# Problems and Progress in the Protection of Videogames: A Legal and Sociological Perspective

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## Abstract

The videogame industry has reached a critical juncture in its efforts to prevent piracy: as publishers and developers adopt more stringent copyright enforcement technologies, consumers are becoming more and more vocal about the restrictions these technologies place on their use. Furthermore, there is a growing body of evidence to suggest that the heavy-handed rights management technologies used in videogames today may be counter-productive as they provide little incentive for consumers to purchase legitimate copies of games. If an effective method of regulating consumer behaviour is to be found, the motivations of pirates must be investigated.

This research could, however, have implications throughout the creative industries as a whole, as copyright protection technologies not only have a dramatic effect on consumer rights, but seek to expand the modern scope of copyright law beyond its traditional limits. It is therefore essential that the areas in which such technologies transcend these limits be identified and challenged if the balance of the law is not to be skewed too far in favour of copyright holders.

In this study, I have found that rights management programs employed by videogame companies not only disrespect traditional consumer rights, but are damaging the established doctrines of first distribution and of ownership in the physical property as separate to ownership of intellectual property. This has given these companies unprecedented power over the use and distribution of their works. If future rights management schemes are to be effective, balance the rights of users with those of the rights-holder, and not penalise honest consumers.

## I. Introduction

The videogame industry is serious business. In the last two decades, what was once a niche hobby enjoyed by a minority

has exploded into the next entertainment media phenomenon. In 2006, it was predicted that by 2011, videogames would be outselling music.[1] In fact, in 2009, videogame sales overtook even the Hollywood film industry in terms of gross profits.[2]

With this increase in consumer interest, however, have come a number of rapid and sweeping changes to the way in which the industry conducts business. The transition from a relatively 'underground' hobby to mainstream pastime has been less than smooth, and the industry today is faced with the growing problems of software piracy and second-hand software markets. Both of these have made it more difficult for videogame developers and publishers to recoup their initial investments.

Furthermore, the aggressive steps videogame publishers have taken to protect those investments have serious consequences for the formulation of copyright law as a whole. The monopoly rights now conferred upon videogame companies are more extensive than in any other industry. Far from being an issue whose ramifications are solely confined to gaming markets, these extensions have the potential to rewrite the copyright map in an era of digital provision of content in a whole host of industries.

The purpose of this paper is to shed some light on the advantages and shortcomings of current copy-protection methods employed in videogames, the ways in which those methods challenge traditional copyright norms, and to put forward a number of observations as to how the industry may seek to evolve in the future. Due to the particularly highly-restrictive nature of protection measures applied to games for the personal computer (or PC), I will focus much of my

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[1] Nate Anderson, 'Video Gaming to be Twice as Big as Music by 2012' (*Ars Technica*, 30 August 2007) <http://arstechnica.com/gaming/news/2007/08/gaming-to-surge-50-percent-in-four-years-possibly.ars> accessed 21/09/11.

[2] Tom Chatfield, 'Videogames Now Outperform Hollywood Movies' (*The Guardian*, 27 September 2009) <http://www.guardian.co.uk/technology/gamesblog/2009/sep/27/videogames-hollywood> accessed 23/09/11.

attention on this market, particularly as its vast size[3] must make controlling it a very attractive prospect for publishers. As we shall see, the industry's efforts to do just that have resulted in a number of practical and legal problems that must be addressed.

## II. DRM, TPMs and the Struggle for Control

Perhaps the biggest challenge facing the videogame industry today is that of piracy. In 2010, the UK gaming industry lost an estimated £1.45 billion in sales in the console markets alone.[4] The PC gaming market is likely to have been hit even harder, as research suggests that a staggering 90% of PC games in circulation in Europe are pirate copies.[5] These statistics suggest that the ability of copyright law to protect the interests of game developers is insufficient, as advancements made in file-sharing technologies and peer-to-peer networks (P2P) have facilitated the mass distribution of illegal copies of games.

The perceived failure of copyright law to tackle the issue of videogame piracy has resulted in a swift and decisive technological response from the industry. The last decade has seen a proliferation of technological protection measures (TPM) and digital rights management systems (DRM) applied to videogame software, as developers have sought to regain control over their copyrighted works. These technologies have one intended remit: whereas copyright law would seek to punish those who distribute and download pirate copies of videogames ex-post, technological measures

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[3] Estimates of the number of active PC gamers around the world range from under 100 million to over 300 million; Matt Ployhar, 'Just How Many PC Gamers Are There?' (*Intel*, 3 March 2009) <http://software.intel.com/en-us/blogs/2009/03/03/just-how-many-pc-gamers-are-there> last accessed18 March 2012.

[4] It is also believed to have cost the British economy up to 1,000 jobs in the last year; Dan Whitworth, 'Gaming Industry Lose "Billions" to Chipped Consoles' (*BBC Radio 1 Newsbeat*, 21 January 2011) <http://www.bbc.co.uk/newsbeat/12248010> last accessed 21/09/11.

[5] Tamsin Oxford, 'The Truth about PC Game Piracy' (*TechRadar*, 2 June 2010) <http://www.techradar.com/news/gaming/the-truth-about-pc-game-piracy-688864> last accessed 21/09/11.

act ex-ante to prevent illegal copying.[6] In effect, copyright protection technologies act as 'a substitute for legal standards',[7] and aim to prevent recourse to litigation or other legal channels by enforcing blanket rules regarding users' conduct. As I shall discuss, this could be seen as reducing the relevance of copyright law to videogames and other digital content.

