite product of the videogame as a whole some new entity which could be entirely governed either by the one directive or the other?

The response of the court was as follows²⁹:

- 22 As regards the parts of a work, it should be borne in mind that there is nothing in Directive 2001/29 indicating that those parts are to be treated any differently from the work as a whole. It follows that they are protected by copyright since, as such, they share the originality of the whole work (see *Infopaq International*, paragraph 38).
- 23 That finding is not weakened by the fact that Directive 2009/24 constitutes a *lex specialis* in relation to Directive 2001/29 (see Case C-128/11 *UsedSoft* [2012] ECR, paragraph 56). In accordance with Article 1(1) thereof, the protection offered by Directive 2009/24 is limited to computer programs. As is apparent from the order for reference, videogames, such as those at issue in the main proceedings, constitute complex matter comprising not only a computer program but also graphic and sound elements, which, although encrypted in computer language, have a unique creative value which cannot be reduced to that encryption. In so far as the parts of a videogame, in this case, the graphic and sound elements, are part of its originality, they are protected, together with the entire work, by copyright in the context of the system established by Directive 2001/29.

Interpretations of these paragraphs have been mixed³⁰. Potentially, one can focus on the phrasing that “parts are [not] to be treated any differently than the work as a whole” to argue that the court conceives of videogames as the complex composite work; greater than the sum of its parts. This would certainly appear to be the position taken by the Italian courts. When *Nintendo* found its way back to the national courts,³¹ the Tribunale di Milano chose to follow a series of cases involving criminal sanctions for infringing copies which had classified videogames as “multimedia works”³². It is also the preferred interpretation of commentators like Rosati³³ who feel “closed subject matter systems” (systems which protect specific types of works and therefore parts of hybrid works individually) “are no longer compatible with EU

²⁹ [22]-[23]

³⁰ E.g Anthony Chinn, ‘How Has Technology Affected the Copyright Framework ? A Focus on Digital Rights Management and Peer-to-Peer Technology’, *Computer and Telecommunications Law Review*, 2016, 1–13. c.f Tito Rendas, ‘Lex Specialis(sima): Videogames and Technological Protection Measures in EU Copyright Law’, *European Intellectual Property Review*, 37.1 (2015), 39–45.

³¹ decision of the First Instance Tribunal of Milan, No. 12508/2015, published on Nov. 6, 2015

³² The series of cases following the *Dalvit* judgement of May 25th 2007, on the application of Art 171 *ter f bis*, including the supreme court judgements of January 14 2009 and March 4 2011

³³ Eleonora Rosati, ‘Closed Subject-Matter Systems Are No Longer Compatible with EU Copyright’, *Journal of Intellectual Property Law and Practice*, 2014, 1–13.

copyright” following cases like *Nintendo* and *Infopaq*³⁴. They prefer what we described as a “unitary approach” which abandons subject-matter categorisations and instead allows EU law copyright protection to arise any time a work amounts to the author’s “own intellectual creation”.

However, it is submitted that such an analysis is overly optimistic. Firstly, it does not account for the phrase “together with the entire work”, which implies both the parts individually, *and* the work as a whole attract protection independently. Second, it overlooks the context of the decision: whilst this is the most authoritative ruling we have on the issue at the European level, we must remain conscious that the statement was made in the context of a decision about TPMs. As such, the weight of this case’s authority is potentially limited to the question of which directive to apply *in the context of TPMs*. The answer which the court gave to this question was that: the InfoSoc Directive governs where one is dealing with “hybrid” media like videogames, and that Software Directive would only govern in the narrow case where one is only dealing with “pure” software.

This being the case, one should err on the side of caution and prefer the interpretation that: by selecting the InfoSoc Directive as appropriate to govern, the case does little more than confirm the status quo. That is, the existing copyright regime continues to govern the protection of video-games as opposed to the *lex specialis* (which the Software Directive represents) governing pure software. As such, the ambiguity in the legislation persists, and the “distributive approach” to copyright in videogames which the WIPO study³⁵ identified, continues to be permissible. For example, it is telling that when the *Infopaq* case itself returned to the Danish courts, the Danes’ first response was to immediately send back the case for a second reference. Even after the court confirmed its decision in a second ruling³⁶, and the Danish Højesterets Dom finally applied the decision some 8 years later³⁷, Fredenslund notes that the practical result was *Infopaq* simply moving all its manufacturing activities to Sweden³⁸. In Sweden itself, the WIPO report notes that the leading case remains a Swedish Market Court³⁹ decision – which seemed to consider a Playstation 3 video game to attract copyright

³⁴ Court of Justice of the European Union (Fourth Chamber), *Infopaq International v Dankse Dagblades Forening* C-5/08, 2009.

³⁵ Ramos and others. (2013)

³⁶ Court of Justice of the European Union (Third Chamber), *Infopaq International A / S v Danske Dagblades Forening* C-302/10, 2012.

³⁷ Sag 97/2007, Friday 15th March 2013

³⁸ Where she notes “a similar dispute in Sweden, Stockholm District Court in 2008, was decided in favour of *Infopaq*” <http://kluwercopyrightblog.com/2013/05/17/denmark-infopaq-case-finally-decided-after-eight-years/>

³⁹ Marknadsdomstolen, *Sony Computer Entertainment Europe Limited v Wechip Handelsbolag et al.* MD 2011:29, 2011. Though note that this case refers to a previous Supreme Court ruling 11 years earlier where that court seems to have preferred a unitary approach seeing a computer game as solely a computer programme and not a cinematographic work. Further, one could argue that due to the particulars of the pleading (seeking to protect the cinematographic work within

protection both as a cinematographic work and as a computer program. What's more, as of the time of writing, the "unitary approach" taken in Italy and Spain has not been extended outwith the criminal context. *Nintendo* has not lead Member States to adjust their existing copyright systems to enforce a "unitary approach" for videogames.

This continued ambivalence is particularly regrettable when one considers the suggestion that the CJEU had intended to address the issue directly in the *Grund* (2013)⁴⁰ case, which was pending before the court whilst *Nintendo* was being decided. Here, in an almost identical case about the applicability of the Software or InfoSoc Directive to the issue of modchips the German Bundesgerichtshof asked the question directly whether the former directive precluded the latter. Lamentably, however, the case was eventually discontinued on procedural grounds and the CJEU were left unable to comment on the issue directly. In the absence of such clarification, we are left with a disparity between the position of the CJEU and the national systems. The majority of national systems appear to continue to see video-games (and "hybrid" intellectual property generally) as the combination of their individual elements. The "distributive approach" continues to prevail. Meanwhile, although CJEU might seem to prefer a unitary approach, it remains powerless to authoritatively enshrine such an interpretation into law without a relevant preliminary reference.

In what remains of this section, we will evaluate the wisdom of these different approaches. I will argue that the more piecemeal approach leaves ambiguities and gaps in protection but may ultimately be unavoidable. Starting by identifying those videogame elements which are uncontroversially covered by existing protections; we will move on to consider those valuable elements of videogames which would not seem to clearly be protected. Finally, we will consider the arguments for protection of those elements which are clearly *not* protected under the current system, before considering whether in all this the unitary approach of the CJEU might be preferable.

1.3 What is protected?

1.3.1 Any Original Intellectual Creation? The Infosoc Directive

The InfoSoc Directive broadly governs the legal protection of copyright and related rights. Articles 2, 3 and 4 set out the rights to be granted to creators – namely, the reproduction,

the game rather than the game as a whole) in this case, by the British firm Bird & Bird, the ruling may not be as unambiguous as the reporters present it.

⁴⁰ *Grund v Nintendo* (C-458/13), May 7, 2014. See AG Sharpston's comment at [37] referring to the case: "I am aware that the German Bundesgerichtshof (Federal Court of Justice) has referred a specific question to this Court on the applicability of Directive 2009/24 to video games of the kind in issue. I think it preferable for the Court to decide such a question in the light of the fuller submissions which will be presented to it in that case and to confine its assessment in the present case to the specific issues of interpretation raised by the national court."

communication, making available and distribution rights – and Art. 5 enumerates a list of harmonized exceptions. Critically, however, nowhere in the Directive is there a definitive enumeration of those intellectual creations which are protected. Rather, there is only a short list of exclusions under Art. 1(2) for those elements of copyright covered by other Directives. As such, it was for some time assumed that the national divergences on this issue were left intact. Indeed, Art. 2(1) of the Berne Convention (which the World Copyright Treaty, and therefore this Directive implements⁴¹) provided a definition in the form of a subject matter list:

- 2 The expression “literary and artistic works” shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression, such as books, pamphlets and other writings; lectures, addresses, sermons and other works of the same nature; dramatic or dramatico-musical works; choreographic works and entertainments in dumb show; musical compositions with or without words; cinematographic works to which are assimilated works expressed by a process analogous to cinematography; works of drawing, painting, architecture, sculpture, engraving and lithography; photographic works to which are assimilated works expressed by a process analogous to photography; works of applied art; illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science.

Handig notes that commentators were therefore somewhat surprised when in 2009, the ECJ *Infopaq* (2009)⁴² decision appeared to unify these thresholds based on different “types” of work, to a single criteria of “originality”. In particular, at paragraph 37 the court appears to consider that any work which is “original in the sense that it is its author’s own intellectual creation” may attract copyright protection. As such, even 11 words (which would not have expected to fit the category of a literary work) might nevertheless be protected. Moreover, at paragraph 38 the court emphasised “there is nothing in Directive 2001/29 or any other relevant directive indicating that those parts are to be treated any differently from the work as a whole”. This would seem to have been confirmed in cases like *Painer* (2012)⁴³ where the ECJ described an intellectual creation as those works where “it reflects the author’s personality. The author was able to express his creative abilities in the production of the work by making free and creative choices”⁴⁴. However, it is notable that this mirrors the wording of Art. 6 of the Terms Directive⁴⁵, which applies narrowly to photographic works exclusively. Considering that the *Painer* case was also a case purely about photographic works, it is possible that this

⁴¹ Art. 1(4) WCT: “Contracting Parties shall comply with Articles 1 to 21 and the Appendix of the Berne Convention”

⁴² Court of Justice of the European Union (Fourth Chamber), *Infopaq International v Dankse Dagblades Forening* C-5/08.

⁴³ Court of Justice of the European Union (Third Chamber), *Eva-Maria Painer v Standard Verlags GmbH, Axel Springer AG, Süddeutsche Zeitung GmbH, Spiegel - Verlag Rudolf Augstein GmbH & Co KG, Verlag M. DuMont Schauberg Expedition der Kölnischen Zeitung GmbH & Co KG* C-145/10, 2012.

⁴⁴ *Ibid*, [88]-[89]

⁴⁵ *Directive 2006/116/EC Of the European Parliament and of the Council on the Term of Protection of Copyright and Certain Related Rights*. This wording is also used in the context of computer programs – under Art. 1(3) of the Software Directive; whether that should mean a similar subject-matter specific approach, is an issue we will address in Section **Error!**

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formulation was merely a clarification of the threshold for originality as it applied to that specific category of works; rather than expansion of the category of “works” in general.

As such, some national courts have questioned whether the ECJ really intended the decision to have such a broad harmonizing effect. In particular, Proudman J stated in the *Meltwater*⁴⁶ decision from the UK: “I do not understand the decision of the European Court of Justice in *Infopaq* to have qualified the long-standing test established by the [British] authorities” – a point which went unchallenged at the Supreme Court level and indeed later when the case was referred to the ECJ. Similarly in France, in a case involving the classification of video-games, the Paris Court of Appeal ruled that “a video-game is a complex work ... each of its components is governed by the legal framework applicable to it according to its nature”⁴⁷. Needless to say, this author agrees with those commentators clamouring for clarification from the ECJ on this issue⁴⁸. If applying different regimes to different categories of works conflicts with EU law, this would require substantial change to a number of national systems.

In the meantime, however, this thesis will proceed on the basis that such a broad interpretation of *Infopaq* is overly simplistic; that various member states remain attached to a concept of subject matter which is not so inclusive. In practical terms, I therefore suggest a sufficiently original video-game story script would still - with very little controversy - fall to be protected by copyright as a literary work in any of the member states. Similarly, the game’s sound track and sound effects would very easily find protection as a musical composition, or the related rights for sound recordings and phonograms⁴⁹. On the same basis, any pixel art used to create backgrounds or sprites would simply find protection as artistic works; any videos used as cut-scenes would be protected as cinematographic works, performances, and fixations of films⁵⁰. None of this will be terribly surprising.

However, things will become much less clear once we start to investigate those other elements of video-games we have not mentioned; those which do not fit squarely into these categorisations and often straddle multiple categories rather uncomfortably. Some examples of these that we will be dealing with in detail will include: 3D models and the streaming output of live gameplay. First and foremost, amongst these, however, is the elephant in the room - the code itself.

⁴⁶ *The Newspaper Licensing Agency Ltd & Ors v Meltwater Holding BV & Ors* [2011] EWCA Civ 890 (27 July 2011)

⁴⁷ CA Paris, 26 septembre 2011, Pôle 5, Chambre 12 SARL AAKRO PURE TRONIC et a. c/ NINTENDO

⁴⁸ Rosati. (2014)

⁴⁹ See to this effect Arts 2 and 3(c) Infosoc Directive

⁵⁰ See Arts 2 and 3(b) and (d) of the InfoSoc Directive

1.3.2 The Code – The Software Directive

Guarda notes that during the 1980s there was considerable debate in the international community on how best to regulate intellectual property in computer programmes⁵¹. On the one hand, early producers in countries like the US, UK and Germany⁵² had been desperate to find protection for their works, and local jurists anxious to nurture the nascent industry had rushed to confirm that these were already protected – in these cases by the existing copyright regimes. On the other hand, there were those like the Soviets⁵³ who preferred a regime based on utility models or even patents. Concerned as they were that the existing terms for copyright protection seemed excessive long, they were eager to see registration requirements that would encourage publication. Between the two was the more nuanced approach of the Japanese (whose own software industry had initially lagged behind that of the US, but was by no means a straggler like the Soviets) who preferred a *sui generis* regime different from both patent and copyright⁵⁴ - with a 15 year term and a compulsory licence provision. Indeed something similar formed the basis of WIPO's 1983 treaty proposal. Alas, the latter was never adopted. Instead, the spread of the copyright solution in countries like the Philippines, Hungary, Australia and India⁵⁵ led to Art.10 of the TRIPS Agreement and Art. 4 of the World Copyright Treaty preferring the popular copyright solution.

In Europe, the upshot of this was that Art.1(1) and Recital 6 of the Software Directive would be drafted so as to classify computer programs as “literary works” for the purpose of copyright under the InfoSoc Directive. As such, so long as the expression of the code is “original” (in the sense of being the author's own intellectual creation according to the *Infopaq*⁵⁶ decision) the author of a piece of computer code is granted all the same rights as the author of a novel, for example. That is to say, for a period of 70 years⁵⁷, the author can prevent unauthorised reproductions, translations, adaptations, arrangements or distributions of the work⁵⁸. For our purposes, the result of all this is that when it comes to pure software, the answer should be relatively clear: the source code and the object code of a video-game are protected as literary works just as under the InfoSoc Directive but with some few minor concessions to the unique

⁵¹ Paolo Guarda, ‘Looking for a Feasible Form of Software Protection: Copyright or Patent, Is That the Question?’, *European Intellectual Property Review*, 35.8 (2013), 445–54.

⁵² These approaches would largely arise out of caselaw but were eventually codified in the US Computer Software Copyright Act of December 12, 1980; German Copyright Amendment Act of 1985; and UK Copyright (Computer Software) Amendment Act of 1985

⁵³ See the Memorandum of the Meeting of the Advisory Group of Governmental Experts on the Protection of Computer Programs (1971), WIPO Document AGCP/4, para. [21]

⁵⁴ Dennis S Karjala, ‘Protection of Computer Programs Under Japanese Copyright Law’, *European Intellectual Property Review*, 8.4 (1985), 105–11.

⁵⁵ 1985 UNESCO/WIPO document GE/CCS/2 – The legal protection of computer programs: a survey and analysis of national legislation and caselaw

⁵⁶ Court of Justice of the European Union (Fourth Chamber), *Infopaq International v Dankse Dagblades Forening C-5/08*.

⁵⁷ Terms Directive Art. (1)

⁵⁸ Software Directive Art. 4(a)-(c); c.f InfoSoc Directive Art. 2 and 4(1).

nature of computer programs⁵⁹. In the video-game context this would broadly cover assets such as the primary game engine, individual event scripts, plug-ins, subroutines, and the like. However, this superficial simplicity once again masks underlying complexity. First of all, it overlooks the fact that the providence of the copyright solution was itself in the flurry of videogame cases which had focussed on protection of the audio-visual elements of the games instead of the computer code *per se*⁶⁰. As such, it has created an unwarranted equivalence between works which are inherently *creative* (the former audio-visual elements); and those which also involve elements of *inventiveness* (in the more technical sense). This has meant that the problem of the “hybrid works” like videogames went unrecognised, until the Court was faced with a number of factual scenarios which brought this issue to the fore. For example, the issues of graphic user interfaces (GUIs), programming languages, and data formats all defy clear categorisation. Computer-generated products like 3D models are also poorly served by this classification. As we have already seen from the *Nintendo v PC Box*⁶¹ case, merely deciding that complex works fall outside the *lex specialis* of the Software Directive and back into the “subsidiary regime” of the InfoSoc directive does not in itself create a harmonised level of protection. We will return to this issue, and the *SAS v World Programming*⁶² case which attempted to delineate its borders in section 0.

Before moving on to consider those aspects which might not be protected, however, we must first consider the other manner in which software increasingly *is* protected under IP law – namely, the patentability of computer implemented inventions. For, despite the apparent selection of the “copyright solution”, recent years have seen an expansion of cases in which courts have returned to considering patent law as an appropriate mechanism for protecting software developers. Here again, the videogames scenario serves as the perfect example of the failure of a piecemeal approach, since many elements of video-game code manage to be not only creative but also inventive and as such awkwardly overlap the boundaries between the two areas of law.

⁵⁹ For example the unique exceptions under Software Directive Art 5 for back-up copies and reverse-engineering; the decompilation right under Art. 6; and the special obligations on “secondary infringers” we will return to in Part 2. For details on how these were received at the time, consider Robert J Hart, ‘Interfaces, Interoperability and Maintenance’, *European Intellectual Property Review*, 13.4 (1991), 111–16.; William T Lake, ‘Seeking Compatibility or Avoiding Development Costs? A Reply on Software Copyright in the EC’, *European Intellectual Property Review*, 11.12 (1989), 431–34.

⁶⁰ The US led the way in this regard, in cases such as *Midway Manufacturing Co. v. Artic International, Inc.*, 547 F. Supp. 999 (N.D. Ill. 1982) and *Williams Electronics, Inc. v. Arctic International, Inc.*, 685 F.2d 870 (3d Cir. 1982)

⁶¹ Court of Justice of the European Union (Fourth Chamber), *Nintendo Co. Ltd, Nintendo of America Inc., Nintendo of Europe GmbH v PC Box Srl, 9Net Srl, 9Net Srl C-355/12*.

⁶² Court of Justice of the European Union (Grand Chamber), *SAS Institute Inc v World Programming Limited C-406/10*, 2011.