However, these extra-legal instruments are now protected *in law*. The InfoSoc Directive,[8] which adopts the WIPO Copyright Treaty[9] into EU law, requires that member states provide 'adequate legal protection' against the circumvention of 'effective' technological protection measures. These provisions have been implemented in the UK by sections 296 to 296ZF of the Copyright Designs and Patents Act 1988 (CDPA).[10]

### *A. Defining DRM and TPM*

Before we can discuss the issues surrounding DRM and TPMs, we must first define and distinguish these two terms. It is worth noting that sections 296 to 296ZF of the CDPA merely refer to 'technical devices', which are defined with regards to computer programs[11] as 'any device intended to prevent or restrict acts that are not authorised by the

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[6] My thanks to Paul Gibson for bringing this point to my attention.

[7] Dan L Burk, 'Legal and Technical Standards in Digital Rights Management Technology' (2005) 74 *Fordham Law Review* 537, 539.

[8] Directive 2001/29/EC on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society.

[9] World Intellectual Property Organisation Copyright Treaty, adopted in Geneva on 20 December 1996. The United States implemented the Copyright Treaty through the Digital Millenium Copyright Act of 1998.

[10] Lionel Bentley and Brad Sherman, *Intellectual Property Law* (3rd edn, OUP 2009) 318

[11] Whether or not copyright subsists in a videogame as such, and to what extent it should be protected, is a fundamental debate. Indeed, there are no provisions in the CDPA that refer to 'videogames' per se. While I do not have time to address the complexities of this issue in this paper, for our purposes I have placed videogames in the general copyright category of software, governed by s.3(1)(b) of the Copyright Designs and Patents Act 1988. For a deeper discussion of this issue, see David Booton and Angus MacCulloch, 'Liability for the Circumvention of Technological protection Measures Applied to Videogames: Lessons from the UK's Experience' (2011) The University of Manchester and Lancaster University, accessed 4 July 2011

copyright owner of that computer program and are restricted by copyright.'[12] In this case, the legislation is a somewhat less-than-ideal starting point for our definitions.

A useful distinction is offered by Peter Yu,[13] who defines a technological protection measure as a solution that 'focuses narrowly on mechanisms used to protect copyrighted contents, such as passwords, encryption, digital watermarking and other protection techniques'.[14] In the context of videogames, the implementation of TPMs has been vast and relatively uncontroversial.[15] These kinds of measures have been in use since the early days of the videogame industry,[16] and have largely been accepted as necessary and relatively unobtrusive measures for protecting copyrights.[17]

DRM, however, is a much more modern and divisive technology. Yu conceptualises it as 'a larger set of technological tools that not only protect the content, but also monitor consumer behaviour'.[18] The standard notion of DRM in gaming culture is of rights management software applied to PC games. These programs are usually installed compulsorily as part of a videogame installation, and facilitate certain restrictions of user actions upon the game.[19]

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[12] s. 296(6) CDPA

[13] Peter K Yu, 'Anticircumvention and Anti-anticircumvention' (2006) 84 *Denv U L Rev* 13, 61.

[14] Yu (n13) 61.

[15] For example, PC games have long been issued with authorisation codes that must be input into a computer before a game may be installed.

[16] David Houghton, 'A Brief History of Video Game Piracy: From Tapes to Torrents, the Climb of Copyright Crime Laid Bare' (*GamesRadar*, 30 August 2010) <http://www.gamesradar.com/a-brief-history-of-video-game-piracy/?page=1> accessed 22 September 2011.

[17] Of course, this has not always been the case. Early technical protection measures, such as the 'Lenslok System', often came under public scrutiny because they were incompatible with users' television sets, leaving them unable to play legitimately purchased games. With the development of new storage media, however, TPMs became much less obtrusive, with the dominant forms from the mid-1990's onwards being authentication software on console games, and authorisation codes contained within PC game boxes; David Houghton, 'Gaming's Most Fiendish Anti-piracy Tricks' (*GamesRadar*, 26 February 2010) <http://www.gamesradar.com/gamings-most-fiendish-anti-piracy-tricks> last accessed 7 March 2012

[18] Yu (n 13) 61.

[19] A well-know example would be Sony DADC's copy protection program 'SecuROM'.

Videogame publishers are continually inventing new methods aimed at ensuring user compliance with copyright, and a number of these solutions have arisen through changes in the way many videogame companies distribute their products. Therefore, if there is to be any meaningful discussion of the implications of DRM, it is essential that we move beyond the public's common view of it and interpret the technology more widely.

### *B. The Shift in Emphasis to Consoles*

Substantial opportunities to strengthen the copyright protection of videogames have been seen in the creation of the console market. Creating a proprietary console allows the manufacturer to exert a great degree of control over a videogame's operating environment, and dictate to the user what uses are and are not authorised. Early consoles, such as the Nintendo Entertainment System, featured crude but effective TPMs in the form of proprietary storage mediums.[20] Today, however, the sophistication of console TPMs has increased immensely. Almost all modern consoles contain programming known as 'firmware', which prevents the use of unauthorised software on the console,[21] and may also be updated over time to increase levels of protection.[22]

The PC, by comparison, is valued by consumers largely due to the *open* nature of its operating environment. Copy-protection is not generally built into PC operating systems as standard,[23] something which has benefited users by allowing

[20] The NES's games were published on shaped plastic cartridges that would only fit into a proprietary console. This not only acted as a piracy countermeasure, but allowed for the regional distribution of videogames via differently-shaped cartridges.

[21] The embedded firmware will only allow a game disc to run if it contains an authentication file which shows it has been licensed and distributed by the copyright owner; Booton and MacCulloch (n 11), 2.

[22] Charles Arthur, 'Microsoft cutting off up to 1m gamers with modified Xbox 360 consoles' (The Guardian, 11 November 2009) <http://www.guardian.co.uk/technology/2009/nov/11/xbox-modded-consoles-live-cut-microsoft> accessed 1 October 2011

[23] However, some copy protection has been built into the Microsoft Windows operating system since the 'Vista' version. This has generally been limited to the

for the development of a huge variety of third-party PC software. As such, any copy-protection must be included with a purchased game.

This additional protection provided by consoles has made the case for exclusive development for them very attractive to publishers. While PC piracy is often as simple as downloading a 'cracked' (DRM-free) copy of a game online,[24] console piracy usually relies on the availability of hardware-implemented methods – such as 'modchips' or other physical hardware solutions[25] – to circumvent the console's embedded firmware and allow the running of pirate software. The physical nature of many of these solutions has made copyrights much easier to enforce on consoles, as the distributors of these devices are much easier to track than faceless internet pirates. This has led to successful litigation against circumvention device distributors, such as in the recent case of *Nintendo v Playables*.[26]

If we consider that most consoles are sold at a loss,[27] and that they often contain outdated computing and graphics technology,[28] the only reasonable explanation for the current industry emphasis on them is as a method of copyright

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playback of certain media content, however (such as including region-encoding recognition software in Windows Media Player).

[24] Optical media emulation tools are often required in the absence of a disc. However, these tools are widely available at zero cost on the internet. An example would be the program 'Daemon Tools'.

[25] The security mechanisms preventing the playing of pirate games on Microsoft's Xbox console could be circumvented in a number of ways. A survey undertaken by Celine Schulz and Stefan Wagner indicates that by far the most common method of circumvention (at 78.6% of respondents) is the soldering of a modchip into the console. Other, less-popular methods include overwriting the console's firmware ROM-Chip with alternative software (a 'hardware hack'), and exploiting a buffer overflow through the use of specialised software (a 'software hack'); Celine Schulz and Stefan Wagner, 'Outlaw Community Innovations' (2008) Munich School of Management Discussion Paper 2008-08, 11 <http:// http://epub.ub.uni-muenchen.de/4678/1/ijim_schulz_wagner_bwl.pdf> accessed 18 March 2012.

[26] [2010] EWHC 1932.

[27] Lost revenues from console sales are generally reimbursed by the sale of software; N Daidj and T Isckia, 'Entering the Economic Models of Game Console Manufacturers' (2009) 73 *Communications and Strategies* 23, 37.

[28] Stuart Bishop, 'Rein: Consoles put a stranglehold on DX10' (*CVG*, 30 July 2007) <http://www.computerandvideogames.com/169116/rein-consoles-put-a-stranglehold-on-dx10/> last accessed 5 October 2011.

protection. One company that has embraced this console emphasis is Microsoft, as they have abandoned the development of PC versions of well-known titles – such as the Halo and Gears of War series' – in favour of exclusive development for the Xbox 360. The rationales for these decisions were subject to a great amount of speculation, until Cliff Bleszinski, design director of Epic Games, settled the matter in his now infamous interview with TVG:

> 'the person who is savvy enough to want to have a good PC to upgrade their video card, is a person who is savvy enough to know... all the elements so they can pirate software. Therefore, high-end videogames are suffering very much on the PC.'[29]

### *C. Digital Distribution*

The past eight years[30] have witnessed the popularisation of digital distribution systems as a method for videogame delivery. These systems allow users to buy videogames online and download them directly to their PC or console. This can be advantageous to consumers for a number of reasons. First of all, downloading content is much more convenient for the consumer, as they do not have to travel to a high-street retailer, and the provision of the content is much faster than having a game delivered by an online retailer (download times notwithstanding). Secondly, because of the reduced reproduction and distribution costs associated with downloadable games, savings could be passed on to the consumer in the form of lower prices for content.[31] As publishers and developers are able to run their own digital distribution services, this will further reduce costs as profits

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[29] Chris Leyton, 'Gears of War 2 – Cliff Bleszinski Q&A Feature' (*TVG*, 29 September 2008) <http://www.totalvideogames.com/Gears-of-War-2/feature-13270.html> accessed 23 September 2011.

[30] Valve Software's digital distribution software, known as 'Steam', was launched on 12 September 2003, and is widely credited with popularising the digital distribution model.

[31] Eric Matthew Hinkes, 'Access Controls in the Digital Era and Fair Use/First Sale Doctrines' (2007) 23 *Santa Clara Computer & High Tech Law Journal* 685, 706.

from sales no longer have to be split between the publishers and independent retailers.[32]

However, it is also advantageous for publishers in that it facilitates the monitoring of consumer use. Most digital distribution services require users to connect to internet servers run by the publisher in order to authenticate the game each time it is played. In essence, digital distribution software has the potential to act as a form of *hidden DRM*, which can be beneficial to companies in a time where, as I shall discuss, public attitudes towards DRM are becoming increasingly hostile.

Digital distribution systems have, in fact, become *so* successful that many publishers now compulsorily link *retail* copies of the game to these systems to gain the advantages of use monitoring.[33] These practices are a source of growing controversy in the gaming community, and questions over the use and effectiveness of such DRM is the subject to which I will now turn.

## III. Regulating Piracy

Current media and industry rhetoric[34] would have us believe that a *war* is currently being waged between the users and producers of videogames, and that DRM is a new weapon in the battle for copyright control. However, I believe that such a conception of DRM is inherently unhelpful, as it polarises the issue. If future rights management strategies are to be successful, the interests of content producers and consumers must align. If they do not, there is a risk that two groups will

[32] Oddly, however, this does not seem to have been the case thus far in practise. A great number of games sold via Valve Software's Steam and Electronic Arts' Origin services are available at lower prices from independent retailers. This would suggest that the market places a premium on the convenience of content provision over price.