1.3.3 The Code - The European Patent System

For in Europe, in addition to the protection available for code under copyright law, one must also consider the possibility that elements of your videogame's code could be patentable too. Readers will likely be familiar that since 2010 that the European Union has been attempting to introduce a "unitary" patent for the EU (or a "European patent with unitary effect" to be precise). However, to the extent that the Unitary Patent Package⁶³ essentially only affects procedures for enforcement, and the substantive applicable law *post-grant*⁶⁴, the principles applicable to grant of a patent should remain the same.

These are the (theoretically) common principles of law applicable in all the contracting states: namely, the requirements for novelty, inventive step and industrial application as codified in Art.52 of the EPC. Under these traditional principles, it is not controversial that new video-gaming (such as a new controller⁶⁵, console, or other peripherals⁶⁶) would qualify as patentable subject matter. However, the issue is much less clear when we ask whether elements of the code itself are patentable. I.e. Applied algorithms, game engines, compiling techniques, and the like. In this regard, the wording of Article 52 of the European Patent Convention (EPC), would at first glance seem clear (emphasis added):

- 1 European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application.
- 2 The following in particular shall **not** be regarded as inventions within the meaning of paragraph 1:
 - (a) discoveries, scientific theories and mathematical methods;
 - (b) aesthetic creations;
 - (c) schemes, rules and methods for performing mental acts, playing games or doing business, and **programs for computers**;
 - (d) **presentations of information**.
- 3 Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates

⁶³ European Union, 'Agreement on a Unified Patent Court', *Official Journal of the European Union*, 2013.

⁶⁴ As the EPO puts it "A unitary patent will be a European patent granted by the EPO under the provisions of the European Patent Convention to which unitary effect for the territory of the 25 participating States is given after grant, at the patentee's request. The unitary patent will thus not affect the EPO's day-to-day search, examination and granting work. ", <http://www.epo.org/law-practice/unitary/patent-court.html>.

⁶⁵ E.g Stephen Vincent Masarik, 'Video Game Controller with Handlebar Clip' (USA, 2016) <https://worldwide.espacenet.com/publicationDetails/biblio?CC=US&NR=2016243437A1&KC=A1&FT=D&ND=3&date=20160825&DB=&locale=en_EP#>.

⁶⁶ Smit Holding BVF, 'Chair for Video Game', 2012 <https://worldwide.espacenet.com/publicationDetails/biblio?II=54&ND=3&adjacent=true&locale=en_EP&FT=D&date=20120127&CC=CA&NR=139076S&KC=S#>.

to such subject-matter or activities as such. As regards the parts of a work, it should be borne in mind that there is nothing in Directive 2001/29 indicating that those parts are to be treated any differently from the work as a whole. It follows that they are protected by copyright since, as such, they share the originality of the *whole work*.

However, these last two words have become crucial. Although the exclusions under Art. 52(c) and (d) would seem to categorially exclude computer programs from patentability, the European Patent Office (EPO) has increasingly used these last two words to create a distinction between inventions which should be considered software “as such”, and those in which software was merely the means of implementing the invention. The reader will be forgiven for struggling to understand the delineation between these two concepts, and indeed, the EPO has received a lot of criticism for what some commentators consider a flagrant disregard for the letter of the law. Some, like Booton⁶⁷ for example, argue that the conditions the EPO has imposed upon the would-be-patentor to prove that their software has a “technical character” which their software merely implements - as opposed to the invention being the software “as such” - amount to little more than formalities of patent drafting. That in practice, all that is required to “impart the requisite ‘technical character’ to a claimed method is the specification of some technical means, however banal or well-known”.

This refers to what has been termed the “any hardware” approach, that the EPO are considered to have taken after the decision of the Technical Board of Appeal (TBA) decision in the *Pension Benefits* (2001)⁶⁸ case. This case involved both (i) a method and (ii) an apparatus claim for data processing software necessary for the implementation of a pensions benefits system. In reviewing (i) the method claim, the TBA concluded that the application should fall foul of the Art.52 exclusion of computer programs as these were “steps of processing and producing information having purely administrative, actuarial and/or financial character. Processing and producing such information are typical steps of business and economic methods.”. As such, the mere fact the invention was operated on a computer did not make it into a patentable invention. However, in relation to (ii) the apparatus claim, the Board accepted that a “computer system suitably programmed for use in a particular field, even if that is the field of business or economy, has the character of a concrete apparatus in the sense of a physical entity, man-made for a utilitarian purpose” (emphasis added); and that therefore a computer or a system of computers as envisaged in the instance application programmed for use in a particular field, was not a method of doing business, and so did not fall foul of Art. 52 .

⁶⁷ David Booton, ‘The Patentability of Computer-Implemented Inventions in Europe’, *Intellectual Property Quarterly*, 2007, 92–116.

⁶⁸ European Patent Office (Technical Board of Appeal), T 0931/95 (Controlling pension benefits system) of 8.9.2000, 2001, p. 411.

This approach was only further expanded in *Hitachi* (2004)⁶⁹ – a case involving an automatic auction method for a “Dutch Auction” executed in a server computer. Similarly, this case involved both a method and an apparatus claim. However, here the court went even further than the earlier case by applying this “any hardware” approach not only to the apparatus but also to the method claim. A method involving a technical means therefore is an invention within the meaning of Art. 52. Indeed, the EPO accept in their guidelines that this applies even if the technical means are commonly known. Just how broad this interpretation is, is evident from the *Microsoft/Clipboard Formats I* (2006)⁷⁰ case. There, a method and apparatus claim for “facilitating data exchange across different platforms” was accepted by the Board to have been “implemented in a computer and this amounted to a technical means sufficient to escape the prohibition in Art. 52”. Bentley and Sherman, however, stress: this does not mean that all computer-implemented inventions will in the end be patentable – the application must nevertheless fulfil the other normal patentability criteria of inventive step, novelty and industrial application. They emphasise that the “problem-and-solution” approach taken by the EPO at the “inventive step” stage goes hand in hand with this approach to subject matter and potentially achieves the same outcomes as the “effects-based” approach preferred in the UK. However, what this means in the videogames context is that inventive “game mechanics” may indeed attract patent protection in the European context.

For example, in the *Konami*⁷¹ case that company had applied for a patent which identified which player in a football game has the ball and in what direction the nearest player to whom they could pass the ball was with a ring-shaped display at the first player’s feet. In that that case both the EPO Examining Division and the Technical Board of Appeal accepted that (despite the apparent exclusions under Art.52(2) for “playing games”, “computer programs” and “presentation of information”) the football “pass guide” system was patentable subject matter. Instead, the issue which had given rise to the appeal was a dispute over the “inventive step” issue.

⁶⁹ European Patent Office (Technical Board of Appeal), T 0258/03 (Auction method/HITACHI) of 21.4.2004, 2004, p. 575.

⁷⁰ European Patent Office (Technical Board of Appeal), T 0424/03 (Clipboard formats I/MICROSOFT) of 23.2.2006, 2006.

⁷¹ European Patent Office, ‘T 0928/03 (Video game/KONAMI) of 2.6.2006’.

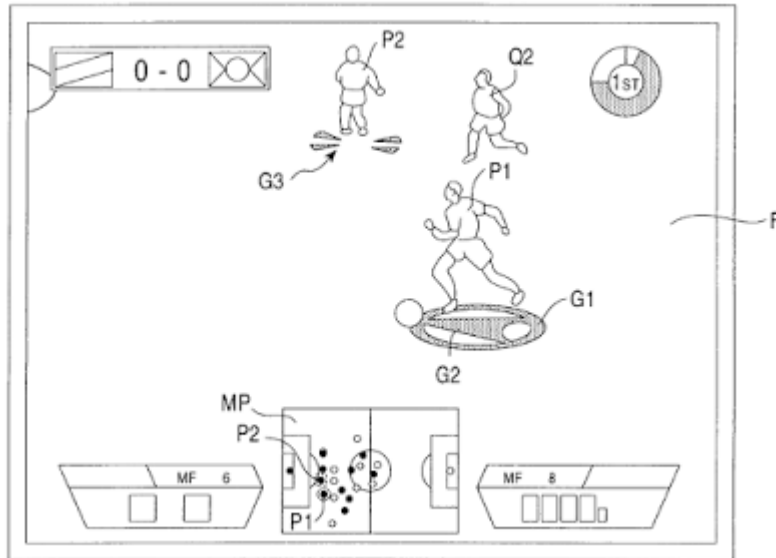


Figure 1- from EP 0 844 580

In short, whereas the E re “pass guide” system covered by “prior art” to the extent that they solved the same “technical problem”; the Technical Board of Appeal disagreed. The latter considered that: (i) the change a triangle above the head of the player, to a ring at the feet of the player “contributed an objective technical function to the display” rather than merely addressing a “human mental process” since it avoided the technical problem of concealing neighbouring player characters; and (ii) placing a guide mark on the end of the display area enabled the player to maintain orientation when viewing an enlarged portion of the image; thus preserving display surface real-estate.

Considering the fairly clear wording of (ie that “computer programs” “shall not be regarded as inventions”) this conclusion is far from intuitive. Moreover, it suggests that even if the EPC intend that “parts are [not] to be treated any differently from the work as a whole” from a copyright perspective, this clearly cannot be the case from a broader IP perspective. Rather, this seems to imply that a piece of code could be simultaneously protected both as a novel invention capable of industrial application; but also, as an original expression of the author’s personality, amounting to their own intellectual creation. This outcome – overlapping concurrent protection – is not necessarily problematic. Certainly, I would agree with the position of the International Association for the Protection of Intellectual Property (AIPPI)⁷² that patents should be available, and patent rights enjoyable, for inventions in all fields of technology, and that this should include computer implemented inventions. However, both they and other commentators⁷³ acknowledge that the current mechanism in the EU for

⁷² Ralph Matheson, Sarah; Osha, Jon; Verschuur, Anne Marie; Inui, Yusuke; Laakkonen, Ari; Nack, *Patentability of Computer Implemented Inventions - Summary Report*, 2017.

⁷³ For example, Alain Utku, Sinan; Strowell, ‘Developments Regarding the Patentability of Computer Implemented Inventions within the EU and the US: Part 1 - Introduction and the Legal Problem of Patenting Computer-Implemented Inventions’, *European Intellectual Property Review*, 39.8 (2017), 489–510.

achieving this outcome creates unnecessary legal uncertainty, not to mention needless drafting difficulties for practitioners, applicants and patent holders. This is a particular concern in the video-games industry, where a preponderance of development companies tends to fall within the SME (small-to-medium-sized-enterprises) categorisation⁷⁴. Instead, the exclusion of computer programs as non-patentable subject matter should simply be removed, even if this means different parts of a product receive different yet concurrent protection. The opportunity presented by the Unitary Patent Package to make such a clarification, without in practice changing the scope of subject matter protected at all, should not be missed.

1.4 What might not be protected?

Now that we have established that Europe still likely subscribes to a “distributive approach” when it comes to hybrid/multimedia works like video-games and clarified those aspects of video-games which it is clear *are* protected under the current regime; now it is time to turn to those aspects whose protection is less clear. We have already identified some of these: graphic user interfaces (GUIs), programming languages, data structures and 3D models. All of these could potentially be protected under the InfoSoc Directive, the Software Directive, the European Patent Convention, or some combination of the three. As we have suggested – they straddle these boundaries uncomfortably. At best this potentially leads to legal inconsistency, but at worst it could create binary discrepancies in outcome amongst European courts. In order to evaluate these issues, we will therefore cast our net more widely to consider other areas of European intellectual property law which could potentially fill these gaps. In particular, these include: the 1996 Databases Directive⁷⁵ and the 2002 Community Design Regulation⁷⁶.

1.4.1 GUIs, Programming Languages, Data Structures

Graphic user-interfaces, programming languages, and data structures are all “hybrid media” of the kind which defy simply categorisation. GUIs for instance, which makeup the visual display with which the end-user interacts clearly contain graphic elements (e.g icons, cursors, etc) but are embedded as part of the fundamental operations which allow the program’s code to run. This is a particularly significant issue for video-games where often the entirety of the program’s utility is in the user’s interaction with the GUI⁷⁷. Similarly, when we talk about

⁷⁴ For example, in 2014, 95% of UK video-games companies were micro or small businesses. UKIE (The Association for UK Interactive Entertainment).

⁷⁵ European Union, ‘Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases’, *Official Journal of the European Union*, 27.3 (1996), 20–28.

⁷⁶ Council of the European Union, *Council Regulation (EC) No 6/2002 of 12 December 2001 on Community Designs*, *Official Journal L 003*, 05/01/2002 P. 0001 - 0024; (OPOCE).

⁷⁷ Although one might separate the HUD (heads-up display) from the 3D rendered world in a game like Call of Duty, how would one distinguish the GUI from the game itself in a 2D game like pacman or space invaders?

programming languages – the various different systems of instructions a programmer can use to translate their instructions into the series of binary switches which operate a processor – it is hard to say whether these are better considered analogous to constructed languages and should be excluded from copyright protection⁷⁸, or are simply unique ways of expressing the idea underlying the code and therefore should be protected. Much the same can be said of data structures – which define the specific organisation of how data is stored and utilised by the code – with the added wrinkle that this could potentially engage the *sui generis* protection available for databases.

The first case where the CJEU had to deal with this issue was the *BSA* (2010)⁷⁹ reference from the Czech Republic on the correct interpretation of the Software Directive. In that case, the Supreme Administrative Court sought to ascertain whether a “graphic user interface” (GUI) could be considered an “expression in any form of computer program”, as under the Directive. In following the opinion of the Advocate General, the Court preferred an interpretation of this term restricted to those expressions which permit reproduction in difference coding languages (ie. the source code and the object code), “from the moment when its reproduction would engender the reproduction of the computer program itself, thus enabling the computer to perform its task”. Since a graphic user interface does not enable reproduction of the computer programme, but rather constituted merely one element of that program by which the user would make use of the features of the program, it was therefore not a form of expression of a computer program⁸⁰.

This decision was followed in the seminal *SAS v World Programming* (2012)⁸¹ case, this time on reference from the UK. SAS had developed a software package for data processing and statistical analysis which could be adapted for user’s own applications using scripts written in a programming language peculiar to the SAS system. WPL had sought to produce a competing product reproducing the functionality of the original SAS program as closely as possible and which would be compatible with these “SAS language” scripts. In doing so, it did not access the original source code, but did make use of a “learning edition” supplied under licence, and SAS’ written manuals. Setting to one side the issues of the copyright in the manuals, and the issues surrounding decompilation of the licenced programme for the

⁷⁸ For an interesting example where the issue was actually litigated, consider the Klingon language case - *Paramount Pictures Corporation et al v. Axanar Productions, Inc. et al* (2:15-cv-09938), California Central District Court

⁷⁹ Court of Justice of the European Union (Third Chamber), *Bezpečnostní softwarová asociace – Svaz softwarové ochrany v. Ministerstvo kultury* C-393/09, 2010.

⁸⁰ The assumption from the court here seems to have been that an *Infopaq* interpretation of Art.1(2) InfoSoc Directive would mean that so long as it satisfied the requisite standard of “originality”, a GUI might nevertheless be protected as a copyright work in its own right.

⁸¹ *Tom Kabinet v Groep Algemene Uitgevers* Case C/09/492558 / HA ZA 15-827, 2017.

moment, the main issue that Arnold J was referring to the CJEU was essentially the question of how the “idea-expression” dichotomy was to be interpreted. Following the *BSA* case, the CJEU concluded that just as with the GUI, that “programming languages” and the “format of data files” do not constitute a form of expression of that program for the purposes of Art. 1(2) of the Software Directive.

However, it is when we reach the last part of this decision where the difficulty arises. For, in both cases, the Court did not simply end their discussion with this apparently clear division. Namely, that under the Software Directive source and object code “expressions” were protectable; whereas the “ideas” represented by programming languages, GUI’s and data structures were not. Instead, the court proceeded to extend the line of caselaw developed in *Infopaq*⁸² to consider a further potential method of protection. As we have already mentioned, *Infopaq* had established that copyright could subsist under Art. 1(2) of the InfoSoc Directive in as little as eleven words where these represented the “intellectual creation of their author”⁸³. As such, in both the *BSA* and the *SAS* decisions, the Court emphasised that even works which did not fall squarely within the Software Directive, could nevertheless be covered by the subsidiary InfoSoc regime. This may seem uncontroversial to continental readers, who are accustomed to conceiving of copyright subject matter as an “open” as opposed to “closed list”⁸⁴. However, for common lawyers, such an attitude was almost heretical⁸⁵, opening up confusing possibilities for legal uncertainty⁸⁶. It is worth noting, that when applying the CJEU’s opinion to the case at hand, neither Arnold J, nor the Court of Appeal chose to accept the “originality” threshold as having been satisfied by either the “programming language” or the “data formats”⁸⁷. As such, although European law might seem to permit protection of these intellectual creations where they appear in videogames, it is unclear whether national courts are willing to accept this interpretation.

In the case of these latter two categories of work, legislative reform may be necessary in order to convince national regimes that “data structures” and “programming languages” should be worthy of protection. The continued uncertainty whether the court intended to harmonise the definition of subject matter throughout the EU or not means that these types of work could

⁸² Court of Justice of the European Union (Fourth Chamber), *Infopaq International v Danske Dagblades Forening* C-5/08.

⁸³ A term later specified in the *FAPL* (2011) and *Painer* (2011) decisions to include situations where there existed scope for the author to exercise “free and creative choices”.

⁸⁴ Tanya Frances Aplin and Jennifer Davis, *European Intellectual Property Law: Text, Cases and Materials*, Second (Cambridge: Oxford University Press, 2013).pg. 63

⁸⁵ E.g See for a discussion, Stephen Voudsen, ‘Infopaq and the Europeanisation of Copyright Law’, *The WIPO Journal*, 1.2 (2010), 197–210. who accuses the court for judicial law-making.

⁸⁶ For a principled response to some of these criticisms, see International Federation of the Phonographic Industry, ‘IFPI Global Music Report 2017’, 2017 <<http://www.ifpi.org/downloads/GMR2017.pdf>>.

⁸⁷ Court of Appeal (Civil Division), *SAS Institute Inc v World Programming Ltd*, [2013] EWCA Civ 1482, 2013.

receive protection in some jurisdictions and not others. By contrast, the concurrent protection solution preferred by the AIPPI⁸⁸ for GUI's seems acceptable, if unpalatable. Similarly, to our conclusion for pure code, it seems appropriate that the inventive elements of such products be protectable by patents, and the creative elements protected by copyright law. However, considering that Community Design protection will also subsist⁸⁹, I would argue that the latter solution is probably preferable in this context, since this regime is more roundly targeted at creations with this combination of artistic and utilitarian function. Nevertheless, when one further considers the probable subsistence of trademarks in these products, a single IP right solution is made only more untenable. Clarification on this issue, by removing the exclusion of computer programs from the EPC and Art.1(b) of the Design Directive would be the simplest place to start.

1.4.3 3D Models

Next, there is the issue of 3D models. Not only are these some of the most expensive and time-consuming elements of video-game production, but they form the major part of a player's first impression and "feel" to a video-game. Nevertheless, the exact manner in which these core features of multi-million-dollar productions are protected by intellectual property law remains uncertain. Unlike those types of subject-matter we discussed in the previous section, all of whose commercial value is intrinsically tied up with the code they are embedded in, 3D models can have a separate economic significance outside the context of the programs they are utilised in. For, in our discussion of 3D models here we include any series of reference points which can be compiled (for example in a CAD file) to render: landscapes and buildings in a 3D environment, but also characters, creatures and objects, physical models of which have traditionally been popular sources of merchandise. Just as with GUIs and Programming languages, the hybrid nature of 3D models means they sit at the potential juncture between copyright, patent, design, and database law.

Nowhere has this tension become more evident than in the recent controversy surrounding 3D printing. Silverman⁹⁰ has explored a number of ways in which intellectual property law might be engaged to protect the digital design file for the 3D model (for example a CAD file).

⁸⁸ Ralph Matheson, Sarah; Osha, Jon; Verschuur, Anne Marie; Inui, Yusuke; Laakkonen, Ari; Nack, *Protection of Graphical User Interfaces - Summary Report*, AIPPI, 2017.

⁸⁹ Since the definition under Art. (1)(b) (including "parts intended to be assembled into a complex product, packaging, get-up, graphic symbols and typographic typefaces") was agreed by most of the national reports to include GUIs. As this proposition is even more likely in the case for 3D models, we discuss this in more depth in the following section.

⁹⁰ Iona Silverman, 'Optimising Protection : IP Rights in 3D Printing What Is 3D Printing ? Problems Caused by 3D Printing Counterfeit Goods', *European Intellectual Property Review*, 38.1 (2016), 5–10.

Starting with copyright law, she notes that Berne Convention⁹¹ already envisages protection for “three-dimensional works relative to geography, topography, architecture or science”. Nevertheless, she considers that the digital file might better be considered a computer program within the meaning of Art. 1 of the Software Directive. Her argument is that the design file should be protectable as such, and that therefore direct copying of the digital file (for instance by peer-to-peer sharing) should amount to infringement just as it would to share a digital copy of a book or a film. As we have already seen with *Infopaq*, such protection would arise so long as the model is the author’s own intellectual creation⁹². Although this will be simple to satisfy in those situations where the model has been consciously designed, Mendis⁹³ points out that this may not be so where the file is produced by scanning a pre-existing object. These sorts of concerns are particularly pertinent in the video-game context where it is no longer unusual to use 3D scans of real-world environments and actors in order to create realistic environments and characters. Whereas it is clear that non-incidental reproduction of an architectural work as a photograph, for instance, may be prohibited by copyright law⁹⁴, it is not always clear how this applies to videogame environments where exploration of the artificial world could be a central focus. Similarly, suggestions that motion-capture recordings of dance might evidence copyright inherent in the original performance⁹⁵ make the status of an actor’s motion-captured performance in a video-game now ambiguous.

As such, Silverman goes on to question whether 3D models might be considered artistic works: either as a photograph, a sculpture, or what the English would call a “work of artistic craftsmanship”⁹⁶. This is a compelling proposition. Certainly, in the *Painer*⁹⁷ case, the ECJ seemed to accept that even portrait photographs presented opportunities to make “free and creative choices” sufficient to express the personality of the photographer. It is therefore very easy to imagine that a court could accept a graphic design who “sculpts” their model from grey cubes in a 3D modelling program is similarly making “free and creative choices”. However, this again could prove tricky in the case of 3D scanners – since it is different to see the ways

⁹¹ Op Cit, Art.2(1)(1)

⁹² Court of Justice of the European Union (Fourth Chamber), *Infopaq International v Dankse Dagblades Forening* C-5/08.

⁹³ Dinusha Mendis, “‘Clone Wars’ Episode II — The Next Generation: The Copyright Implications Relating to 3D Printing and Computer-Aided Design (CAD) Files”, *Law, Innovation and Technology*, 6.2 (2014), 265–82.

⁹⁴ Although the CJEU have yet to deal with this issue head-on, conventional wisdom (e.g Lionel Bentley and Brad Sherman, *Intellectual Property Law*, 4th Ed. (Oxford, United Kingdom: Oxford University Press, 2014)., pg 145 suggests that the InfoSoc Art. 2 definition of reproduction by “any means and in any form” supports this sort of “technologically neutral” approach.)

⁹⁵ Francis Yeoh, ‘The Value of Tangible Evidence of Dance Works in Copyright Litigation: Part One’, *Entertainment Law Review*, 25.3 (2014), 86–92.

⁹⁶ See the debate surrounding this issue in the United Kingdom Supreme Court, *Lucasfilm Ltd & Ors v Ainsworth & Anor* [2011] UKSC 39 (27 July 2011), 2011. case

⁹⁷ Court of Justice of the European Union (Third Chamber), *Eva-Maria Painer v Standard Verlags GmbH, Axel Springer AG, Süddeutsche Zeitung GmbH, Spiegel - Verlag Rudolf Augstein GmbH & Co KG, Verlag M. DuMont Schauberg Expedition Der Kölnischen Zeitung GmbH & Co KG* C-145/10.

in which such a scan could involve such choices. Nevertheless, what is clear is that the originality threshold is not necessarily very high – if one is able to make “free and creative choices” in the lighting, angle, composition, etc of a portrait photograph, it seems plausible to imagine that analogous methods in the way one performs a 3D scan could similar come to be recognised as artistic choices.

Second, one should consider the application of design protection. In Europe, this area of law is governed by the 2001 Community Designs Regulation which protects “lines, contours, colours, shape, texture”⁹⁸, etc. where they have “new and individual character”⁹⁹. This would at first seem very promising: registered designs are valid for up to 25 years¹⁰⁰, and even unregistered designs are protected for 3 years¹⁰¹, giving the designer the right the exclusive right to use it and to prevent any third party not having his consent from using it¹⁰². However, critically, the protections offered by the regulation only apply to designs which have been incorporated as part of a “product”. This is fairly broadly drafted so as to include “any industrial or handicraft item ... parts intended to be assembled into a complex product, packaging, get-up, graphic symbols and typographic typefaces” but crucially “excluding computer programs”. I would argue that in order to produce a consistent definition of the phrase “computer program”, following *SAS v World Programming* this now includes only “pure” software, and mixed products like videogames would fall outwith the definition, and not be excluded as “products”. However, it seems reasonably safe to assume that any argument that 3D models form part of the overall “product” of a digital videogame would be discarded out of hand, should videogames be considered included within the definition of “computer program” in the design law context. This is regrettable, since the relevant factors which are taken into consideration for the validity of, say a clothing pattern, are very similar to those which one would like to be relevant in the protection of 3D models. Both somewhat straddle the boundary between the purely artistic form (copyright), and the purely industrial function (patents). As such, the compromises settled on for designs (in particular, the relatively short duration of validity) would be rather well suited for 3D models as well. Nevertheless, the EUIPO has indicated that computer icons¹⁰³ and web design¹⁰⁴ are accepted for registration, so it is likely that we will

⁹⁸ Art. 3(a)

⁹⁹ Art. 4(1)

¹⁰⁰ If they are renewed every 5 years from the date of filing, Art. 12

¹⁰¹ Art. 11(1)

¹⁰² Art. 19

¹⁰³ ‘Design Definition - Computer Icon’ <<https://euipo.europa.eu/eSearch/#details/designs/000600184-0008>> [accessed 4 January 2018]. It is notable that these are now included under Class 14.04 of the Locarno Classification for “Recording, communication or information retrieval equipment > Screen Displays and Icons”

¹⁰⁴ ‘Design Definition - Web Design’ <<https://euipo.europa.eu/eSearch/#details/designs/001100598-0009>> [accessed 4 January 2018].

see this area of law expanded. In any event, amendment to the regulation which makes this solution more evident would be most welcome.

Third, one might want to consider whether these files could be considered “compilations of data”/databases on the basis that 3D model files are in some sense just a collection of data points or spatial “coordinates” - under either Art. 1 or Art. 7 of the Database Directive. The first of these provisions requires a “collection of independent works, data or other material”. In the *Fixtures Marketing*¹⁰⁵ case the CJEU made clear that “the term database as defined in the directive [should be given] a wide scope, unencumbered by considerations of a formal, technical or material nature.” As such, the fact that information in that case related to a sporting activity did not prevent a database from being recognised. Some have tried to extrapolate from this to the argument that there is no reason why multimedia works or works like MIDI files should not be protected as databases¹⁰⁶.

However, I would tend to disagree. Not only does this hugely broaden the scope of copyright protection which was only intended to ensure fair reimbursement for information collection companies¹⁰⁷, but it is hard to reconcile from the CJEU’s further comments in *Fixtures* that “classification as a database is dependent, first of all, on the existence of a collection of ‘independent’ materials, that is to say, materials which are separable from one another without their informative, literary, artistic, musical or other value being affected.” Rather, I would argue that the “synthetic data” exhibited by 3D coordinates cannot be described as “independent” in this way; but rather are more analogous to the binary code by which digital sound recordings or films are stored¹⁰⁸. Second, for Art. 1 copyright protection for databases, the materials must be “arranged in a systematic or methodical way”. Again, in the *Fixtures* cases, the CJEU clarified that this criterion required that there be technical means for searching or other means, such as an index, table or contents, plan or classification to allow retrieval. As such, although linguistically there is no problem with saying that the 3D coordinates are arranged systematically to the extent that their arrangement by definition is what creates the shape of the model; it is much harder to see how they could be searched/indexed/classified.

Alternatively, in relation to the *sui generis* right under Art. 7, the requirement that the maker show that there “has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents to prevent extraction and/or re-

¹⁰⁵ *Fixtures Marketing Ltd v Organismos prognostikon agonon podosfairou AE (OPAP)*, Case C-444/02, CJEU (Grand Chamber), 9 November 2004

¹⁰⁶ Bentley L and Sherman B, *Intellectual Property Law* (4th Edition, Eds.), Oxford University Press, Oxford, 2014, pg. 69

¹⁰⁷ Recitals (7) – (12) Database Directive

¹⁰⁸ Excluded by Recital (16) Database Directive

utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents”. In the context of graphic designers, gainfully employed to produce 3D models on an industrial level it is hard to disagree that this investment criteria is not met. However, once again, when it comes to 3D scanners; beyond the decreasing degree of technical skill required to go from original object to replica, it is difficult to identify the “substantial investment” envisaged by the recitals. I would tend to agree with those commentators who suggest that rather than “discovering and recording” data, 3D scanners very much “create” these data points – this should not be considered data acquisition.

Finally, we might consider the prospect of patent protection. In this regard, it is more difficult to see how 3D models themselves might be sufficiently inventive; granted that the methods for producing them or re-rendering them might obviously qualify. However, Ballardini and Norrgård¹⁰⁹ note that the intersection between a model per se, and its use as an invention might not always be so clear. In particular, they analyse the *ClearCorrect*¹¹⁰ (2015) case in which the relevant invention was a system that produced 3D models of patient teeth in order to create customised orthodontal aligners. Strictly speaking, the case was an issue of tariff law, after the US International Trade Commission brought a complaint, but the result turned on the definition of these models as either “articles” (which could be imported) or an abstract invention (which could not). The court’s conclusion that the CAD files in that case were *not* “articles” in many ways avoids the issue: it left open the possibility that 3D models could infringe an existing invention without having to expressly delineate the distinction. The authors rightly note that the question of whether 3D models, despite being intangible objects could amount to “means” of infringement under the European Patent Convention¹¹¹, for example, would be the same.

Instead, what should hopefully be clear from the preceding discussion, is that although there are a number of ways the courts could, and certainly should, protect some 3D models used in video-games; it is far from clear which of these methods should be preferred, and therefore which models would and would not satisfy the relevant criteria. In the opinion of the author, perhaps the simplest solution would be an amendment to the InfoSoc Directive, clarifying that “3D models are protected by copyright as artistic works where they represent the intellectual

¹⁰⁹ Rosa Maria Ballardini and Marcus Norrgård, ‘Digitising Patent Law: Challenges from 3D Printing Technologies’, *European Intellectual Property Review*, 38.8 (2016), 519–21.

¹¹⁰ United States Court of Appeals for the Federal Circuit, ‘Clearcorrect Operating, LLC, Clearcorrect Pakistan (Private), LTD., v. International Trade Commission, and Align Technology, INC.’, 2015.

¹¹¹ For a discussion on the varying approaches to “means” of patent infringement in national European systems see Axel Von Hellfeld, ‘Patent Infringement in Europe: The British and German Approaches to Claim Construction or Purposive Construction versus Equivalency’, *European Intellectual Property Review*, 30.9 (2008), 364–70. How this will be effected by the European Patent with European Effect remained speculative at the time of writing.

creation of the author”. This would therefore include those models artfully crafted by graphic designers slaving over tablets and computer monitors but exclude those 3D scans which amount to little more than slavish reproduction of objects already existing in the world. Nevertheless, it leaves room for 3D scans of existing objects where creative choices by the scanner could be analogous to those of a photographer/sculptor/etc. The alternative solutions in database and design protection, however fail to appropriately grasp the essentially artistic process of creating 3D models and that the protection these regimes provide would therefore sit poorly with the justificatory rationale underlying them. Here, certainly a “unitary” approach would seem to be preferable to the complex web of protections a “distributive” solution would create.

1.4.2 Streaming Output

Similarly confusing questions have arisen on the topic of videogame streaming – on platforms like twitch.tv and gaming.youtube which have also ballooned in popularity and profitability in recent years.¹¹² Here, we are discussing the situation where players combine the audio-visual output of a videogame with their particular inputs, some form of audio-visual commentary of their own and usually some kind of live interaction (such as a text chat) with their viewers.

Regardless of our interpretation of the *Nintendo* decision, in this context it seems safe to assume that the audio-visual elements being streamed will attract some form of intellectual property protection – whether as individual copyright works, or part of the videogame “as a whole” under the InfoSoc Directive. As we have already seen, such individual works could uncontroversially include elements like sound clips, dialogues, cinematic cut-scenes; but probably also the graphic user interface or 3D models. For example, there is little debate that a creator would be able to prevent me making a copy of a videogame’s soundtrack, voice recordings, and sprites, and upload these to YouTube without their permission. However, there is less certainty as to whether the unique combination of the streamer’s interaction with the game (and/or commentary) creates a separate work which should not be under the control of the original game creator. Generally, video game producers have chosen to avoid these issues by waiving their rights to prevent the former - providing permissive licence agreements that allow for reproductions of game footage¹¹³. The assumption here being that the publicity

¹¹² Nick Wingfield, ‘What’s Twitch? Gamers Know, and Amazon Is Spending \$1 Billion on It - The New York Times’, *New York Times*, 2014.

¹¹³ See for example: ‘Legal | Riot Games’ <<https://www.riotgames.com/en/legal>> [accessed 23 March 2018]., in particular “Riot Games Video Creation & Use Policy”; ‘Blizzard Entertainment: Blizzard Video Policy’ <<http://eu.blizzard.com/en-gb/company/legal/pt-pt/videopolicy.html>> [accessed 23 March 2018].; ‘Microsoft Game Content Usage Rules’ <<https://www.xbox.com/en-us/developers/rules>> [accessed 23 March 2018].; ‘Ubisoft Video Policy’ <<https://www.ubisoft.com/en-US/videopolicy.html>> [accessed 23 March 2018].; ‘Valve Video Policy’ <http://store.steampowered.com/video_policy> [accessed 23 March 2018].

streams and video content created was more valuable than charging for permissions which might not be preventable in any case¹¹⁴. By in large, this has prevented disputes arising which might otherwise have forced courts to define the scope of potential rights in the latter (the streamed combination of players interaction with the game). However, as the popularity of these streams have grown, some large producers have sought to more rigidly enforce their rights. In particular, Nintendo in 2013 upset the laissez-faire status quo by demanding a portion of the ad-revenue generated from user-uploaded videos based on their content¹¹⁵. As a result, legal scholars had to start seriously questioning exactly what sort of property might be being infringed, absent the licence, and in what way. In the US most of this discussion has centred on the “fair use” exception¹¹⁶ and whether the combination of commentary amounts to a “transformative” use. Such a general exception does not exist in the EU. Rather, one must analyse whether or not there has been a “communication to the public” under Art. 3(1)¹¹⁷ and whether this then falls within the exhaustive list of exceptions under Art. 5. These are not necessarily straightforward to dismiss.

Firstly, as regards “communication to the public”, the CJEU have made clear that the term should be interpreted broadly to guarantee a high level of protection and an appropriate reward for authors¹¹⁸. As such, the Court have accepted a very broad range of actions as potentially infringing. These include: ‘live streaming’ over the internet signals of commercial television broadcasters in the *ITV Catchup* (2013) case¹¹⁹; hyperlinking to unauthorised photographs freely available on another website in *GS Media* (2016)¹²⁰; and providing cloud services for the remote recording of private copies of cable television programmes in *VCAST v RTI* (2017)¹²¹. As such, in the case of videogame streaming it is very easy to envisage the Court would accept both a “communication” (since there is a “different means of transmission” of protected works¹²²) and a new “public” (since retail video gamer purchasers are replaced by internet video viewers) just as they did for the streaming of TV programmes in *ITV Catchup*.

¹¹⁴ Note the tendency to require the video/stream be freely accessible and the reservation of right to revoke permissions in circumstances where the video would be bad for publicity.

¹¹⁵ Jonathan Bailey, ‘Nintendo’s Copyright Blunder’, *Plagiarism Today*, 2015

<<https://www.plagiarismtoday.com/2015/04/09/nintendos-copyright-blunder/>> [accessed 6 January 2018].

¹¹⁶ For example Michael Larkey, Wed May and Heinonline Pdf, ‘Cooperative Play: Anticipating the Problem of Copyright Infringement in the New Business of Live Video Game Webcasts’, *Rutgers JL & Pub. Pol’y*, 13.1 (2015), 52.

¹¹⁷ Where the relevant copyright works are performances, phonograms, films or broadcasts, Art. 3(2) and the special concerns relating to “making available to the public” apply.

¹¹⁸ InfoSoc Directive Recital 23; Court of Justice of the European Union (Third Chamber), *Sociedad General de Autores y Editores de España (SGAE) v Rafael Hoteles SA* C-306/05, 2006. at [36]

¹¹⁹ Court of Justice of the European Union (Fourth Chamber), *Case C-607/11 ITV Broadcasting Ltd, ITV 2 Ltd, ITV Digital Channels Ltd, Channel 4 Television Corporation, 4 Ventures Ltd, Channel 5 Broadcasting Ltd, ITV Studios Ltd v TVCatchup Ltd*, 2013.

¹²⁰ Court of Justice of the European Union (Second Chamber), *Case C-160/15 GS Media BV v Sanoma Media Netherlands BV, Playboy Enterprises International Inc., Britt Geertruida Dekker*, 2016.

¹²¹ Court of Justice of the European Union (Third Chamber), *VCAST v RTI SpA* C-265/16, 2017.

¹²² At least as regards the audio-visual elements

For simplicity sake one might want to imagine the situation as analogous to an unlicensed radio broadcaster – just because one has purchased the original CD does mean that the purchaser has a right to make its contents available to whoever they wish.