[33] For example, all games published by Valve Software require registration with the Steam service.

[34] Andrew Wallenstein, 'How the War on Piracy Will Change in 2011' (*Mashable*, 19 January 2011) <http://mashable.com/2011/01/19/war-on-internet-piracy/> accessed 2 October 2011.

rail against one another and the problem of rights management will escalate.

I believe that a more useful conception of DRM can be found in the fact that the essence of any system of control is that it is *regulatory*. While classic theories of regulation have focussed on state control,[35] more modern interpretations have expanded to include 'all mechanisms affecting behaviour– whether these be state-derived or from other sources'.[36]

Furthermore, if we consider that economic incentive theories of copyright law have traditionally been justified in terms of upholding the public interest,[37] any conception of DRM as regulation must have the same aims. Baldwin and Cave suggest that this kind of '[r]egulation's purpose is to achieve certain publicly desired results in circumstances that where, for instance, the market would fail to yield these.'[38] In other words, DRM may further the public interest by regulating consumer behaviour in a way that further protects the rights of videogame publishers, and gives them economic incentives to create new games.

And incentives are indeed needed. Robert Walsh[39] estimates that the average cost of videogame development has 'probably doubled or tripled in the [last] console transition.'[40] In 2010, the average cost of videogame development was estimated at around US$28 million[41]

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[32] For example, Philip Selznik describes regulation as 'sustained and focussed control exercised by a public agency over activities which are valued by a community'; Philip Selznik, 'Focussing Organisational Research on Regulation' in Roger Noll (ed), *Regulatory Policy and the Social Sciences* (University of California Press, 1985), 363.

[36] Robert Baldwin and Martin Cave, *Understanding Regulation: Theory, Strategy, and Practice* (OUP, 1999), 2.

[37] Bentley and Sherman (n 10), 37.

[38] Baldwin and Cave (n 36), 19.

[39] CEO of Australian developer Krome entertainment.

[40] 'Interview: Krome's Robert Walsh' (*Develop*, 26 May 2009) <http://www.develop-online.net/features/484/Interview-Kromes-Robert-Walsh> accessed 29 August 2011.

[41] These increased development costs are being driven by the increasing complexity of the underlying technology that powers videogames. The computer programs that are used to design and build videogames, known in the industry as 'engines', become increasingly complex and time-consuming to use as they gain greater potential for graphical fidelity and the programming of gameplay features (such as physics modelling, artificial intelligence etc.); Rob Crossley, 'Study: Average Dev

(approximately £17.3 million at the time[42]). In fact, the select group of videogames with the highest development budgets and highest projected returns, referred to in the industry as 'triple A games', can have development costs that are significantly higher.[43]

However, despite such exponential growth in costs, the interests of developers are not the only ones that should be considered. As noted by Richard Stallman, the public benefit justification of copyright law does not offer 'software companies... an unquestionable natural right to own software and thus have power over all its users.'[44] Users must be allowed a degree of control in the ways in which they use software for non-commercial purposes; if not, the degree of control gained by videogame publishers could reduce the value of their goods to the public. In other words, 'if we are to ensure that DRM systems truly reflect the historical bargain struck in the copyright system, we need to build into them not just holder rights, but also consumer rights.'[45] A balance must be struck[46] between the two that maximises the social utility of videogames.

### *A. Has the Balance Been Struck?*

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Costs as High as £28m' (*Develop*, 11 January 2010) <http://www.develop-online.net/news/33625/Study-Average-dev-cost-as-high-as-28m> accessed 29 August 2011.

[42] Calculated using XE's historical rate tables at <http://www.xe.com/ict/> accessed 30 August 2011.

[43] While the exact costs of development are not always a matter of public record, the most expensive game to date is believed to be Grand Theft Auto IV, with an estimated cost of US$100 million (£50.4 million) and a development staff of approximately 1,000 people; Gillian Bowditch, 'Grand Theft Auto Producer is Godfather of Gaming' (*The Sunday Times*, 27 April 2008) <http://www.timesonline.co.uk/tol/news/uk/scotland/article3821838.ece> accessed 29 August 2011. By comparison, id Software's game Wolfenstein 3-D, developed in1992 cost roughly $25,000 to make with a development team of 8 people; David Kushner, *Masters of Doom* (Judy Piatkus 2004), 113.

[44] Richard Stallman, 'The GNU Operating System and the Free Software Movement' in *Open Sources: Voices from the OpenSource Revolution* <http://oreilly.com/openbook/opensources/book/stallman.html> accessed 26 July 2011

[45] Yu (n 13), 62.

[46] Yu (n 13), 17.

If a fair balance is to be struck between protecting the rights of videogame developers and those of users, DRM and other copy-protection measures must be formulated in a way that 'not only protect[s] the copyrighted works from unauthorized access but also accommodate[s] important interests of users'.[47] Given that this will require videogame companies to relinquish a degree of control over their products, such a solution will likely fall short of stopping piracy completely. However, it is worth noting that a system of '*zero leakage* has never been a goal of copyright law,'[48] as the underlying justification for copyright is to allow a monopoly to the creator only to the extent that is necessary to incentivise content creation.[49]

Unfortunately, many of the measures employed by videogame publishers today are so restrictive that they risk doing harm to users' rights. One example would be so-called 'always on DRM', which requires users to maintain a constant connection with internet servers run by the publisher in order for the game to be authenticated and its use continually monitored.

French publishers Ubisoft have become somewhat notorious as pioneers of this kind of DRM, coming under stern criticism from consumers and the media alike for including it in PC versions of their recent games.[50] This is understandable, as its requirements place a serious burden upon consumer use. As noted by M. Scott Boone, the design of 'the personal computer... has had to assume that connection to a network is not always possible.'[51] This design restriction is no less relevant today than it was at the dawn of the internet. Even the best home internet connections can be

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[47] Yu (n 13), 61.

[48] Yu (n 13), 73, emphasis mine

[49] Jon M Garon, 'Normative Copyright: A Conceptual Framework for Copyright Philosophy and Ethics' (2002) 88 *Cornell Law Review* 1278, 1307.

[50] Tom Senior, 'Ubisoft Server Switch to Render Always-online DRM Games Unplayable Next Week' (*PC Gamer*, 2 February 2012) <http://www.pcgamer.com/2012/02/02/ubisoft-server-switch-to-render-always-online-drm-games-unplayable-next-week> accessed 19 March 2012.

[51] M Scott Boone, 'The Past, Present and Future of Computing and its Impact on Digital Rights Management' (2008) *Michigan State Law Review* 413, 429.

subject to intermittent problems. If these problems interfere with the connection between the game and the publisher's authentication servers, then the game will be rendered unplayable.[52]

This has led a great number of consumers to assert that the purchasing of a legal copy of a videogame should entail the right to unlimited access to that *one copy*, as well as the freedom to use and abuse the copy of the work in any way they deem fit.[53] Any DRM measures that restrict these freedoms, they argue, are illegitimate.

This argument has been further strengthened by claims that overly-restrictive DRM amounts to an assault on users' privacy. As Julie Cohen argues, 'intellectual privacy resides partly in the ability to exert (a reasonable degree of) control over the physical and temporal circumstances of intellectual consumption within private spaces.'[54] Therefore, any copy-protection measures that interfere with a user's choice as to when and where he plays a videogame could be considered unreasonably invasive.

However, developments in monitoring controls perhaps pose a larger threat to privacy. While controls that merely authenticate the use of a game are only minimally invasive,[55] some videogame publishers have subtly expanded their monitoring to include the compilation of information about

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[52] Furthermore, in the case of Assassin's Creed II, a cyber-attack on Ubisoft's DRM servers in March 2010 caused the game to become unplayable for a number of paying customers. Tom Bramwell, 'Ubisoft DRM was "Attacked" at Weekend' (*Eurogamer*, 8 March 2010) <http://www.eurogamer.net/articles/ubisoft-drm-was-attacked-at-weekend> accessed 14 March 2012.

[53] Of course, such a right would in itself entail a number of neighbouring rights that are beyond the scope of my discussion here. Such rights could include the right to reverse-engineer videogames in order to create modifications (often known as "mods"), the right to make limited copies for personal use, and the right to lend the game to friends and family.

[54] Julie E Cohen, 'DRM and Privacy' (2003) 18 *Berkeley Technology Law Journal* 575, 582

[55] When contrasted with some invasions of privacy that are currently accepted by society (such as credit card companies keeping records of your shopping habits), the recording of when a game is accessed is only superficially invasive; Lionel S Sobel, 'DRMs as an Enabler of Business Models: ISPs as Digital Retailers' (2003) 15 *Berkley Technology Law Journal* 667, 691.

the user.[56] This was recently taken to new extremes in Electronic Arts' end-user license agreement (EULA) for their new download service, Origin, which requires users to accept a term that allows EA to monitor *any task* which a user may undertake on their computer.[57] The critical response to this measure has been vocal and scathing, as it arguably amounts to the complete annihilation of privacy in intellectual consumption online.

However, even such extreme measures as these may be justified if it can be shown that they are the only way of effectively regulating piracy and incentivising game creation. This is the question to which I shall now turn.

### *B. The Effectiveness of Current Measures*

In order for current forms of DRM to be considered effective, they must fulfil two criteria: they must pose a sufficient technical barrier to illegal copying, and they must also work to induce copyright compliant behaviour in users. I believe that the majority of DRM methods currently in use fail to satisfy either of these standards. Many fall at the first hurdle as they are easily circumvented. This is apparent in the fact that huge numbers of games are now leaked online before they are even released.[58]

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[56] Until recently, any personal information taken from the user's computer was generally taken with express permission, such as under Valve Software's Steam system.

[57] The exact term in question is term 2 of the Electronic Arts Software End User License Agreement for Origin™ Application and Related Services, and states: 'You agree that EA may collect, use, store and transmit technical and related information that identifies your computer (including the Internet Protocol Address), operating system, Application usage (including but not limited to successful installation and/or removal), software, software usage and peripheral hardware, that may be gathered periodically to facilitate the provision of software updates, dynamically served content, product support and other services to you, including online services. EA may also use this information combined with personal information for marketing purposes and to improve our products and services. We may also share that data with our third party service providers in a form that does not personally identify you.' <http://tos.ea.com/legalapp/eula/US/en/ORIGIN/> accessed 3 October 2011.

[58] For example, recent EA release Mass Effect 3 was 'leaked' online a few days before its official release date; Gamesta Nick, 'Mass Effect 3 Leaked, Hacked, and Cracked Before Release' (Gamesta, 6 March 2012) <http://www.gamesta.com/mass-effect-3-leaked-hacked-and-cracked-before-release> accessed 12 March 2012.