This then begs the question of whether the streaming of “free-to-play” games should be treated differently - since viewers could theoretically download a full copy of the game themselves. As such, one could argue there is no new “public” – as the copyright content being used is available to anyone on the internet in both cases. I would however argue that this would not be the case. Rather, I would suggest that even in the context of communications on the internet the “different technical means” criteria established in *ITV Catchup* would continue to differentiate between the downloading of an interactive game and the viewing of recorded footage. What’s more, for a time it appeared the *GS Media* case had discarded the need for “indispensability” of the interference of the intermediate altogether¹²³, in favour of a definition of “communication to the public” dependent on the subjective motivations of the intermediate. Granted that this only applies in the context of links to unauthorised reproductions of copyright works, *Ziggo* (2017)¹²⁴ seems to reaffirm a definition of “communication to the public” which takes “into account several complementary criteria, which are not autonomous and are interdependent”¹²⁵ – including making access to the work simpler and having a profit-making intention¹²⁶. It is submitted that even though the intervention of the streamer does not seem “indispensable”, the profitmaking intention of the professional streamer in making an unauthorised treatment of the copyright works could nevertheless tip the scale in favour of a communication being found. Although in the context of amateur streamers, the opposite conclusion seems perfectly possible.

Concerningly, with the rejection of the exception for private copying (under InfoSoc Art. 5(2)(b)) in *VCAST* it is difficult to envision which of the other obligatory exceptions might apply in this case. Articles 5(3)(d), (i), and (k) would certainly seem relevant for streams where the game commentary is highly significant, but these are all included amongst those exceptions which Member States *may* but *need not* provide for. Moreover, they do not resolve the issue of whether the interaction between the streamer and the game creates a unique work which could not have been within the imagination of the creator, and therefore not an aspect of their

¹²³ Lyubomira Midelieva, ‘Rethinking Hyperlinking: Addressing Hyperlinks to Unauthorised Content in Copyright Law and Policy’, *European Intellectual Property Review*, 39.8 (2017), 479–88.

¹²⁴ Court of Justice of the European Union (Second Chamber), *Stichting Brein v. Ziggo BV* C-610/15, 2017.

¹²⁵ At [25]

¹²⁶ [26]: “Amongst those criteria ... the consequences of his action, to give his customers access to a protected work, particularly where, in the absence of that intervention, those customers would not be able to enjoy the broadcast work, or would be able to do so only with difficulty”

own intellectual creation. This brings with it all the uncertainty surrounding *Infopaq* and its effects which we discussed in previous sections – can gamers exercise sufficiently free and creative choices in their choice of inputs into the game? If we consider the analogy of games as “state machines” which provide the arena for use, but not the experience of play, then there is much to be said for awarding protection to the player rather than the game designer¹²⁷. Needless to say, some early commentators have begun to question further whether there might be fundamental/human rights implications to these unique types of cultural expression which should ensure audiovisual output in this context be protected as a form of speech¹²⁸. Alternatively, one might consider the potential for a new sort of exception that replicated the US “fair use” position.

With the continued growth of e-sports¹²⁹ disputes surrounding the precise scope of these rights seem only set to increase. It is therefore regrettable that the current proposals from the commission relating to online broadcasts do not refer to these problems¹³⁰. The closest the Commission come to this is Art. 13 of the proposed Directive on Copyright in the Single Market Directive¹³¹ on web services which store and provide access to user-uploaded content. The provision does little more than attempt to codify the definition of “communication to the public” after *Ziggo*. However, the position of Senftleben *et al*¹³² is that in this the provision has failed. Worse, it creates a ‘risk of considerably modifying the notion of “communication to the public”’. Instead, rather than seeking a solution by reference to the definition of “communication to the public”, a preferable solution would treat streamers analogously to radio/satellite/cable broadcasters and create a separate right which protects transformative efforts they make to use the underlying game system to create a unique form of entertainment. Such a protection should protect amateur streamers of multiplayer games, whose unique interactions with the game I would suggest do create an original form of speech that should be protected. However, when it comes to professionals, there remains a good rationale for allowing the original game creator to control - via licensing – the broadcasting of videogames. Not only do the traditional rationales of recouping on investment apply, but there is the added consideration that such transmissions could be taken as representations of an ongoing

¹²⁷ Boyden. (2011)

¹²⁸ Eirik Evert Elias Jungar, ‘Streaming Video Games: Copyright Infringement or Protected Speech?’, *Press Start*, 2016, 22–47 <<http://press-start.gla.ac.uk/index.php/press-start/article/view/63>> [accessed 6 January 2018].

¹²⁹ PWC, ‘E-Sports: Segment Findings: Global Entertainment and Media Outlook 2017-2021: PwC’ <<https://www.pwc.com/gx/en/industries/entertainment-media/outlook/segment-insights/e-sports.html>> [accessed 12 January 2018].

¹³⁰ European Commission, *Proposal for a Regulation Laying down Rules on the Exercise of Copyright and Related Rights Applicable to Certain Online Transmissions of Broadcasting Organisations and Retransmissions*.

¹³¹ European Commission, *Proposal for a Directive of the European Parliament and of the Council on Copyright in the Digital Single Market*.

¹³² Martin Senftleben and others, ‘The Recommendation on Measures to Safeguard Fundamental Rights and the Open Internet in the Framework of the EU Copyright Reform’, *European Intellectual Property Review*, 40.3 (2018), 149–63.

marketed service which those creators provide – in the form of game servers, matchmaking services, etc. It therefore seems appropriate that they should (absent those considerations we have already addressed) continue to have the final say on distribution of those elements of the work which attract copyright protection – either individually or as some hybrid whole.

1.5 What is definitely not protected? Gameplay. Videogames as a whole?

On the opposite end of the debate to GUIs, 3D models and videogame streams – which I have suggested probably could be protected under the existing IP regime, the question is simply *how* – with the concept of “gameplay” we have a different problem. Here we are considering the underlying rules and systems which a game’s code seeks to implement. The problem we face here is that the prevailing IP system seems to categorically *exclude* such protection outright. Looking at concepts like the “idea-expression” dichotomy in copyright, or the general tendency of patent systems to exclude methods of performing mental acts, doing business or playing games¹³³, for example - the ability to copy ideas in a new form or context, is pointedly *encouraged* by the regime.

There are a number of reasons for this, which relate directly to theoretical debates on the underlying justifications for intellectual property in general. These include “utilitarian/law and economics” concerns about a “tragedy of the anti-commons”¹³⁴ and “natural rights/personality theory” worries about preventing self-actualisation¹³⁵. Nevertheless, Yin Harn Lee in her return to the question of sui generis protection for gameplay¹³⁶, suggests that these do not by themselves “nullify the case for protecting gameplay through copyright; instead, it merely emphasises the need for careful balancing of the interests of existing videogame developers against those of subsequent developers and the public at large – a task with which judges accustomed to dealing with copyright cases will be familiar”. She considers the evidence that even under these traditional theories, it may no longer be competitive to innovate on gameplay. For instance, she highlights the general trend of videogames to prioritise other aspect of gamer’s experiences: by improving photorealistic graphics quality, hiring famous

¹³³ World Intellectual Property Organisation (WIPO), ‘Certain Aspects of National/Regional Patent Law (6) Exclusions from Patentable Subject Matter Country/’, 2017
<http://www.wipo.int/export/sites/www/scp/en/national_laws/exclusions.pdf>.

¹³⁴ The term originally coined by Heller in his 1998 article in the Harvard Law Review, has led to the growth of an entire field of study, recently summarised by the same: Michael Heller, ‘The Tragedy of the Anticommons: A Concise Introduction and Lexicon’, *Modern Law Review*, 76.1 (2013), 6–25.

¹³⁵ See further - Justin Hughes, ‘The Philosophy of Intellectual Property’, *Georgetown Law Journal*, 77.c (1988), 287–365.

¹³⁶ Yin Harn Lee, ‘Play Again? Revisiting the Case for Copyright Protection of Gameplay in Videogames’, *European Intellectual Property Review*, 34.12 (2012), 865–74.

actors to provide voice-acting¹³⁷; and the overwhelming dominance of sequelized games¹³⁸. What's more, without protection for this core element of the dispute, the prospect of expensive litigation is often too risky for these smaller developers. In Law and Economics terms, Landes and Posner¹³⁹ would call this a failure of "allocative efficiency" to recoup their costs of research and development. The AAA publisher is able to "free ride" on the investment of the indie-developer. Moreover, she emphasises the recurring issue that those companies which are often the most innovative tend to be the smaller, less well-funded, and less well-diversified as their "AAA" competitors; meaning they are more vulnerable to collapse if their projects are "cloned"¹⁴⁰. That is – the perceived problem in the video game industry of predatory development companies slavishly copying existing games but attempting to rely on cheap "reskins" of the visuals and naming so as to try and avoid copyright liability.

As to the question of whether copyright in gameplay itself could resolve this issue, Lee argues the critical issue would be simply ensuring that the elements of gameplay which are protected are framed a sufficiently detailed level of specificity. She compares the debate surrounding video-game mechanics to earlier debates about the protection of television formats. She notes that, in those jurisdictions where television formats are protected, the key prerequisite to such protection is that the format concerned be "sufficiently developed and executed". For example, in the *Endemol v TV-SBT*¹⁴¹ in Brazil where the court held that the format of the reality TV show "Big Brother" was protectable as the format did not presume to cover all instances of spying on people locked up in a house, but rather extended to encompass extensive details such as the arrangement of the participants rooms, the placement of cameras, the use of microphones, the kind of music used, the nature and the extent of the participants' contact with the outside world, their activities and so on. To this we might add the Dutch case of *Endemol v Castaway*¹⁴² where the Dutch Supreme Court accepted that the format of the "Survivor" television show was protectable as a copyright work as a result of its unique combination of elements. Lee's suggestion is that the question of protection for videogame gameplay ought to be treated the same way. That is, that should game features/mechanics be capable of being framed at a sufficient level of specificity, it should

¹³⁷ 'Why Video Games Are so Expensive to Develop - The Economist Explains', *The Economist*, 2014.

¹³⁸ For instance, in the US 18/20 of the best-selling games by copies, were some form of sequel according to the Entertainment Software Association, '2016 Essential Facts About the Computer and Video Game Industry', 2016.

¹³⁹ Landes and Posner. (2003)

¹⁴⁰ Mendis. (2013)

¹⁴¹ Unreported, 2004, Brazil. See Leonard Glickman, 'Deal or No Deal: Copyright Protection in Television Formats - Lexology', *Lexology*, 2011 <<https://www.lexology.com/library/detail.aspx?g=3e6e332d-5e26-4726-abb0-013a56901bcf>> [accessed 8 January 2018].

¹⁴² *Castaway Television Productions and Planet 24 Productions v Endemol*, Unreported Dutch Supreme Court, April 16 2004; see Carolina Gorissen, Bart Jan; Cunha João; Freire, 'Television Format Protection: Global Issues under the Spotlight in Brazil', *Entertainment Law Review*, 26.8 (2018), 281–86.

remain possible that they be considered “expressions” and not simply mere “ideas”. Moreover, the focus on the unique *combination* of elements means that the extent of similarity between original games and their potentially infringers can be assessed globally. As such, it will rarely be possible to make out a case that there has been copying of a substantial part of the earlier videogame where the shared elements are commonplace ones; which would go some way to allaying fears from producers that extending IP protection to gameplay risks giving large companies effective monopolies over fundamental mechanics like running and jumping. Her conclusion is therefore to create a new copyright category comparable to that for “audiovisual works” in the US.

With respect, it is considered that this is not the optimal solution. To begin with, as Lee herself identifies the US approach in cases like *Atari v North American Philips Consumer Electronics*¹⁴³ has proven itself to put too much emphasis on the visual and audio similarities of the games, rather than the gameplay. Moreover, in one of the only cases in which gameplay *per se* was protected under this authority – *Tetris Holdings v Xio*¹⁴⁴ - the court was at pains to emphasise that the defendants could have escaped liability if there hadn’t been *exact* copying¹⁴⁵. It seems Xio in that case were rather sabotaged by the testimony of their expert witness that the playing field in dispute could have been designed “in an almost unlimited number of ways”. What’s more, the case has been criticised in the US¹⁴⁶ for failing to adequately account for the “scènes à faire” doctrine under US law which exempts elements of a genre which have become such standard tropes or clichés that they are almost essential to creating works in that genre. It would seem that US law only intervenes in the most egregious cases of direct copying of game mechanics.

As such, the opinions of commentators like Corbett¹⁴⁷ and Rosati¹⁴⁸ are to be preferred. They argue that Lee did not have the advantage of the *Nintendo v PC Box*¹⁴⁹ decision when writing her article and that as such, underestimated the trend away from closed subject-matter based systems of copyright towards the more generalist “author’s own intellectual creation” approach

¹⁴³ United States Court of Appeals (7th Circuit), *Atari, Inc. v. North American Philips Consumer Electronics Corp.*, 672 F.2d 607 (7th Cir. 1982).

¹⁴⁴ United States District Court for the District of New Jersey, *Tetris Holding, LLC v. Xio Interactive, Inc.*, 863 F. Supp. 2d 394, 2012.

¹⁴⁵ *Ibid*, at [413]

¹⁴⁶ E.g Sam Castree, ‘A Problem Old as Pong: Video Game Cloning and the Proper Bounds of Video Game Copyrights’, *SSRN Electronic Journal*, 2013.

¹⁴⁷ Susan Corbett, ‘Videogames and Their Clones – How Copyright Law Might Address the Problem’, *Computer Law & Security Review*, 32 (2016), 615–22.

¹⁴⁸ Rosati. (2014)

¹⁴⁹ Court of Justice of the European Union (Fourth Chamber), *Nintendo Co. Ltd, Nintendo of America Inc., Nintendo of Europe GmbH v PC Box Srl, 9Net Srl, 9Net Srl C-355/12*.

expressed in *Infopaq*¹⁵⁰. Rosatti, for instance, goes so far as to say that the “distributive approach” we discussed in section 1 is simply no longer compatible with EU copyright law. That rather, the CJEU has “de facto” harmonised the notion of “work” such that it would have no problem providing for complex works like videogames. Instead, one might be able to find protection for gameplay in a new category of works which protect the complex of the product as a whole. Corbett does not go quite this far – recognising the possibility that such a harmonisation may have taken place but preferring to recognise both the practical and theoretical problems with a new category of work for videogames. In particular, she identifies the difficulty with this solution of creating adequate conceptual boundaries for what amounts to a “videogame”¹⁵¹. Noting the division between “narratologists” and “ludologists” in digital humanities theory and the continued inability of those specialists to conceive of a single coherent category for videogames, I would argue there is considerable wisdom to her suggestion that “if digital humanities specialists are unable to conceive of [such a category], it is unlikely that the courts and legislatures will be able to do so” (!).

In addition to this, we might want to add that it is not entirely clear whether “cloning” should be considered to have been damaging to the industry or not. On the one hand, it is natural that videogame producers will complain about “digital plagiarism” when they see their works being copied. However, empirical data on the “health” of the industry is hard to compare: by most accounts videogaming and esports are a star on the rise, which are seeing continuous steady growth year on year¹⁵². As Grimmelmann puts it: weak or nonexistent protection for gameplay mechanics might be essential to allow innovations in gameplay to filter through the industry quickly¹⁵³. On the other, anecdotal accounts of egregious copiers bankrupting indie developers

¹⁵⁰ Court of Justice of the European Union (Fourth Chamber), *Infopaq International v Danske Dagblades Forening* C-5/08..

¹⁵¹ If any categorisation of gameplay is to be done, this author prefers the analysis of Boyden (2011), that games should be seen as “state machines” – “shells into which users pour meaning” and that on this footing there is an argument even from first principles that the gameplay core of videogames should remain uncopyrightable independently.

¹⁵² See, again, Entertainment Software Association, ‘2017 Sales, Demographics and Usage Data: Essential Facts about the Computer and Video Game Industry’, 2017 <http://www.theesa.com/wp-content/uploads/2017/09/EF2017_Design_FinalDigital.pdf>., ‘Video Games: Segment Findings: Global Entertainment and Media Outlook 2016-2020: PwC’ <<http://www.pwc.com/gx/en/industries/entertainment-media/outlook/segment-insights/video-games.html>>., PWC.

¹⁵³ James Grimmelmann, ‘Copyright and the Romantic Video Game Designer’, 2012 <<http://prawfsblawg.blogs.com/prawfsblawg/2012/02/copyright-and-the-romantic-video-game-designer.htm>> [accessed 12 January 2018].

are a mainstay of modern videogame journalism¹⁵⁴. Moreover, concerns that the cloning has led to a creativity deficit¹⁵⁵ is nothing if not subjective.

In this regard, the proposal by WIPO that videogames might be better regulated as a *sui generis* regime, comparable to databases¹⁵⁶, seems increasingly attractive. Not only would this allow us to democratically determine the boundaries of creativity which warrant protection of these sorts of works, but might simultaneously also avoid some of the problems of term length and multiple creators experienced under the current regime. Alternatively, the comparison with television formats invites the question whether self-regulation (such as the FRAPA registration system for television formats¹⁵⁷) might not also be sufficient for gameplay mechanics. Whether this sort of “contractualisation” of copyright law is possible or desirable will form the subject of discussion in Part 2.

1.6 Interim Conclusion

In this Part, I presented a taxonomy of videogames in order to highlight the potential problems created by such complex multimedia works. I suggested that of the two potential solutions to these issues – the “unitary” and “distributive” approach – Europe continues to embrace the latter, even if the CJEU might have liked to impose the former. This being the case, we have identified a number of ways in which EU copyright law at present fails to appropriately provide for videogames. First, I argued that the historic decision to attempt to protect computer code with copyright exclusively was ill-conceived; and that the practical result of the caselaw (that it finds concurrent protection in copyright as well as patent law) creates unnecessary confusion and potential for legal uncertainty. Instead, the overlap should be recognized explicitly by the legislation. Second, I suggested that there remain a number of videogame elements which straddle the border between the Software Directive and the InfoSoc Directive (GUIs, programming languages, and data structures) and here a solution which accepts both the inventive and creative aspects of these works would be preferable. Further, I proposed that the uncertainty surrounding the protection of 3D models should be resolved in favour of explicitly recognizing such creations as copyright works; and that the problem of whether

¹⁵⁴ For example see the controversy surrounding the “flappy bird” game for iOS: Paul Tassi, ‘Over Sixty “Flappy Bird” Clones Hit Apple’s App Store Every Single Day’, *Forbes Magazine*, 2014

<<https://www.forbes.com/sites/insertcoin/2014/03/06/over-sixty-flappy-bird-clones-hit-apples-app-store-every-single-day/#1936069a68f5>> [accessed 3 October 2017]. itself alleged to be a copy of a pre-existing game: Patrick O’Rourke, ‘Flappy Bird Is the Ultimate Mobile Game Ripoff – Canada.com’, 2014 <<http://o.canada.com/technology/gaming/flappy-bird-is-the-ultimate-mobile-game-ripoff>> [accessed 3 October 2017].,

¹⁵⁵ For example, predominance of sequels, reboots and “reskins” of existing franchises amongst the most popular videogame titles. Consider, for example that 36/63 of Forbes Magazine’s most anticipated games of 2018 are sequels, remakes or part of an existing franchise.

¹⁵⁶ Ramos and others. (2013), Conclusions, pg 95

¹⁵⁷ See <https://www.frapa.org/>

videogame “streams” should be considered a new type of copyright work is not an issue which will be resolved by exegesis of the “communication to the public” provisions. Rather, attention should be paid to the particular context of the stream – to create permissive exceptions for amateurs and broadcaster-analogous restrictions for professionals. Third, we considered whether the problem of videogame “clones” implies that we should recognise either protection for gameplay *per se* or videogames as a new category of complex work. It was suggested that both such suggestions should be rejected. Rather, it is proposed that videogames are in some sense “greater than the sum of their parts” - that the different rationales underlying the fragmented aspects of videogames justifies a complex of overlapping concurrent protections. That although the unitary approach presented by the CJEU is very tempting in its simplicity; more fundamental reform would be necessary – in the shape of a democratically debated *sui generis* right for videogames – in order to achieve this unification.

2. PWR UP: Do the rules governing IP enforcement mechanisms allow for an unwarranted extension of IP protection when it comes to videogames?

I am far from the first commentator to have noticed that the current intellectual property system in Europe does not adequately accommodate for videogame creators. Figures suggest that 90% of all games in EU circulation are pirated¹⁵⁸ resulting in more than that £1.45B of lost revenue in 2010 alone¹⁵⁹. At the same time, the average cost of game development has more than doubled in the last console transition¹⁶⁰; meaning videogame producers have felt keenly that the current intellectual property regime in Europe has been failing them. As such, they have looked to alternative solutions for protecting their rights in their works. Foremost amongst these, technical protection measures (TPMs) and digital rights management (DRM) more broadly have become almost ubiquitous amongst the mainstream videogame industry. Whereas intellectual property law has generally sought to compensate creators for the damage they suffered as a result of illegitimate copying *ex-post* – in the form of civil remedies and remuneration for breaches¹⁶¹ - DRM and TPMs seek to prevent such would-be copiers *ex-ante*. That is, by preventing the copying taking place at all. Since these inherently act to inhibit economic behaviour at an earlier stage, there is a real danger that this “substitute for legal standards”¹⁶² has become overly extensive – preventing legitimate behaviour that on a balance of arguments courts and legislators have deemed acceptable.

This concern is especially pressing considering that, in a concession to producers ravaged by piracy, the WIPO Copyright Treaty requires that contracting parties “provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights”¹⁶³. As such, InfoSoc Art. 6 reproduces this obligation almost verbatim. Similarly, Article 7 of the Software Directive requires Member States to provide “appropriate remedies” against a person who puts into circulation “any means the sole intended purpose of which is to facilitate the unauthorised removal or circumvention of any technical device which may have been applied to protect a computer program” (such as the “Mod chips” at stake in the *Nintendo* case). In this Part, we will question whether the expansion DRM protection and other enforcement

¹⁵⁸ Gamasutra, ‘Clone Wars: The Five Most Important Cases Every Game Developer Should Know’ <http://www.gamasutra.com/view/feature/187385/clone_wars_the_five_most_.php>.s

¹⁵⁹ Tamsin Oxford, ‘The Truth about PC Game Piracy | TechRadar’, 2010 <<http://www.techradar.com/news/gaming/the-truth-about-pc-game-piracy-688864>> [accessed 6 October 2017].

¹⁶⁰ Develop, ‘Interview: Krome’s Robbery Walsh’, 2009 <<http://www.develop-online.net/analysis/interview-krome-s-robert-walsh/0116445>> [accessed 6 October 2017].

¹⁶¹ For example, Art. 8(1) and 5(2)(b) InfoSoc Directive

¹⁶² Dan L. Burk, ‘Legal and Technical Standards in Digital Rights Management Technology’, *SSRN Electronic Journal*, 2005.

¹⁶³ Art 11., WIPO, *WIPO Copyright Treaty (WCT)* (World Intellectual Property Organization, 1996), pp. 1–9. Similar provisions exist under the WIPO Performances and Phonograms Treaty – Articles 18/19

mechanisms like “click-wrap” licensing regimes have unduly broadened the range of activities which a videogame producer can prevent their users from engaging in. In particular, I will suggest that this trend has caused the erosion of the “exhaustion” principle (which facilitates a market for second-hand goods within the internal market) and ought to be reversed.

2.1 What is DRM and what are TPMs?

It might be useful to start by defining in a technical sense what it is that we mean by the terms DRM and TPM. In this context, we will adopt the distinction proposed by Yu¹⁶⁴ that whereas technical protection measures focus “narrowly on mechanisms used to protect copyrighted content, such as passwords, encryption, digital watermarking and other protection techniques”, DRM refers to “a larger set of technological tools that do not only protect content but also monitor consumer behaviour”. The former has therefore historically included controversial measures like the “Lenslok system”¹⁶⁵ but in the past two decades has generally become increasingly unobtrusive: being limited to proprietary storage mediums (such as Nintendo’s signature game “cartridges”), authentication “firmware” on consoles and codes contained within PC game boxes. By contrast, DRM remains a much more diffuse and divisive topic in the video-game community. These included secondary pieces of software which must be installed as part of the process of videogame installation, and impose restrictions on users manipulation of the game data, such as Sony’s DADC copy protection program “SecuRom” and Electronic Art’s “Origin” process monitoring programme.

From the perspective of the legislation, however no such division seems to exist. Art. 6(3) of the InfoSoc Directive defines “technical measures” as “any technology, device or component that, in the normal course of its operation, is designed to prevent or restrict acts, in respect of works or other subject-matter, which are not authorised by the rightholder of any copyright or any right related to copyright”. As such, both categories of system we have just described could potentially attract liability when circumvented.

2.1 Should using “mod-chips” to circumvent “firmware” be permissible?

“Firmware” is generally used to describe software “embedded” in a piece of hardware that facilitates that hardware’s functionality. In this regard, “firmware” in many ways represents the point at which the concept of “pure” software (such as a data compiling program) or “pure hardware” (like a circuit board) shade into one another. In the context of videogames, firmware

¹⁶⁴ PK Yu, ‘Anticircumvention and Anti-Anticircumvention’, *Denver University Law Review*, 1 (2006).

¹⁶⁵ David Houghton, ‘Gaming’s Most Fiendish Anti-Piracy Tricks | GamesRadar+’, 2010
<<http://www.gamesradar.com/gamings-most-fiendish-anti-piracy-tricks/>> [accessed 6 October 2017].

has come under particular scrutiny because of the way in which this has been used to support a particularly profitable business model that has for many years dominated the industry. That is to say, by creating proprietary games consoles (such as the Xbox or the Playstation) those companies could create artificial hurdles that support loyalty to their brand. By selling those consoles initially at a loss¹⁶⁶, they ensure for themselves a substantial revenue stream from the purchase of games produced internally (by Microsoft or Sony) or by their licenced developers.¹⁶⁷ It should not therefore be surprising that producers of so-called “mod chips” (devices which can be installed into games consoles to circumvent these restrictions) have been hounded through the courts of many European countries¹⁶⁸ by video-game companies seeking to preserve the status quo.

This returns us to the substantial issue which was at stake in the *Nintendo v PCBox* case. Whereas above we discussed the preliminary issue of whether the court considered the Software or InfoSoc Directive to be applicable, here we can now address what the significance of that categorisation was for the case at hand. For, by deciding that Art. 6 of the InfoSoc Directive (as opposed to Art. 7 of the Software Directive) was applicable to “hybrid” works that weren’t *exclusively* software (such as videogames), the court imposed a stricter interpretation on the producers of mod chips. Specifically, first the court accepted that (despite what was being contested by the mod chip producers) it did not matter that part of the relevant technical protection measure (the compatibility system) was housed partly in the console and partly in the games themselves; or in the interaction between the two¹⁶⁹. Rather, since the InfoSoc Directive was the relevant piece of legislation, they could rely on recital 9 to prefer a “high level of protection in favour, in particular, of authors”. As such, the more lenient formulation under Art. 7 of the Software Directive, which forbids circumvention of TPMs only where the “sole intended purpose” is to facilitate an unauthorised action (such as playing a pirated copy of a Nintendo game on the Wii console), did not apply. Instead the more demanding formulation under Art. 6 of the InfoSoc Directive applied, which forbids any such circumvention even where the circumventing product was only “primarily” designed to facilitate unauthorised actions/was advertised to do so/or had limited commercial purposes outwith these. Therefore, the mere fact that the mod chips could be used to facilitate (legitimate) use of the consoles to play consumer-developed “homebrew” games, was not sufficient in itself.

¹⁶⁶ Nabyla Daidj and Thierry Isckia, ‘Entering the Economic Models of Game Console Manufacturers’, *Communications & Strategies*, 2009, 23–42.

¹⁶⁷ David Booton and Angus Macculloch, ‘Liability for the Circumvention of Technological Protection Measures Applied to Videogames : Lessons from the UK ’ S Experience’, *Journal of Business Law*, 3 (2012), 165–90.

¹⁶⁸ Bohdan Widła, ‘More than a Game: Did Nintendo v. PC Box Give Manufacturers More Control over the Use of Hardware?’, *Computer Law & Security Review*, 33.2 (2017), 242–49.

¹⁶⁹ para [26]

Instead, and in accordance with recital 48, an evaluation of proportionality should be made: questioning whether the TPM imposed by the rightsholder are over-extensive, and whether they prohibit devices or activities that have other commercially significant purposes. In making this evaluation, the national court would need to make reference to the relative cost and effectiveness of different types of technological measures and whether the actual purpose and use of the devices was in fact to allow copyright infringing activities¹⁷⁰.

Some commentators have tried to argue that these amount to “tough conditions”¹⁷¹ that provide useful guidance for research and development teams¹⁷². Such an approach cannot see the forest for the trees. In practice, the result of this case is that the Court has abolished the *lex specialis* regime for software developed in *UsedSoft* (2012)¹⁷³. If even firmware and embedded software (which usually lacks graphic elements and multimedia) are now excluded from the rule; and we accept that even non-consumer devices such as professional routers will usually provide for at least some sort of graphical interface for performing basic actions and displaying information (like processor temperature, for example); then it is hard to imagine *any* circumstance where there would be “pure” software that satisfies the rule.¹⁷⁴ What’s more, although the court did not specify, they would appear to lay the burden of proof at the feet of the potential infringer. Indeed, when the *Nintendo* case was returned to the Tribunale di Milano, they seem to have assumed that this was the responsibility of the chip-maker, citing the failure to show actual development of the theoretical “homebrew games (or any less invasive protection measures that Nintendo should have considered as alternatives) as forming part of their ruling in favour of Nintendo.

It is submitted that this is a dangerous precedent. Far from imposing realistic restrictions on creators’ deployment of TPMs, it continues the trend identified by Lai and Graber¹⁷⁵ whereby TPM protection has become over-encompassing. Rather than acting as an enforcement mechanism coextensive with the underlying IP rights, cases like this have increasingly allowed rightsholders to broaden protections in a way that upsets the balance of interests legally negotiated by society in the legislature. That is, it permits such technologies to fly in the face

¹⁷⁰ para [61]-[62]

¹⁷¹ Martin Kretschmer and others, ‘The Relationship between Copyright and Contract Law’, *Strategic Advisory Board for Intellectual Property Policy*, 2010, 182.

¹⁷² H. Newton, A. Moir and R. Montagnon, ‘CJEU Increases Burden on Manufacturers of Games Consoles to Prove the Unlawfulness of Devices Circumventing Technological Protection Measures and That Their TPMs Are Proportionate’, *Journal of Intellectual Property Law & Practice*, 9.6 (2014), 456–58.

¹⁷³ Court of Justice of the European Union (Grand Chamber), Case C-128/11 *UsedSoft GmbH v Oracle International Corp.*, 2012. discussed further in Section 2.3.

¹⁷⁴ Rendas. (2015) pg. 7

¹⁷⁵ Jessica C Lai and Christoph B Graber, ‘Is Digital Text-Watermarking the Long-Desired User Friendly Digital Rights Management? Copyright and Fundamental Values from a Comparative Perspective’, *European Intellectual Property Review*, 38.7 (2016), 391–400.

of those concessions to the public interest the legislature has made in its harmonised exceptions to copyright infringement. For example, in the case of private copies for personal use¹⁷⁶, implementation of TPMs which prevent such copying and reverse the burden of proof require the consumer to sue the videogame creator in court to be able to rely on their right. As a matter of procedural law, this may not even be possible, depending on the actionability of these exceptions at the national level.¹⁷⁷ To the author, this seems an unreasonable and unrealistic onus to impose on the individual. What's more, even in the case of institutions, early empirical evidence¹⁷⁸ seems to suggest that such technologies prevent users relying on exceptions pertinent to them - for educational establishments, teaching and private research, etc.¹⁷⁹

This also has significant implications outside intellectual property law, interpreted strictly. As AG Sharpston points out in her report on the *Nintendo* case¹⁸⁰ it should be obvious to all involved that these practices raise serious concerns as to competition law, and it is regrettable that the Italian court excluded any mention of this in the questions they referred. Moreover, this secondary “quasi-copyright” regime controlled by the rightsholders clearly raises concerns for the fundamental rights regime¹⁸¹ - including freedom of expression and the right to take part in the cultural life of the community. If nothing else, Burk notes that we should not underestimate the damage this causes to public understanding of the law¹⁸². As technical standards are used to control user behaviour they become “effectively... a type of law” to the individual. This seriously muddies the waters of a public discourse which is already receiving increasing attention and importance in the digital age.

2.2 Do Software Licencing and “Click-Wrap” Agreements unduly restrict the scope of activities permitted by copyright law?

This situation is only made worse, when one considers the interface between intellectual property law in videogames and contract law. Here too, we will argue videogame producers have sought to avoid the perceived deficiencies of protection under IP law, by seeking

¹⁷⁶ InfoSoc Art. 5(2)(b); this does not apply to “pure software” but the same concern exists for the “back-up copy” exception under Art. 5(2). The latter issue will be discussed in more detail in 2.2 Do Software Licencing and “Click-Wrap” Agreements unduly restrict the scope of activities permitted by copyright law?

¹⁷⁷ For despite being clear, negative, unconditional and containing no reservation, the presence of national implementing measures prevents “horizontal directive effect” - European Court of Justice, *M. H. Marshall v Southampton and South-West Hampshire Area Health Authority (Teaching)* C152/84, 1986.

¹⁷⁸ Patricia Akester, ‘The Impact of Digital Rights Management on Freedom of Expression - the First Empirical Assessment’, *International Review of Intellectual Property and Competition Law*, 41.1 (2010), 31–58.

¹⁷⁹ InfoSoc Art. 5(2)(c) as well as the partially harmonised exceptions under Art. 5(3)(a) and (n).

¹⁸⁰ Opinion of Advocate General Sharpston, *Nintendo Co. Ltd and Others v PC Box Srl and 9Net Srl*, 2013. para [28]

¹⁸¹ Patricia Akester, ‘The New Challenges of Striking the Right Balance between Copyright Protection and Access to Knowledge, Information and Culture’, *European Intellectual Property Review*, 32.8 (2010), 372–81.

¹⁸² Burk, ‘Legal and Technical Standards in Digital Rights Management Technology’. (2005)

additional means of redress in unduly burdensome contract terms. Historically, for instance “shrinkwrap” agreements, in boxed software products would contain a notice that by tearing open the shrinkwrap the user assented to the software terms enclosed within. As the dominant distribution started to shift away from physical storage mediums and towards online digital distribution, these changed to “click-wrap” agreements – whereby the user was required to agree to an EULA (End-user Licence Agreement) before being able to access the game. This upset the traditional understanding that “copyright in a work gives rights that are distinct from ownership of the physical embodiment of the original work”¹⁸³. What’s more it, in effect, creates an additional exclusive right for videogame producers - control of access to a work¹⁸⁴ - despite the lack of basis for this in copyright norms. These can be creating concerns about fundamental rights to privacy¹⁸⁵ - particularly where the terms of access are more than trivially demanding or invasive¹⁸⁶.

However, our concern here – again – is the potential for these contractual systems to override the exceptions to copyright. For, nowhere in the international agreements is there a definition of the relationship between contractual freedom and copyright law; rather, this is left to the signatories. In the author’s estimation, the EU has failed to resolve this uncertainty. Rather, it retains a confusing jumble of particular provisions which at times appears to contradict itself. For example, InsoSoc Art. 9 states that “This Directive shall be without prejudice to provisions concerning [inter alia] the law of contract” as does Art. 8 of the Software Directive. Similarly, Art. 15 of the Database Directive states unequivocally that “Any contractual provision contrary

¹⁸³ W. R. (William Rodolph) Cornish, David Llewelyn and Tanya Frances Aplin, *Intellectual Property : Patents, Copyright, Trade Marks and Allied Rights.*, 8th edn (Sweet & Maxwell, 2013).

¹⁸⁴ Eric Matthew Hinkes, ‘Access Controls in the Digital Era and the Fair Use/First Sale Doctrines’, *Santa Clara Computer & High Tech. L. J.*, 23.4 (2007), 686.

¹⁸⁵ Lee A. Bygrave, ‘The Technologisation of Copyright: Implications for Privacy and Related Interests’, *European Intellectual Property Review*, 24.2 (2002), 51–57.

¹⁸⁶ Consider for example, the “always on DRM” pioneered by Ubisoft – which requires a constant internet connection to their servers for continuous authentication and monitoring – caused so much controversy that the company eventually had to scrap the system altogether (see ‘Ubisoft Server Switch to Render Always-Online DRM Games Unplayable next Week’, *PC Gamer*, 2012 <<http://www.pcgamer.com/ubisoft-server-switch-to-render-always-online-drm-games-unplayable-next-week/>> [accessed 30 November 2017]. and ‘Ubisoft Scrapping Always-On DRM For PC Games’, *Rock Paper Shotgun*, 2012 <<https://www.rockpapershotgun.com/2012/09/05/ubisoft-scrapping-always-on-drm-for-pc-games/>> [accessed 30 November 2017].).

Similarly, Electronic Art’s “Origin” download service (which was an obligatory element of game registration and authentication) obliged users to accept EA monitoring of potentially any task which their computer might perform (Tom Magrino, ‘EA Origin EULA Sparks Privacy Concerns’, *GameSpot*, 2011.). However, by contrast, despite an initial public backlash (‘EA’s Origin EULA Proves Even More Sinister’, *Rock, Paper, Shotgun*, 2011 <<https://www.rockpapershotgun.com/2011/08/24/eas-origin-eula-proves-even-more-sinister/>> [accessed 30 November 2017].), the Origin service EULA remains unchanged (Electronic Arts, ‘Software End User License Agreement for Origin Application and Related Services (Formerly Called “The EA Download Manager”)’ <<http://tos.ea.com/legalapp/eula/US/en/ORIGIN/>> [accessed 30 November 2017].). Strangely, older digital distribution platforms (like Valve Software’s “Steam” service) which operate very similarly do not seem to have come under similar scrutiny. It would seem that the requirement to compulsorily link (even retail copies!) of a game to such a system, internet-based authentication every time the game is played, and monitoring of consumer use is an acceptable exchange for convenience, to most users.

to [the Art. 6 exceptions to restricted acts] and [the Art. 8 rights and obligations on lawful users] shall be null and void” which Art. 8 of the Software Directive reiterates for the purposes of the backup copy, research and decompilation exceptions. However, simultaneously InfoSoc Art. 6(4) seems to envisage that – in the context of TPMs – many of the exceptions under Art. 5 will be inapplicable where there are “voluntary measures taken by rightholders, including agreements between rightholders and other parties concerned”. This is reinforced by Recital 53 which states that where services protected by TPMS “are governed by contractual arrangements, the first and second subparagraphs of Article 6(4) should not apply. Non-interactive forms of online use should remain subject to those provisions.” In the context of videogames, where the use is inherently interactive, this last phrase is particularly unhelpful. It is therefore simply unclear whether such contractual restrictions are permissible or not.