However, it is worth asking just how difficult to circumvent DRM *needs* to be. Much like a Hollywood film's opening weekend, the majority of videogame sales are made within a very short window after release. The best-selling game of all time, Call of Duty: Black Ops, brought in over US$1 billion in its first six weeks of sales.[59] US$650 million of that was in the first five days.[60] If DRM is technically proficient enough to survive being cracked in this window, the publisher should suffer minimal financial harm.[61] Unfortunately, the fact that a large number of cracked games appear online before even their initial release suggests that this is not yet possible. Therefore, given the sheer technical ineffectiveness of most DRM, it is reasonable to suggest that many of its 'legions of critics must be reacting to the moral implications of rights management rather than the impact DRM has on the availability of works.'[62]

Moreover, there is a growing body of evidence to suggest that such restrictive measures may not be merely ineffective, but *counter-productive*. In 2008, Electronic Arts' game Spore became the most-pirated game of the year,[63] despite having some of the most restrictive DRM available at the time.[64] The reason this occurred is not difficult to ascertain: pirated copies of the game, in addition to being free, also had no restrictions on their use. In effect, Electronic Arts had

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[59] Dan Whitworth, 'Call of Duty: Black Ops is the Best Selling Game Ever' (*BBC Radio 1 Newsbeat*, 14 March 2011) <http://www.bbc.co.uk/newsbeat/12734749> accessed 25 September 2011.

[60] Fred Dutton, 'Black Ops Sales Top $1 Billion' (*Eurogamer*, 21 December 2010) <http://www.eurogamer.net/articles/2010-12-21-black-ops-sales-top-USD1-billion> accessed 25 September 2011.

[61] This can be seen in the practices of Polish developers CD Projekt, who removed the DRM tied to their game The Witcher 2 one week after its release. 'The Witcher 2 Becomes DRM Free: Patch 1.1 Released' <http://www.thewitcher.com/community/entry/35> accessed 16 March 2012.

[62] Jon M Garon, 'What if DRM Fails?: Seeking Patronage in the iWasteland and the Digital O' (2008) *Michigan State Law Review* 103, 124.

[63] 'Top 10 Most Pirated Games of 2008' (*TorrentFreak*, 4 December 2008) <http://torrentfreak.com/top-10-most-pirated-games-of-2008-081204> accessed 19 March 2012.

[64] The DRM program, called SecuROM, severely limited the number of times users could install the game on a computer.

penalised legitimate purchasers of the game and incentivised piracy.[65]

In fact, there has been a growing prevalence of reactionary user activity against DRM that is perceived as overly-restrictive. For example, when George Hotz circumvented the copy-protection on the PlayStation 3 in 2010,[66] Sony reacted by filing a lawsuit against him and removing a feature from the console (known as the 'Other OS' feature) which had facilitated his circumvention.

The Other OS feature, which allowed users to install third-party operating system software on the console (and thus made possible the installation and use of computer programs that were not licensed or sold by Sony, including 'homebrew software'), was removed by a firmware update to the console.[67] While the update was not compulsory, certain console features became locked until the firmware was downloaded.[68] The PlayStation Network[69] and online features of videogames (such as multiplayer modes) are only accessible if the most recent firmware is installed. In addition, any videogames released for the console after the update require the updated firmware in order to play. In effect, Sony mandated the removal of a selling-point feature by severely restricting the PlayStation 3's future capabilities unless users consented.

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[65] Erik Schonfeld, 'Spore and the Great DRM Backlash' (*The Washington Post*, 14 September 2008) <http://www.washingtonpost.com/wp-dyn/content/article/2008/09/14/AR2008091400885.html> accessed 2 October 2011

[66] Jonathan Fildes, 'Playstation 3 "Hacked" by iPhone Cracker' (*BBC News*, 25 January 2010) <http://news.bbc.co.uk/1/hi/technology/8478764.stm> accessed 19 March 2012.

[67] A full list of modifications made by the version 3.21 firmware can be found at: <http://us.playstation.com/support/systemupdates/ps3/history/index.htm#update321 > last accessed 21 August 2011.

[68] The limits placed on the console by refusing to download the firmware update are explained in a blog post by Sony's Senior Director of Corporate Communications & Social Media: Patrick Seybold, 'PS3 Firmware (v.3.21) Update' (*PlayStation.Blog*, 28 March 2010) <http://blog.us.playstation.com/2010/03/28/ps3-firmware-v3-21-update> accessed 21 August 2011.

[69] The PlayStation Network is an online service that allows users to purchase downloadable games, downloadable content (DLC) for games they own, cosmetic interface modifications and other content.

The backlash against this strategy cost Sony dearly. In April 2011, the PlayStation Network was hacked, and the personal data of 77 million Sony customers was stolen. Sony's response was to pull the plug on the network until new security features could be implemented. When the PlayStation Network finally came back online a month later, it was estimated that the total cost to Sony as a result of the hack was in excess of £106 million.[70]

If publishers wish to avoid such consumer backlashes in future, it is necessary that they place an emphasis on innovation in DRM that does not harm legitimate customers. For example, Rock Steady Software's DRM in the game Batman: Arkham Asylum, merely disabled an important game feature if the disc being played was an unauthorised copy, placing no restrictions on legitimate purchasers whatsoever.[71] The success of the game proves that DRM can be effective and non-restrictive upon consumers at the same time.

## IV. Insidious Expansion

However, a perhaps even more serious issue than that of consumer rights is the relationship between DRM and copyright law itself. As Dan Burk observes, where technical standards are applied to control user behaviour, they 'effectively... become a type of law.'[72] The problem is that many DRM technologies offer publishers a degree of control over their works that goes far beyond what copyright law has traditionally allowed.