As such, the author was particularly concerned by the 2006 report for the EU¹⁸⁷ which seemed to confirm that the contractual language of the majority of such licences implied “a chilling effect on users who would like to use the protected material for otherwise legitimate purposes”. I agree that with neither the international instruments, nor the copyright legislation a useful solution to this question, one would hope that competition law or consumer protection law might be recruited to fill the gap – were it not that these are “at present, poorly suited to meet the needs of users of copyrighted material in the digital networked environment”. It is therefore to be hoped that the current proposal for a digital sales directive¹⁸⁸ and copyright in the digital single market¹⁸⁹ might still address this issue. The solution offered by Akester¹⁹⁰ in this regard, seems both simple and effective. Namely, establishing in any reform to the InfoSoc Directive that any contractual provision will be null and void where it eliminates or impedes the normal exercise of those exceptions which are designed to protect fundamental rights/are driven by public interest considerations. This avoids the problem of quasi-copyright expansionism whilst preserving the creator’s right to use contractual freedom as an enforcement tool against illegitimate uses of their work. It is hoped that this such considerations would include the functioning of the single market, and therefore also resolve the further problem these licencing regimes create for the doctrine of “exhaustion”, which we will address in the next section.

¹⁸⁷ Bernt Hugenholtz and others, *The Recasting of Copyright & Related Rights for the Knowledge Economy*, Institute of Information Law, 2006. pg 87

¹⁸⁸ *Report on the Proposal for a Directive of the European Parliament and of the Council on Certain Aspects Concerning Contracts for the Supply of Digital Content - A8-0375/2017*, 2017.

¹⁸⁹ European Commission, *Proposal for a Directive of the European Parliament and of the Council on Copyright in the Digital Single Market*.

¹⁹⁰ Akester, ‘The New Challenges of Striking the Right Balance between Copyright Protection and Access to Knowledge, Information and Culture’.

2.3 Should licencing regimes be permitted to prevent “exhaustion” of videogames?

The doctrine of “exhaustion” (otherwise known as the “first sale doctrine” and enshrined in art. 4(2) of the InfoSoc Directive and Software Directive) establishes that the producer of a copyright work’s right to restrict distribution of a particular copy of their work will no longer be enforceable (ie. is “exhausted”) where they consent to first sale of that copy within the Community. In the CJEU jurisprudence, this doctrine was traditionally justified on the basis of eliminating unwarranted restrictions to the free movement of goods under Art. 28 EC¹⁹¹. Jurists’ attention was turned to the issue in the videogame context in 2010, when a German consumer watchdog group brought a case against Valve Software, arguing that the compulsory registration with their Steam service as a prerequisite to playing their games should not be enforceable, seeing that it prevented consumers relying on the doctrine of exhaustion to resell computer game DVDs. The case made it all the way to the German Supreme Court¹⁹² which eventually dismissed the case on the basis that: the doctrine of exhaustion limited the rights holders’ powers with regards to an individual DVD. It did not require them to design their business in a way that facilitated the sale of used games; and therefore, did not make the Steam terms of service unenforceable.

At the same time a number of cases on “digital exhaustion” were making their way to the CJEU. Firstly in the *UsedSoft* (2012)¹⁹³ case, the Court of Justice ruled that at least in the context of “pure” software¹⁹⁴ the exhaustion principle could apply to even intangible products like downloadable software. The case, on reference from Germany, involved the trade in used software licences which permitted users to store the software permanently on a server and allow a number of further users access to this by downloading the software onto their machines. The licences included a software maintenance agreement as well as the proviso that this was: “exclusively for your internal business purposes and for an unlimited period, a non-exclusive, non-transferable user right, free of charge”. *UsedSoft* (as their name suggest) were trying to argue that InfoSoc Art.4(2) should be interpreted so as to exhaust Oracle’s original right of distribution; which the latter contested by arguing that this only applied to copies provided through a physical medium. In siding with *UsedSoft*, the Court made clear that “it makes no difference in a situation such as that at issue in the main proceedings, whether the copy of the computer program was made available to the customer by the

¹⁹¹ Stefan Enchelmaier, ‘The Inexhaustible Question - Free Movement of Goods and Intellectual Property in the European Court of Justice’s Case Law, 2002-2006’, *International Review of Intellectual Property and Competition Law*, 38.4 (2007), 453–70.

¹⁹² Maša Savič, ‘The Legality of Resale of Digital Content after *UsedSoft* in Subsequent German and CJEU Case Law’, *European Intellectual Property Review*, 37.7 (2015), 414–29.

¹⁹³ Court of Justice of the European Union (Grand Chamber), *Case C-128/11 UsedSoft GmbH v Oracle International Corp.*,.

¹⁹⁴ See 2.1 2.1 What is DRM and what are TPMs? 2.1 What is DRM and what are TPMs? For the discussion of what is meant by this.

rightholder concerned by means of a download from the rightholder's website or by means of a material medium such as a CD-ROM or DVD".¹⁹⁵ Further, the fact that "the transfer by the copyright holder to a customer of a copy of a computer program accompanied by the conclusion between the same parties of a user licence agreement" did not prevent this from still amounting to the "first sale ... of a copy of a program' within the meaning of Article 4(2)". As such, Oracle's distribution right in that copy of the program had been exhausted¹⁹⁶.

This gave our German consumer watchdog renewed hope. Perhaps the original ruling could be overturned now that digital exhaustion seemed to be a possibility according to European law? Alas, as we have already discussed, by the time the complaint reached the Regional Court of Berlin, the *Nintendo* case discussed earlier had already been given which restricted the application of the *UsedSoft* doctrine of digital exhaustion to the "*lex specilissima*" circumstance of "pure" software. What's more, a further ruling of the CJEU in its *Allposters* (2015)¹⁹⁷ would seem to go further; implying that: when back in the general context of the InfoSoc Directive (which applies at least in part to "hybrid" copyright works like videogames) exhaustion only applies to the tangible medium of the work¹⁹⁸. The case involved the sale by Art&Allposters of canvases produced through a chemical process from legally purchased posters, the rights to which were owned by the collecting society Pictorlight. The court concluded that where a copyright work "has undergone an alteration of its medium, such as the transfer of that reproduction from a paper poster onto a canvas" the rule of exhaustion of the distribution right set out in Art.4(2) does not apply. Nevertheless, in doing so it relied in particular on Recital 28 to the InfoSoc Directive and the WIPO Copyright Treaty to argue that the reference to "copies" of a copyright work in Art. 4 should refer exclusively to fixed copies that can be put into circulation as tangible objects. In doing so, they left little room for exhaustion of digital content like videogames under the InfoSoc Directive¹⁹⁹. Needless to say, the German court dismissed the claim against Valve Software again.

Since then, the question has been asked whether a number of recent cases have brought this issue back into question. In particular, the *Ranks* (2016)²⁰⁰ case further narrowed the scope

¹⁹⁵ Op cit, at [47]

¹⁹⁶ In the specific case, this was hedged around with the caveat that although this made a purchaser of the used licence agreement a "lawful acquirer", this did not permit them to divide up the licence and resell only the user right for the computer program concerned corresponding to a number of users determined by him.

¹⁹⁷ Court of Justice of the European Union (Fourth Chamber), Case C-419/13 Art & Allposters International BV v Stichting Pictorlight, *ECLI:EU:C:2015:27*, 2015.

¹⁹⁸ Though, strictly speaking, that case was to do with a transfer between two physical media as opposed to "digital exhaustion" *per se*.

¹⁹⁹ Maša Savič, 'The CJEU Allposters Case: Beginning of the End of Digital Exhaustion?', *European Intellectual Property Review*, 37.6 (2015), 378–83.

²⁰⁰ Court of Justice of the European Union (Third Chamber), Case C-166/15 Aleksandrs Ranks, Jurijs Vasiļevičs, v Finanšu un ekonomisko noziegumu izmeklēšanas prokuratūra, Microsoft Corp.,.

of application of the ruling *UsedSoft* by confirming that the exhaustion of the distribution right only permits the resale of the original material medium on which the programme was first acquired and not also subsequent copies made. The case, on reference from Latvia, involved the sale of some 3000 copies of computer programmes originally produced by Microsoft. The defendants tried to allege that these were not infringing copies, but rather back-up copies of the programmes (which would be protected by the exception in Art.5(2)) made by original acquirers who had erased, damaged or ceased to use their original copies. The likelihood of the narrative as the defendant's presented it does somewhat strain credulity, and unsurprisingly, when the question as to application of *UsedSoft* was referred to the CJEU, the court made short shrift of these arguments. First, they made clear that the exceptions for back-up copies under Art.5(2) should be interpreted strictly: that the copies must be (i) made by the lawful acquirer and (ii) necessary for that use²⁰¹. Mr Ranks and Mr Vasiļevičs had not proven that the copies had been made by lawful acquirers and "necessary for that use" did not cover second hand sales. The possibility that this would leave a lawful acquirer of a copy of a computer programme unable to rely on the exhaustion principle set out in *UsedSoft* at all was quickly dismissed. The Court acknowledged that a lawful acquirer of a "computer program, who holds an unlimited licence to use that program but who no longer has that original material medium on which that copy was initially delivered to him, because he has destroyed, damaged or lost" should be able to "to download that program from the copyright holder's website, since that downloading constitutes a reproduction of a computer program that is necessary to enable the new acquirer to use the program in accordance with its intended purpose"²⁰². In truth, the case has limited wider practical significance. As other commentators have identified²⁰³ its application is likely confined to the highly peculiar factual circumstances of the case. The production of copies of computer programmes on non-original medium is a scenario which in the coming years will only become more and more uncommon as computers increasingly abandon CD drives and physical media in favour of direct digital downloads over the internet. What's more, some commentators²⁰⁴ seem to ignore the fact that since the offences in question took place between 2001 and 2004, the CJEU is at pains to emphasise the case is actually governed by Directive 91/250/EEC (the predecessor to the current Software Directive) and not the updated Software Directive from 2009 itself. As such, the scope of its legal authority can be doubted.

²⁰¹ Ibid, para [41]

²⁰² All this subject to the caveat that the lawful acquirer make any copy of the programme in their possession unusable at the time of resale, and the burden of proof is on the reseller to show they were a lawful acquirer.

²⁰³ Stephen Barratt, 'The IPKat: The Resale of Non-Original Tangible Copies of Computer Programmes', *IPKat*, 2016 <<http://ipkitten.blogspot.se/2016/11/eu-law-forbids-resale-of-non-original.html>> [accessed 30 November 2017].

²⁰⁴ Sanna Wolk, 'Case Comment CJEU Holds That Reproduced Copies Cannot Be Resold', *European Intellectual Property Review*, 39.2 (2017), 125–26.

Instead, it is to be hoped that some resolution to the current ambiguity surrounding exhaustion as it applies to complex works like videogames will be resolved by the court in its forthcoming *Tom Kabinet* decision, on reference from the Rechtbank Den Haag (Court of The Hague)²⁰⁵. Here, the Dutch courts seem to favour that the proprietor of an online marketplace for second-hand ebooks (Tom Kabinet) could potentially rely on “digital exhaustion”. In their questions²⁰⁶, they ask the CJEU to deal directly with the issue of digital exhaustion in “hybrid” copyright works, like videogames. It is submitted that the Court should not follow the example of the US²⁰⁷ or Germany²⁰⁸ and avoid overly formalistic and outdated conceptions of the “first sale doctrine”. Rather, the Court should recognise that to the average consumer, the distinction between purchasing a physical copy of a copyright work and a digital copy are almost non-existent. Moreover, the rationales underlying their ability to resell the former apply in entirely the same way to the latter: namely, preventing the copyright owner from inhibiting free trade by restraining the free alienability of goods. This is not to say there not significant issues to consider which make the digital arena peculiar. For instance, the ease with which copies can be made and retained, all without degradation, may mean that digital first-sale rights would lead to increased piracy and thereby undermine markets for copyrighted works. Furthermore, a digital first-sale right may prevent copyright holders from being able to price discriminate in different jurisdictions. Consequently, consumers—particularly, perhaps, in poorer countries—may suffer as copyright holders raise prices in order to compensate both for increased piracy and an inability to price discriminate.²⁰⁹ However, these challenges are all surmountable. Instead, the view of commentators like Karapapa²¹⁰ should be preferred – that online exhaustion is neither legally foreclosed nor technically impossible.

For instance, it seems entirely reasonable to envisage the creation of systems between copyright holders and device manufacturers that would facilitate removal of the work from one device when it is transferred to a new user. This is precisely what the consumer group in Germany is demanding from Valve, and are right to do so. Certainly, the example of the cloud storage service which verified each digital upload in *ReDigi*²¹¹ seem to demonstrate that it is possible to allow the transfer of one's own copy without realistic a possibility of duplication. With industry juggernauts like Apple and Amazon applying for patents in such technologies, it

²⁰⁵ *Tom Kabinet v Groep Algemene Uitgevers* Case C/09/492558 / HA ZA 15-827.

²⁰⁶ Not yet officially translated

²⁰⁷ Ieuan; Westmoreland, Jill; Jolly, ‘Can You Sell “used” music Purchased on iTunes - the ReDigi Decision’, *Entertainment Law Review*, 24.5 (2013), 180–84.

²⁰⁸ Alberto Bellan, ‘The IPKat: No Exhaustion beyond Software: Katfriend Translates German Decision on Audiobooks’, 2014 <<http://ipkitten.blogspot.se/2014/07/no-exhaustion-beyond-software-katfriend.html>> [accessed 1 December 2017].

²⁰⁹ Clark D Asay, ‘Kirtsaeng and the First-Sale Doctrine’s Digital Problem’, *Stanford Law Review*, 2013.

²¹⁰ Stavroula Karapapa, ‘Reconstructing Copyright Exhaustion in the Online World’, *Intellectual Property Quarterly*, 4 (2014), 307–25.

²¹¹ Westmoreland, Jill; Jolly. (2013)

seems inevitable that such transitions are already being anticipated by the industry's biggest players²¹². Moreover, the expansion of blockchain tracking technologies such as that behind the "first disintegrating e-book"²¹³ could completely undermine the traditional argument that we cannot control copying before resale. Undoubtedly, some piracy will nevertheless occur; and in time methods to circumvent these technologies will be discovered. But the IP system has never been based on a concept of "zero slippage". Just as in the physical world where cassettes could be copied before being resold, this should not be adequate justification for continued compensation of the rightsholder. Indeed, there is some evidence that improved second-hand markets for digital goods could actually reduce piracy, as consumers increasingly rely on legitimate markets and look for complimentary goods²¹⁴.

It is even possible that the entire question of digital exhaustion might be rendered moot by changing consumer habits. For instance, in the music industry it seems clear that streaming services will continue to grow whilst the number of downloads has been decreasing over time²¹⁵. Similar services for television and movies seem to be headed in the same direction²¹⁶. The early attempts to create equivalent streaming services for videogames so far have failed, due in large part to the unique latency and "lag" problems created by the continued interactivity needs of videogames²¹⁷. However, with the general rollout of Sony's "Playstation Now" service²¹⁸; Microsoft announcing their intentions to launch a competing service for the Xbox by 2020²¹⁹; along with continuing improvements to fibre optic broadband infrastructure²²⁰, it is possible that the issue of digital exhaustion will slip into irrelevance.

²¹² David Streitfeld, 'Revolution in Resale of Digital Books and Music', *The New York Times*, 2013 <<http://www.nytimes.com/2013/03/08/technology/revolution-in-the-resale-of-digital-books-and-music.html>> [accessed 1 December 2017].

²¹³ Meg Miller, 'This Disintegrating E-Book Cleverly Shows How Blockchains Work', *Co.Design*, 2017 <<https://www.fastcodesign.com/90124578/this-disintegrating-e-book-cleverly-shows-how-blockchains-work>> [accessed 1 December 2017].

²¹⁴ For example, Jay Smith, 'Does Piracy Increase Sales?', *Pollstar*, 2009 <<https://www.pollstar.com/article/does-piracy-increase-sales-13189>> [accessed 1 December 2017]. (2009)

²¹⁵ International Federation of the Phonographic Industry., < <http://www.ifpi.org/downloads/GMR2017.pdf>> [accessed 1 December 2017]. pg 16

²¹⁶ See for example, the growing success of services like Netflix, Hulu, Amazon Prime, and Disney's decision to create a competing platform Madeline Berg, 'Disney's New Platform Could Become The Streaming King For Kids', *Forbes*, 2017 <<https://www.forbes.com/sites/maddieberg/2017/08/09/disneys-new-platform-could-become-the-streaming-king-for-kids/#28a03be429ed>> [accessed 1 December 2017].

²¹⁷ For example, see the bankruptcy of OnLive in 2012: Ben Gilbert, 'Documenting the Death of OnLive: Notes from the Company's Final Meeting', *Engadget*, 2012 <<https://www.engadget.com/2012/08/18/documenting-the-death-of-onlive-notes-from-the-companys-final/>> [accessed 1 December 2017].

²¹⁸ 'PlayStation Now – PS Now Subscription for 500+ PS4 & PS3 Games' <<https://www.playstation.com/en-us/explore/playstationnow/>> [accessed 1 December 2017].

²¹⁹ Eddie Makuch, 'Xbox Could Launch A Streaming Service', *Gamespot*, 2017 <<https://www.gamespot.com/articles/xbox-could-launch-a-streaming-service/1100-6454715/>> [accessed 1 December 2017].

²²⁰ As media companies have increasingly sought to court a younger (smartphone-based) audience, there has been considerable consolidation between telecoms and media companies. See for example: the Comcast and NBCUniversal merger in 2011, the rumoured T-mobile and Dish Network Merger, and the expected AT&T/Time Warner merger next year Michael J. Kang, Cecilia; de la Merced, 'Justice Department Sues to Block AT&T-Time Warner Merger', *New York Times*,

2.4 Interim Conclusion

In this Part, I identified a number of ways in which I have suggested methods of IP enforcement have led to an unwarranted extension of intellectual property rights in video-games. First, I suggested that in practice the result of the *Nintendo* case is to allow the more restrictive prohibitions on circumventing TPMs from the InfoSoc Directive to apply in cases of hybrid works like videogames. This is regrettable in that it allows the continued expansion of this area of “quasi-copyright” law which confuses public understanding of the law, hinders users relying on the social interest exceptions negotiated by the European Parliament, and potentially threatens their fundamental rights. Similarly, with regards to “click-wrap” licensing regimes for videogames I argued that there is a danger that freedom of contract has allowed for the abrogation of these interests. As such, I proposed the recent reform efforts should be taken as a chance to explicitly clarify the relationship between TPMs, contract law and the boundaries of IP rights. Personally, I favoured an approach which made the former co-extensive with the latter by including TPMs and contractual provisions within those categories which are expressly subject to public interest exceptions for permitted uses, and fundamental rights. In particular I argued that permitting this sort of contractual freedom has led to a disruption in the digital market for videogames. Namely, that in the absence of a clear rule of “digital exhaustion” these contracts are permitted to prevent a market in second-hand copies of downloadable videogames being created. I presented this as a third way in which intellectual property law in videogames has permitted over-extension to the detriment of the consumer. It is to be hoped that should technological changes address traditional concerns about transferability, reforms to copyright law and the sale of goods will legally permit such exhaustion of rights, or that the entire topic will be made irrelevant by improved business models – including those we will discuss in the next Part. In the meantime, however, it seems that copyright law has failed to balance the interests of creators and consumers in the video-game context – regardless of which side of that boundary one is on.

2017. Aaron Pressman, ‘T-Mobile Merger With Dish Network Heats Up Wall Street Rumor Mill’, *Fortune*, 2017 <<http://fortune.com/2017/02/03/dish-t-mobile-merger-rumors/>> [accessed 18 January 2018].

3. GAME OVER: Are there alternatives to Intellectual Property to protect Videogame Developers?

Thus far in this thesis we have identified a number of ways in which the current intellectual property regime seems to fall short in the video-games context from both the creator and the user's perspective. In Part 1, we identified that the "distributive" approach adopted by most European countries creates a number of ambiguities and potential gaps in protection. In Part 2, we went on to address some of the main controversies surrounding the way in which these rights are enforced, and found that Digital Right's Management systems had led to: overly expansive technical protection measures, possibly invasive software licencing terms and even obstacles to the free movement of goods. As a result of criticisms like these, there have been increasingly radical calls in recent years to completely overhaul the way in which IP producers protect and monetise their works²²¹. In this third section, we will look at the merits of these different arguments and evaluate whether any of these present a realistic alternative to the current intellectual property regime.

3.1 How do FOSS/Creative Commons/Copyleft systems function?

The least controversial of these proposals are those which continue to assume the existence of the current copyright regime but employ licencing agreements to subvert some of its most typical characteristics. Perhaps the most significant of these is the "Creative Commons" - an American not-for-profit organisation which provides a number of standardised licences that waive most of the copyright owner's economic rights²²². For example, their "Attribution 4.0 International" licence²²³ permits the licensee to freely "reproduce and Share the Licensed Material, in whole or in part; and produce, reproduce, and Share Adapted Material" so long as they provide appropriate attribution to the original author, indicate if any changes were made and provide a link to the licence. In EU terms, this would appear to waive the InfoSoc Directive Art.2-4 reproduction, communication to the public and distribution rights – in that is no longer the *exclusive* right of the author to authorise these activities²²⁴. The system has seen particular success in the realm of image sharing, where large photo-sharing platforms have embraced the model, and made their catalogues searchable by licence-type. For example, Flickr had

²²¹ E.g. Debora J. Halbert, *Resisting Intellectual Property, Resisting Intellectual Property* (Routledge, 2005). Rasmus Fleischer, 'Det Postdigitala Manifestet', 2009, p. 80 <<https://www.rasmusfleischer.se/skriverier/postdigitalt-manifest/>> [accessed 30 March 2018]. For a review of the growth of copyright scepticism see Adrian Johns, 'The Ecological Origins of Copyright Scepticism', *The WIPO Journal*, 5.1 (2013), 54–64.

²²² US jurists unfamiliar with the distinction between "economic" and "moral" rights might be interested to note that this position is currently under review by the US Copyright Office: see U.S. Copyright Office Library of Congress, *Study on the Moral Rights of Attribution and Integrity - Notice of Enquiry*, 2017.

²²³ 'Creative Commons — Attribution 4.0 International — CC BY 4.0'

<<https://creativecommons.org/licenses/by/4.0/legalcode>> [accessed 6 December 2017].

²²⁴ Though in fact, one could simply consider them an exercise of the right – consider, for instance, InfoSoc recital 30: "The rights referred to in this Directive may be transferred, assigned or subject to the granting of contractual licences, without prejudice to the relevant national legislation on copyright and related rights"

over 400 million creative commons licenced images by the end of 2017²²⁵. Similarly, the adoption by Youtube and Vimeo of creative commons licences for its users, meant that for videos as well there are nearly 40 million such licenced works²²⁶. This would imply that large areas of the raw materials used in videogames – the “parts” we described in Part 1 – are now free from the restrictions imposed by the intellectual property law system. Indeed, a video game creator could easily choose to use nothing except such works for the entirety of their game’s audio-visual assets.

All that would be left, then, is the copyright protection of the code which manipulates these assets. Here, a number of permissive licencing schemes, including those under the umbrella of “copyleft” or “FOSS” (Free and Open Source Software) have increasingly made the underlying source code of software freely alterable. Originating out of Richard Stallman’s GNU Project²²⁷, one of the critical features of these systems was their emphasis on reciprocity. Namely, that although users could acquire the right to use, copy, modify or distribute the licenced software, these were linked to licensee obligations to copy the licence text to the recipients of the program. What’s more this duplication was to be done *in the source code* of the program which must be duplicated when the code is copied. This was a major improvement upon the pre-existing BSD licences²²⁸ which were merely permissive and did not impose additional duties on the licensee. This limited the ability of licensees to commercialise derivative versions of pre-existing free software and ensuring that those who have already profited from the free software community must pay back to a certain extent. Indeed, it would seem the success of these “open source” and “development and distribution” models which triggered the growth of comparable communities (like Creative Commons) for other types of media. However, whilst some of the Creative Commons “share-alike” clauses²²⁹, and the “open content” initiative used by Wikipedia²³⁰ retained the element of reciprocity; many abandoned it. Potentially the “viral” nature of the licence is what has caused the open-source model to become so successful in the software arena – with Linux-based operating systems coming to dominate the markets for smart phones (under the “Android” moniker²³¹), servers and embedded sector²³². Nevertheless, the video-game industry has seen the proliferation of

²²⁵ ‘Flickr - Creative Commons’ <<https://www.flickr.com/creativecommons>> [accessed 6 December 2017].

²²⁶ ‘State of the Commons – Creative Commons 2016’ <<https://stateof.creativecommons.org/>> [accessed 6 December 2017].

²²⁷ ‘Gnu.org’ <<https://www.gnu.org/gnu/gnu-history.html>> [accessed 6 December 2017].

²²⁸ ‘BSD Copyright and Legal Information’ <<https://www.freebsd.org/copyright/>> [accessed 6 December 2017].

²²⁹ ‘Share Alike - Creative Commons’ <https://wiki.creativecommons.org/wiki/Share_Alike> [accessed 6 December 2017].

²³⁰ ‘Open Content License (OPL)’ <<http://www.opencontent.org/opl.shtml>> [accessed 6 December 2017].

²³¹ Elena Maggio, ‘Relationship and Agreement on App Distribution Platforms’, *European Competition Law Review*, 38.8 (2017), 381–88.

²³² Axel Metzger, *Free and Open Source Software (FOSS) and Other Alternative License Models*, ed. by Axel Metzger, *Ius Comparatum - Global Studies in Comparative Law* (Cham: Springer International Publishing, 2016).

open-source software for the production of assets²³³ and the turn towards copyright-free/free-of charge game engines like Blender²³⁴; Unity²³⁵ and Unreal 4²³⁶.

It was for some time rather controversial whether these sorts of licensing regimes were compatible with the existing intellectual property law regime. In a recent comparative study looking at these sorts of licencing systems in 25 jurisdictions, Metzger *et al*²³⁷ however explain that “many of these uncertainties have been clarified in the last 10 years”, as courts of several jurisdictions have confirmed the main principle and structural elements of FOSS licences²³⁸; and legislators in some jurisdictions have enacted statutory measures to overcome specific problems of FOSS licences in copyright and contract law. Although we do not have the space here to discuss the details of how all the 25 jurisdictions studied achieved this result, suffice is to say that a clear majority of jurisdictions chose to prefer contract law principles over intellectual property law to resolve the issue. That is, rather than choosing to interpret these sorts of arrangements as a unilateral waiver of rights under copyright law, almost all the systems studied found a way to recognise the existence of a contract; even where this would have seemed contrary to existing contract law principles. For instance, US and Malaysian law²³⁹ - both of whom have a requirement for “consideration” that prevents gratuitous contracts – both accept that the duties accepted by the licensee could be considered a form of consideration. Moreover, even those jurisdictions which considered temporary copies of a computer program as “reproductions” managed to avoid this problem by creating express statutory limitations or using contract law theories of implied licence.

However, producers of videogames wishing to take advantage of open source software should not rejoice too soon. There still remain a number of questions about these licencing models which remain unanswered. In particular, the authors in the comparative study note that there is still potential for conflict in some seven particular instances. First, those cases where the license grant does not define in a detailed manner what modes of use shall be covered by the licence grant, and therefore what should be done when new modes of use only become apparent after the licence has been granted. Second, the issues of author’s moral rights in

²³³ For example, ‘Gimp’ <<https://www.gimp.org/about/>> [accessed 6 December 2017].

²³⁴ ‘About — Blender.org’ <<https://www.blender.org/about/>> [accessed 6 December 2017].
<<https://www.blender.org/about/>> [accessed 6 December 2017].

²³⁵ ‘Licenses – Unity’ <<https://support.unity3d.com/hc/en-us/categories/201268913-Licenses>> [accessed 6 December 2017].

²³⁶ ‘Game Engine Technology by Unreal’ <<https://www.unrealengine.com/en-US/faq>> [accessed 6 December 2017].
<<https://www.unrealengine.com/en-US/faq>> [accessed 6 December 2017].

²³⁷ Metzger. (2016)

²³⁸ Though with the notable exception of the “copyleft” or “share-alike” conditions which as of the time of writing had not been tested in all of the 25 jurisdictions covered by the study.

²³⁹ Metzger. (2016)

droit-d'auteur states like Italy, continue to present an issue: as producers might remain capable of overriding the contractual provisions of the licence regardless, despite apparently having waived these rights. Third, the introduction of the Collective Rights Management Directive 2014 Art.5(3)²⁴⁰ – which permits rightholders to grant licences for non-commercial uses despite the fact they are being represented by collective rights organisations and therefore were generally considered to have transferred these rights – is bound to cause difficulty. Fourth, despite having “overcome” copyright law, the reporters remain concerned that FOSS projects may still be tripped up by claims under patent or trademark law. Although there have only been very few cases on this as yet, the conflict between Apple and Microsoft on the one hand, and distributors of android-based products like Samsung, is instructive. Sixth, there is the question of compatibility amongst the different licence regimes. Blackduck software²⁴¹ for example – a company which provides solutions for open source licence compliance – notes that there are more than 2,300 unique software licences of this kind; which becomes incredibly problematic should videogame producers want to use resources produced under contradictory or conflicting licences. Seventh, they question how FOSS projects and communities should be construed from a structural perspective – should they share liabilities as a corporate organisation, for example?

3.2 Are FOSS/Creative Commons/Copyleft preferable to copyright for videogames?

So do these regimes present a realistic “alternative” to copyright law for video-games? Certainly, the earlier commentators seemed to think so, with bombastic claims that the goals of open source were entirely antithetical²⁴² to intellectual property law ideas, and in the inevitable conflict to ensue, intellectual property law would be swept aside by the new regime²⁴³. However, it has rapidly become clear²⁴⁴ that these hyperbolic accounts were overlooking the fundamental basis of these licencing regimes in intellectual property law. Granted, these systems seem to have a distinct notion of “property” with a much greater focus on inclusive “rights to distribute” as opposed to traditional “rights to exclude”. Nevertheless, the notion of the licence inherently presupposes the existence of private property that serves as the original justification for an initial licence. As such, it is difficult to understand how these

²⁴⁰ Directive 2014/26/EU of the European Parliament and of the Council of 26 February 2014 on Collective Management of Copyright and Related Rights and Multi-Territorial Licensing of Rights in Musical Works for Online Use in the Internal Market, 2014.

²⁴¹ ‘Open Source License Compliance | Black Duck Software’ <<https://www.blackducksoftware.com/solutions/open-source-license-compliance>> [accessed 6 December 2017]. <<https://www.blackducksoftware.com/solutions/open-source-license-compliance>> [accessed 6 December 2017].

²⁴² Halbert.(2005)

²⁴³ Michele Boldrin and David K. Levine, *Against Intellectual Monopoly*, Against Intellectual Monopoly (Cambridge University Press, 2008).

²⁴⁴ Tanya Frances Aplin, ‘Book Review: Debora Halbert, Resisting Intellectual Property’, *Journal of Social and Legal Studies*, 157 (2007).

earlier commentators would envisage the licencing system to work *without* the foundation of intellectual property law as pre-requisite.

More recent proponents of this ideology have therefore shifted tack: rather than proposing that licencing models will lead to an abandonment of intellectual property law, they emphasise the ways in which it adapts intellectual property law from within, until the point at which it is virtually unrecognisable. For instance, Thiruthy²⁴⁵ focuses on the way in which licencing systems alter our conception of “authorship” and incentivisation implicit in our notions of copyright. Drawing on work from previous sociologists, they argue that the open source movement has been significant in highlighting how the romantic notion of the solitary author, which underlie our conceptions of copyright ownership²⁴⁶ has always been a pleasant fiction which failed to effectively represent the social dimension of the vast majority of creative works as iterative and collaborative. This is especially evident in the video-game industry where “agile development” principles have come to dominate²⁴⁷; in response to the need for cross-functional, multidisciplinary teams. Moreover, they emphasise how developments in the fields of psychology have made it increasingly inappropriate for lawyers and legal analysts to consider the awarding of proprietary rights (and the economic benefits these entail) as a sufficient explanation for the motivation of creator. The success of open source software is therefore evidence for the age-old suspicion that creators have always been motivated by more than money; and that status and a sense of purpose produced by contribution to the common good might in themselves be sufficient to incentivise consistent high-quality innovation.

However, video-games may once again prove the test case, here. For, as yet, the success of the open source software model does not seem to have extended out to include other types of copyright works. Unlike in the “pure” software industry, the videogame industry has not seen the breakout success of an open source product. Rather, the majority of open source videogame projects have involved the cloning or re-release of existing games which are no longer profitable, largely for academic or preservation purposes²⁴⁸. This raises the question whether or not it might be the peculiar nature of coding as a collective logic-puzzle sort of problem solving that has allowed the open source licensing model to flourish only in this

²⁴⁵ Narendran Thiruthy, ‘Open source—Is It an Alternative to Intellectual Property?’, *Journal of World Intellectual Property*, 20.1–2 (2017), 68–86.

²⁴⁶ As well as all of the conflicts/fictions this has created in the employer/employee context!

²⁴⁷ Clinton Keith and Mike Cohn Kent Beck and Martin Fowler, Consulting Editors, *Agile Game Development with Scrum, The Addison-Wesley Signature Series* (Pearson Education, 2010).

²⁴⁸ ‘What Is Open Gaming? | Opensource.com’ <<https://opensource.com/resources/what-open-gaming>> [accessed 7 December 2017].

particular context. The video-game example could indicate that when traditional media (like producing graphic assets, scripts, sounds, etc), the increased effectiveness of the open source over traditional intellectual property models simply disappears. When this realisation is combined with the threat of potential abuse (by savvy companies that use open source as little more than an easy way to harvest innovation at practically no expense; and without guaranteeing appropriate compensation for producers) it becomes even more difficult to recognise this as a realistic “alternative” to intellectual property law.

Rather, it is suggested that – as promoted by the European Commission²⁴⁹ - jurisdictions should cooperate to amend their contract and intellectual property regimes to accommodate for these new licensing models. That is, at least in the context of software development, and even if this causes us to have to fundamentally reassess some of our central notions of “authorship” and “incentivization”. In this regard, it is submitted that the glacial efforts²⁵⁰ towards harmonization of European contract law should continue to be supported - in the hopes that the accommodating solutions identified in one jurisdiction might more easily be applied universally. Although Articles 14-16 of The Proposal for a Directive on Copyright in the Digital Single Market released should be commended for taking tentative steps in this direction – creating transparency obligations, a contractual adjustment mechanism and a dispute resolution mechanism for authors - Lucas-Schloetter²⁵¹ is surely right that the provisions “could and should have been more ambitious”. For instance, the present author would like to have seen express provision for FOSS contracts to supersede moral rights, expansion of the freedom to grant licences for non-commercial uses, and indeed comparable language copied over into the trademark and patent legislation as well. It is hoped such reforms might go some way towards resolving the seven issues identified by the comparative study.

3.3 How do the alternative business models like Crowdfunding function?

With the expansion of simple means of reproduction and piracy, creators have increasingly sought ways to monetize their work which does not rely on preventing copying at all. As we have seen, the creative commons and open source movements provide one possible means of promoting production without enforcing copyright provisions; but these in themselves do not provide revenue for the creators themselves. As such, a necessary adjunct to any creative model which forgoes control over copying, is a business model which allows the creator be

²⁴⁹ At least in the public sector – see Art.7(8) of European Parliament and the Council of the European Union, ‘Directive 2013/37/EU of the European Parliament and of the Council of 26 June 2013 Amending Directive 2003/98/EC on the Re-Use of Public Sector Information’, *Official Journal of the European Union*, 2013, 1–8.

²⁵⁰ Bruno Zeller, ‘Anatomy of EU Contract Harmonisation: Where Do We Stand?’, *International Trade Law & Regulation*, 21.2 (2015), 41–53.

²⁵¹ Agnès Lucas-Schloetter, ‘European Copyright Contract Law: A Plea for Harmonisation’, *International Review of Intellectual Property and Competition Law*, 48.8 (2017), 897–99.

remunerated in other ways. The videogames industry, much like the music industry before it, provides an instructive example in this regard – as producer’s experiments with new models have come under intense public scrutiny and may therefore be considered indicative of future trends in the area.

For example, in the run up to the festive season in 2017, the online media had something of a field-day when gamer backlash against a proposed “microtransaction” system in EA’s flagship “Star Wars: Battlefront II” game forced the company to abandon the system only hours before the game’s official launch²⁵². There are a number of reasons the microtransactions were controversial in the EA example. One of these, is that they involved so-called “loot-boxes”: a collection of in-game rewards which are generated randomly and “purchased” with either in-game currency or real money. The fact of this random generation, and the inability to know what one is purchasing in advance has led to concerns that they might fall foul of gambling legislation – particularly where the in-game rewards can be exchanged back for real money²⁵³. Another problem, however, was the sense of resentment felt by many players of being “charged twice” for content: having already paid once (the standard €50 for a AAA retail game), the implication was that EA was being particularly grasping in “gating” large sections of content (such as access to iconic characters like Darth Vader) behind a price wall of indefinite size. This represented the culmination a number of experiments in the video-games industry to rely less and less on intellectual property law as their main protection from piracy and to ensure appropriate remuneration for their creators through other means.

In particular, many of the more radical “free culture” types in the video games industry – those who promote the abandonment of the legal fiction of property in copyright works like videogames – have hailed a number of business innovations as removing the need for intellectual property rights. For instance, the “microtransactions” and in-app-purchases (IAPs) that EA is currently being criticised for using, were originally developed as part of the “free-to-play”(F2P)/“freemium” business model that become popular in the early 2000s in South Korea²⁵⁴. The basic principle of this model was removing the initial barrier to entry, by charging no up-front price for the game; but instead creating revenue from the sale of upgrades, once the user was firmly embedded in the game’s ecosystem. Perhaps the greatest success of this model has been in the mobile arena, where “Candy Crush Saga” was reported to be making

²⁵² ‘Hours before Launch, EA Strips Micro-Transactions from “Star Wars: Battlefront II” | TechCrunch’, *TechCrunch* <<https://techcrunch.com/2017/11/16/hours-before-launch-ea-strips-micro-transactions-from-star-wars-battlefront-ii/>> [accessed 8 December 2017].