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[70] Greg [Watchful], 'Sony Cost PSN Hack' (*The Sixth Axis*, 23 May 2011) <http://www.thesixthaxis.com/2011/05/23/sony-cost-psn-hack/> accessed 19 March 2012

[71] The DRM disabled the player character's ability to glide, which made progression past the first five minutes of the game impossible. This feature only affected pirate copies of the game and placed no restrictions upon users of legitimate copies; John Funk, 'Arkham Asylum Pirates get a Gimpy Batman' (*The Escapist*, 8 September 2009) <http://www.escapistmagazine.com/news/view/94524-Arkham-Asylum-Pirates-Get-a-Gimpy-Batman> accessed 4 March 2012.

[72] Burk (n 7), 548.

This is a real cause for concern, particularly as courts in both the UK and USA have tended to interpret legal anti-circumvention provisions in a way that is highly sympathetic towards the interests of the gaming industry.[73] Because of this, overly-restrictive DRM could potentially undermine core principles of copyright law. If this is indeed the case, there is a serious need to reassess the ways in which anticircumvention legislation is applied, as 'the legal protection of TPMs is justified insofar as the technical measures do no more than preserve principles and guarantees already laid down in copyright law.'[74]

### *A. Challenging Ownership*

A great deal of DRM shows disregard for the classical position that, as explained by Bill Cornish, '[c]opyright in a work gives rights that are distinct from ownership of the physical embodiment of the original work'.[75] This has arisen through the current industry practice of treating sales of games as *licenses* to access a work. When accessing a videogame, users are often asked to agree to the terms and conditions of a EULA (End-user License Agreement). This potentially allows publishers to displace copyright law with contract law, which is much more permissive in terms of how much control one party may exert over the other's conduct.[76]

This has led Eric Hinkes to observe that anti-circumvention laws have 'effectively created an additional exclusive right for content providers: controlling access to a work.'[77] Such a right is completely at odds with the average consumer's expectations, particularly where a game is bought at retail. A number of disc-distributed PC games today require registration with an online distribution and rights-

[73] Booton and MacCulloch (n 11), 5.
[74] Booton and MacCulloch (n 11), 2.
[75] W Cornish, D Llewelyn and T Aplin, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (7th edn, Sweet and Maxwell 2010) 478
[76] Hinkes (n 31), 690.
[77] Hinkes (n 31), 685.

management service in order to be played,[78] allowing the publisher to control access the software contained on the user's legally owned disc. However, there can be no meaningful ownership in an object of which your use is restricted in any way other than by law. The essence of such 'click-wrap' agreements[79] is that they tamper with society's fundamental concepts of property.

Therefore, the monopoly control provided to copyright owners by such agreements has no foundation in copyright norms. If we believe – and I do – that copy-protection should 'return the delivery of copyrighted works to an equilibrium comparable to that which existed prior to the advent of the Internet, but not to absolute control by the copyright owner',[80] then it is essential that our anti-circumvention laws do not provide protection to measures that extend further than this.

### *B. The Attack on the Second-hand Market*

A further disregard for fundamental copyright principles can be seen in the gaming industry's sustained attack on the used game market. A number of prominent developers have argued that used game sales are harming the industry as they do not generate any revenue for creators.[81] However, the first distribution right[82] conferred by s.18 CDPA – which confers the right on a copyright owner to be the first distributor of *new* copies of a work – upholds the right of consumers to dispose of second-hand copies of works on an open market.

A number of game companies have sought to challenge second-hand markets in games by implementing so-called 'online' or 'content-licenses'. These licenses, which are required to access certain game content, are included in new

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[78] Games distributed by the Valve and Origin services require this.
[79] Burk (n 7), 547.
[80] Garon (n 49), 1341.
[81] Dan Pearson, 'On the Health of the Industry, the Developer/Publisher Relationship and why Games are Rated like Porn Movies' (Gamesindustry International, 12 September 2011) <http://www.gamesindustry.biz/articles/2011-09-09-guillaume-de-fondaumiere?page=3?> accessed 19 March 2012.
[82] Known as the 'doctrine of first sale' in the USA.

copies of games. However, if a used copy is purchased and the license has already been used by the original owner, a new license must be purchased from the game's publisher to allow access to the content.[83] Such licenses are conceptually the same as the right of *droit de suite* which offers royalties to artists upon the resale of their paintings.[84]

While the second-hand buyer is not required to pay for these licenses to enjoy the game, he is still subject to illegitimate influence from the publisher. By interfering with the resale value of games, copyright holders are claiming rights the conferral of which falls under the express authority of the state, and which should only be granted to avoid market failure. Considering the long history of second-hand markets in all other entertainment media, evidence of this market failure is weak.

Furthermore, some digital distribution services have eliminated the user's right to resell *entirely*. Applications such as Steam tie games permanently to a user's account. As noted above, these models often operate on a 'license' model, which seeks to restrict uses considered legitimate under copyright law. However, the mere fact that the game is conceived of as being licensed does not inherently restrict resale rights. Licenses may be bought and sold just like any other kind of commercial property.

And this is just the tip of the iceberg. Many videogame companies are continuing to find innovative new ways to limit the resale of games.[85] If second-hand markets are important

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[83] In id Software's new game Rage, part of the singleplayer campaign was omitted from second-hand copies:
Tom Bramwell, 'Tim Willits: Building Rage and Never Selling Out' (Eurogamer, 11 August 2011) <http://www.eurogamer.net/articles/2011-08-11-tim-willits-building-rage-and-never-selling-out-interview?page=2> accessed 19 March 2012.

[84] Lionel Bentley and Brad Sherman, *Intellectual Property Law* (3rd edn, OUP 2009), 54.