²⁵³ Greg; Mason and Hillary Stewart-Jones, ‘FutGalaxy And “skin Betting”’, *Entertainment Law Review*, 28.5 (2017), 527–43.

²⁵⁴ John Kuehl, ‘Video Games and Intellectual Property: Similarities , Differences , and a New Approach to Protection’, *Cybaris*, 7.2 (2016).

\$439M in quarterly revenue, by the end of 2013²⁵⁵. Here, the game itself was little more than a basic match-three puzzle game so the argument goes that the risk of piracy/lack of intellectual property protection was never realistically an issue. Rather, the game's success could be attributed to its leveraging of two factors. First, the social aspect – by connecting its platform to social media outlets, users were encouraged only to play on the *official* King Games servers, since this is where the scores of all their friends would be posted and verified. Second, by imposing arbitrary wait times (“cooldown periods”) after 5 finished games, users were incentivised to make IAPs for earlier access to further attempts. These sorts of techniques are now ubiquitous in what has now become an entire industry of games, with some of the biggest titles in the industry (League of Legends, Hearthstone, Halo Online) all turning to embrace this model.

Similarly, we have witnessed the growth of the subscription-based model. Most successfully pioneered by Blizzard with its World of Warcraft game in 2004, this model similarly leverages the effects of social communities and arbitrary time gates to hook users into the company's server ecosystem but by charging a standard monthly fee instead of individual microtransactions. Again, the argument runs that although communities of pirates will run their own private servers²⁵⁶, the mystical “authenticity” and improved ease-of-access of the official servers provide sufficient value to justify to users the added expense. Certainly, despite the proliferation of these free alternatives, World of Warcraft continues to rank amongst the list of the highest grossing games even some fourteen years after its original launch²⁵⁷. Some companies have tried to subtly expand this model even further under the moniker of a “season pass” for future downloadable content (dlc)²⁵⁸. There are some suggestions that this fits the trend towards seeing software as a service, and that in these contexts it is the customer support systems which justify the expense to users, over the bug-filled and often difficult to run free alternatives.

3.4 Are alternative business models a realistic alternative to copyright protection?

The radicals argue that removing the legal punishments on intellectual property pirates would not alter this state of affairs. Indeed, the European Pirate Party argues that a European

²⁵⁵ Stuart Dredge, ‘Why Is Candy Crush Saga so Popular? | Technology | The Guardian’, *The Guardian*, 2014.

²⁵⁶ Of which there are many: ‘Is It Illegal To Play World of Warcraft On A Private Server?’

<<http://www.makeuseof.com/tag/is-it-illegal-to-play-world-of-warcraft-on-a-private-server/>> [accessed 13 December 2017].

²⁵⁷ ‘SuperData Research | Games Data and Market Research » Worldwide Digital Games Market: October 2017’

<<https://www.superdataresearch.com/us-digital-games-market/>> [accessed 13 December 2017].

²⁵⁸ Those these have generally met with a lot of cynicism from the gaming community. See, for example, Andrew Reiner, ‘Season Passes Are Starting To Sound Like Scams’, *Game Informer*, 2016

<<http://www.gameinformer.com/b/features/archive/2016/02/01/season-passes-are-starting-to-feel-like-a-scam.aspx>> [accessed 14 December 2017].

Commission report on the effects of piracy²⁵⁹ provides evidence that piracy does not displace sales of original games, and in fact may actually increase them. They suggest that other factors, aside from price might be affecting gamer's decisions in this regard. In this vein, Kelly²⁶⁰ identifies eight factors which might motivate individuals to pay for a copy of a game even though it is freely available elsewhere. Amongst these are the "immediacy", "authenticity", "interpretation" and "findability" we have already discussed in relation to the F2P and subscription-based models but to this he adds a number which we have yet to discuss. "Embodiment" for example, he argues continues to justify concert and cinema tickets in a world where high quality music and video stream are freely available with very little effort. Similarly, it might be argued that videogame hardware like VR devices, might continue to support the cost of the software which is run on them. Equally, "personalisation" may be a factor – certainly, we have seen that many of the successful microtransaction models have placed a heavy emphasis on cosmetic customisation to certain features. Furthermore, with the prevalence of advertising as a revenue source for the mobile market, the option to run a version of the game from which all such advertising is removed might be incentive enough for some users to pay a fee.

Lastly, there is then the topic of "patronage". Kelly argues that "audiences want to pay creators. Fans like to reward artists, musicians, authors and the like with tokens of their appreciation, because this facilitates a form of connection. But they will only pay if it is very easy to do, a reasonable amount, and they feel certain the money will directly benefit the creators." Traditionally, one of the main arguments for the creation of copyright laws like the Statute of Anne was the concern that wealthy individual patrons were often too fickle and unreliable, to act as a stable source of for professional artists²⁶¹. Individuals like Chatterton became tragic figures in the romantic psyche – prodigious young poets taking their own lives because they were unable to make sufficient income to support their art. As a response to this, proprietary rights proved a very effective answer. The artist could commodify their work, and divide up the cost of their livelihood amongst a huge number of individual customers as opposed to having "all their eggs in the one basket" of a single patron. However, with the expansion of

²⁵⁹ Which for reasons still unknown, was never published: see Már Másson Mack, 'EU Paid for a Report That Concluded Piracy Isn't Harmful — and Tried to Hide the Findings', *The Next Web*, 2017 <<https://thenextweb.com/eu/2017/09/21/eu-paid-report-concluded-piracy-isnt-harmful-tried-hide-findings/>> [accessed 12 December 2017].

²⁶⁰ 'The Technium: Better Than Free' <<http://kk.org/thetechnium/better-than-free/>> [accessed 13 December 2017].

²⁶¹ Brad; Sherman and others, *The Making of Modern Intellectual Property Law: The British Experience, 1760-1911*. (Cambridge: Cambridge University Press, 1911).

crowd-funding platforms²⁶² like Kickstarter²⁶³ and Patreon²⁶⁴, some commentators have started to question whether copyright continues to be the best mechanism of achieving this goal. Both these platforms remove the intermediate step of an intangible good, and instead ask that customers simply pay creators directly to produce intellectual works. This makes it simple for customers to pay even very small amounts to support creators who would otherwise receive nothing – should they fail to reach, for example, the arbitrary \$5 CD threshold.

This has met with a lot of success for YouTubers, podcasters and musicians, whom in many cases are now able to rely on income from patronage subscriptions²⁶⁵, without any need at all for relying on their intellectual property rights. Some academics²⁶⁶, researchers²⁶⁷ and even many health organisations²⁶⁸ have also started adopting these techniques to fund work, the results of which can be freely distributed. However, we are yet to see a similar success in the video-games arena. Perhaps the closest example will be Cloud Imperium Games' forthcoming "Star Citizen", originally set for release in 2014 but as of writing still has yet to announce an official launch date. The game received a lot of media attention for its unprecedented \$72M aggregate investment²⁶⁹ (compared to Bitcoin, the then second highest investment through crowdfunding of only \$18M). However, until an actual product is released, it is difficult to analyse whether the project can really be considered a success.

Similar efforts have been with so called "open-pricing" or "self-determined" models. The best-known example of this is the "voluntary payment system" adopted by Radiohead for sales of its album "In Rainbows"²⁷⁰. The band released the album exclusively through their own website, DRM-free. Customers could choose the price they paid, and to pay nothing at all if they so wished (although there was still a small service fee). As explained by Moshirnia²⁷¹:

²⁶² A number of other platforms like GoFundMe, Indiegogo and Fundable are discussed in the market analysis by Wise Guy Reports: 'Global Crowdfunding Market 2016-2020 | Market Research Reports® Inc.' <<https://www.marketresearchreports.com/technavio/global-crowdfunding-market-2016-2020>> [accessed 14 December 2017].

²⁶³ 'About — Kickstarter' <<https://www.kickstarter.com/about?ref=global-footer>> [accessed 14 December 2017].

²⁶⁴ 'Best Way for Artists and Creators to Get Sustainable Income and Connect with Fans | Patreon' <<https://www.patreon.com/>> [accessed 14 December 2017].

²⁶⁵ See for example, 'Top Patreon Pages in 2016: 35 Creators Who Earned Over \$150,000' <<https://blog.patreon.com/top-earners-2016/>> [accessed 14 December 2017].

²⁶⁶ For example, Jeffrey Young, 'Meet the Crowdfunded Professor: He's Left His Tenured Job and Gone Online, Sol', *The Chronicle of Higher Education*, 2015.

²⁶⁷ Nancy K Herther, 'Crowdfunding-Research and Academic Fundraisings New Era', *Online Searcher*, 40.5 (2015), 30–36.

²⁶⁸ Matthew J. Renwick and Elias Mossialos, 'Crowdfunding Our Health: Economic Risks and Benefits', *Social Science & Medicine*, 191 (2017), 48–56.

²⁶⁹ 'Crowdfunding: The Stars Are the Limit', *The Economist*, 2015.

²⁷⁰ Leah Belsky and others, 'Everything in Its Right Place : Social Cooperation and Artist Compensation.', *Michigan Telecommunications & Technology Law Review*, 17.1 (2010), 1–65.

²⁷¹ Andrew V. Moshirnia, 'Giant Pink Scorpions: Fighting Piracy with Novel Digital Rights Management Technology', *DePaul Journal of Art, Technology & Intellectual Property Law*, 23.1 (2012), 1–67.

“The band noted that this model allowed them to sidestep corporate middlemen but it also allowed their fans to decide the value of the album. Radiohead did not release specific sales figures related to their voluntary donation model. According to one study, approximately two-thirds of users paid somewhere in the \$5 - \$15 range, with the other third of users electing to download the music for free. ComScore estimated that only 38% of downloaders paid for the album, and these users only paid \$6 on average. This meant that the average downloader, including the users who elected to download the album for free, paid \$2.26.” There has therefore been considerable debate over whether the open pricing experiment should be considered a success for Radiohead or not. Certainly, it is hard to dispute that the novelty of the pricing model drew much greater public attention to the album than it might otherwise have managed, which one could presume to have led to a higher total aggregate of downloads.²⁷² However, without the benefit of the specific figures we are left to speculate whether or not the lower average price, and percentage of paying downloaders might have outweighed this.

The first major attempt to recreate such a system in the videogames context has now been made by Humble Bundle - which for limited times, sells bundles of DRM free, independently published games, asking customers to “pay what you want” to the developers and/or a charity, with a meagre 1c minimum licensing fee as a concession to the prevailing copyright system. Kuehl notes that despite the apparent financial success of the business model, however, it’s products are also widely pirated. Despite running counter to most justifications for piracy (it allowed users to set their own price, the games were DRM-free, and all were developed by relatively small, independent game developers) approximately 25% of Bundle downloads from the server were not paid for, even when excluding torrents and links to the bundles on cyberlockers. In short “it appears that no matter what something costs, some people are always going to pirate”.²⁷³

This has led some to argue that the patronage model is simply incompatible with larger scale projects. It can function within the niche of individual creators with whom the audience can develop a strong emotional rapport, but in the context of large complicated projects, video games are proving that the same logic simply will not apply. This argument is not to be preferred. Rather, as Moshirnia²⁷⁴ notes, it seems clear that independent developers - who are much more sympathetic piracy victims - suffer from piracy at rates comparable to large producers. Moreover, the community backlash these pirates have received (by contrast to

²⁷² Note that the article also discusses the example of Trent Reznor, lead singer of the band Nine Inch Nails, who attempted a similar bifurcated model of for his record *The Inevitable Rise and Liberation of Niggy Tardust*: \$5 for a high quality DRM-free album, or a lower quality album for free; but by contrast, here only 18.3% of users elected to pay for the album.

²⁷³ Kuehl. (2016)

²⁷⁴ Moshirnia. (2012)

previous incidents where they were generally treated as little more than incorrigible rogues) supports the view that games available under open pricing may more effectively combat piracy than traditional DRM - by shaping community sentiment over the long term. The “star citizen” case might be a lonely example for the time being, but if the game ever manages to launch successfully, it would be very surprising if further development companies did not attempt to follow suit.

3.5 Interim Conclusion

The more pressing concerns as to the viability of alternate business models lie elsewhere. In particular, we can identify three major obstacles these systems need to overcome before they present a realistic alternative to copyright protection. First, is the issue of attribution. Much as is the case with the open source example, it seems clear that even should creators choose to forsake their current economic rights in favour of alternative monetization methods, they are unlikely to give up their rights to attribution, etc. Here there is too great a risk of consumer confusion as to the original source of a product, as well as complicated issues of liability should any of these products end up being harmful/illegal in some way. Potentially one could imagine something akin to the English law of “passing off” being implemented to fill this gap²⁷⁵, but not all European jurisdictions recognise such an action at present. As such, it might be more correct to suggest that these business models threaten to hollow out the concept of the *economic* rights of copyright holders; but it is difficult to envisage a world in which their moral rights do not continue to exist. Secondly, there is the concern that these raise the barrier to entry for a community which is already very exclusive. Whereas at present, a creator can begin at least making *some* income from their commoditised works, having to rely on having first built a sufficiently large audience might somewhat “put the cart before the horse”. Far from making support for creators more democratic, this might actually lead to further concentration of resources into the hands of a very small number of hyper-successful creators, which would be stifling for creativity and damaging to society as a whole²⁷⁶. This connects strongly to the third danger that “survivor bias” might skew the results of empirical analysis. Whereas in proprietary systems we are at least able to record for example that “this CD only made 10 sales”, it is possible that we overestimate the success of creators that successfully manage to get these alternative business models off the ground, simply because those who failed to do so are invisible to us.

²⁷⁵ Wadlow is right to point out that the elegance of this action is its perception of the issue fundamentally as a unfair competition issue, rather than strictly an intellectual property one. Christopher. Wadlow, *The Law of Passing-off: Unfair Competition by Misrepresentation* (Sweet & Maxwell, 2016).

²⁷⁶ Gady Epstein, ‘Winner Takes All: Mass Entertainment in the Digital Age Is Still about Blockbusters, Not Endless Choice’, *The Economist*, 2017.

Overall, therefore, it would be reasonable to conclude that the copyright system does not stand to be done away with by these new trends in the immediate future. It might be that many of their main economic functions become hollowed out, as increasing numbers of developers become frustrated with the hindrances imposed by traditional copyright and DRM systems and adopt one or more of these models in their ever-expanding array of combinations. However, even if the notion of intellectual property becomes increasingly nominal in economic terms, there is no clear alternative for the issues raised by moral rights and some serious concerns about the effect on the industry more broadly which would first need to be addressed.

4. Conclusion

In this thesis I have argued that videogames are “greater than the sum of their parts” in some sense, and that this has created problems copyright law in Europe has yet to fully address. However, I have suggested these problems are better addressed by amending the existing system than by attempting to abandon it altogether.

In Part 1, we looked at how the multimedia nature of videogames caused a number of its constituent “parts” to map poorly onto the pre-existing categories of copyright work which are recognised in Europe. In particular, we analysed the decision of the CJEU in the *Nintendo v PC Box* case and questioned whether or not this overturned the “distributive approach” to copyright works identified by WIPO in their 2013 study of videogame regulation. In this regard, I concluded that even if the Court might have tipped its hand in favour an inclusive “unitary” approach – like that developed in *Infopaq* – the fact that this was not an operative part of the judgement means its authority is questionable. I lamented that although this ambiguity might have been acceptable in the expectation that the later *Grund* case would address the question directly, the fact this case eventually was discontinued on procedural grounds means the question is left uncomfortably unresolved.

Seeing as Member States have therefore continued to use the “distributive approach” we proceeded to break the video-game down into its individual elements and see whether the current intellectual property regime in Europe adequately provides for these. What we found was that although there are some areas where it is fairly uncontroversial that there will be protection (under the InfoSoc Directive, many copyright works such as graphics, sounds and scripts will be protected) there remains a very large area of uncertainty with regards to many important parts of videogames. For instance, we argued that although computer code clearly falls to be protected under the Software Directive, the boundaries of this concept are incredibly difficult to define, and might no longer apply when it comes to mixed works like Graphic User Interfaces or 3D models. We identified how this fails to properly account for new uses of videogames, including online streaming, and the tension this has been causing between consumers and creators. Potentially, it was suggested that the source of this difficulty was in the European Union’s decision to adopt a copyright (as opposed to patent) solution when it comes to software, and that a better solution might be found in the hybrid approach promoted by WIPO in its long-abandoned 1983 proposals. We argued that, as has been the case with designs and databases, introducing a sui generis regime for these unique types of work might allow the law to be more sensitive to the peculiarities of the industries affected by them. However, absent the political will for such a fundamental shift towards such a “unitary” approach, the current “distributive approach” may be a necessary compromise.

Having concluded that the current regime in Europe does not seem to adequately provide for videogame producers despite the particular problem of piracy faced by creators in this context, in Part 2 we went on to consider the regime from the opposite side of the debate – that of the consumer. In particular, we evaluated the use of DRM (Digital Rights Management) systems – including TPMs (Technical Protection Measures) – which forced us return to the substance of the *Nintendo v PC Box* case itself. We suggested that the ruling of the CJEU in this case may have been overly generous to rightsholders, and that far from imposing realistic restrictions on the use of these systems, it largely excuses the use of DRM to extend copyright protections beyond the limits set by the legislature. We argued that the use of “click-wrap” agreements in particular has been abused to the point where it may not only be damaging to consumers but also imperil the doctrine of “exhaustion” which is necessary for the free movement of goods and services within the single market. It was submitted that in the absence of solutions from *inter alia* consumer protection law, the best response to this was reform of EU copyright legislation explicitly making such technologies and contracts subject to public interest exclusions and fundamental rights.

Finally, in Part 3 we looked at some of the radical suggestions which have arisen in the videogame community which suggest that intellectual property in this area should be abandoned altogether in favour of a number of alternative regimes. Specifically, we addressed the argument for FOSS (Free and Open Source Software), concluding that although this represented an incredibly novel *use* of intellectual property law – and in some ways does challenge intellectual property law to re-evaluate what we mean by “property” when the owner’s rights are so limited – it nevertheless relies on at least a nominal notion of property in order to function. Moreover, despite its success in other arenas, we are yet to see business models which rely on such a meagre concept of property to actually prove themselves financially successful. In this regard, the broader social import of video-games will only grow, as experiments like those by EA and “Star Citizen” will come to be looked at as the “canary in the coal mine” for anti-copyright movements in the creative industry. Despite the potential of these experiment, we nevertheless argued that there are a number of challenges these alternatives are yet to overcome (attribution, survivor bias and the increased barrier to entry); and that therefore the focus should be on further adapting copyright law, rather than abandoning it. In this again, I presented harmonisation of national approaches to moral rights, and a unified approach to copyright’s relationship with contract law as essential.

In sum, the current system of EU copyright law does not adequately account for videogames. It is at once over- and under-encompassing. It fails to unambiguously award creators protections for works which I have argued they should; and at the same time allows them to

restrict activities which the legislature has explicitly created exceptions to permit. However, the EUs current reformist bent presents us the opportunity to rectify many of these issues: the ambiguities around computer-implemented creations, 3D models and streaming output can be clarified; the excesses of enforcement mechanisms can be restrained; and the relationship between intellectual property law and contract law clarified. This should allow new creative models to flourish in a way which is both beneficial to the creator and the consumer.

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