[85] For example, the non-rewriteable save file on Resident Evil: Mercenaries on the Nintendo DS will significantly harm its resale value, as purchasers of used game will not be able to experience the challenge of unlocking new content within the game; Stephen Johnson, 'Capcom Clarifies Stand on Resident Evil: Mercenaries Saved Games Controversy' (*G4*, 29 June 2011) <http://www.g4tv.com/thefeed/blog/post/714084/capcom-clarifies-stand-on-resident-evil-mercenaries-saved-games-controversy> accessed 19 March 2012

to our society,[86] and the large market for used videogames suggests that they are,[87] attempts to harm these markets must be curtailed.

## V. Challenging Pirate Communities

Despite the illegitimacy of any copyright expansion through technical means, it is generally accepted that DRM will be necessary to any successful business model for the provision digital content.[88] If new copy-protection regimes are to be more effective, not only must there be a return to accepted copyright norms, but an analysis of the motivations behind videogame piracy is essential.

This analysis must necessarily take into consideration two categories of pirate: uploaders and downloaders. The motivations of downloaders are largely self-evident,[89] but are nevertheless worth some consideration. Research shows that most members of the public regard software copying as an issue of 'low moral intensity' that does 'not cause very much harm to anyone.'[90] Furthermore, there are a growing number of people who see the provision of free digital content as a right.[91] While consumer education may play an important role in challenging these viewpoints, such initiatives in other entertainment industries have been largely ineffective. Perhaps a more pragmatic approach is to tackle the root of the problem: uploaders.

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[86] Hinkes (n 31), 701-2.

[87] Nick Williams and Matthew Kumar, 'Analysis: 49 Million U.S. Gamers Buy Used Games' (*Gamasutra*, 9 April 2008) <http://www.gamasutra.com/php-bin/news_index.php?story=18163> accessed 19 March 2012

[88] Sobel (n 55), 669.

[89] i.e. the fact that pirate games are both conveniently available and free of charge.

[90] Jeanne M Logsdon, Judith Kenner Thompson and Richard A Reid, 'Software Piracy: Is it Related to Level of Moral Judgement?'(1994) 13 *Journal of Business Ethics* 849, 855.

[91] This belief is widely held by members of organisations such as The Pirate Bay and Anonymous. Also, Pirate Parties International operates political parties in a number of countries around the world, all of which share a common goal of reforming copyright law in a way that allows for much greater free public access to works and emphasises the development of 'open source' works.

The motivations for engaging in circumvention activity are becoming more widely understood. Studies show that the majority of 'hackers' circumvent copy-protection due in large part to intellectual stimulation such a task provides, and also to increase software functionality.[92] However it is reasonable for us to assume that pirate uploaders must have some other aim than simply the circumvention of overly-restrictive DRM. If they merely wanted to enable restricted but legitimate uses, they could simply post files or directions for circumvention online, allowing other legitimate purchasers of the game to also circumvent it. However, in the majority of cases, circumventers distribute pirated copies of the game online with the DRM disabled. Considering that circumvention will require a considerable investment from the uploader,[93] it is reasonable that we ask what benefits they gain from such activity.

In order to understand the motivations of the average pirate game uploader, it is necessary for us to form a notional paradigm of who such a person might be. Unfortunately, undertaking such an analysis is frustrated by the structure of today's pirate networks. The majority of P2P networks in current use by software pirates are anonymous and have no centralised network structure,[94] making the tracking of pirates much more difficult. [95] Therefore, any analysis that we undertake must be somewhat speculative.

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[92] Schulz and Wagner (n 25), 18.

[93] Nate Anderson, 'File-sharers are Content Industry's "Largest Customers"' (Ars Tehnica, 3 May 2010) <http://arstechnica.com/tech-policy/news/2010/05/file-sharers-are-content-industrys-largest-customers.ars> accessed 19 March 2012.

[94] Peter K Yu, 'P2P and the Future of Private Copying'(2004) Michigan State University College of Law Research Paper No. 02-08 < http://papers.ssrn.com/sol3/papers.cfm?abstract_id=578568> accessed 29 August 2011, 18-19

[95] An example would be the notorious Pirate Bay, which instead of allowing users to download pirated works from centralised servers, allows the downloading of a 'torrent file'. This is a very small file that is interpreted by a program known as a 'client', and allows the downloader's computer to locate other computers in a network that have the file sought on them. The user's computer then downloads the file from all these computers separatelyThere are a range of different client programs that allow the downloading of torrent files. These programs are all based around the BitTorrent protocol, one of the most common digital message formats

However, there is a certain amount of information we can use in order to form a possible picture of the average uploader. Research undertaken by the Entertainment Software Association indicates that the average gamer is aged 37. [96] Also, the complexity of current DRM programs employed by videogame developers means that they require a great deal of programming skill to circumvent. As such skills may only be developed over time, I would estimate that the lower range for the average DRM hacker would be in their mid-twenties.[97]

### *A. The Origins of the Gaming Community*

In the past, consumers of videogames have been referred to by the media and gamers themselves as forming a 'gaming community'. It is not until we view gamers in the context of consumers of entertainment as a whole that we begin to see how significant this terminology is. For instance, we do not refer to consumers of literature as the 'reading community'. This perception of gamers infers a social dynamic not apparent in other media.

From the early 1970's to the late 1990's, videogames were a largely underground form of entertainment, with a strong sense of 'scene' [98] which encouraged the development of social bonds based on mutual interests. While there is currently no unifying theory of community study,[99] this social

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used in P2P networking today. An example of a popular client using this protocol is the µTorrent client.

[96] '2011 Sales, Demographic and Usage Data: Essential Facts about the Computer and Video Game Industry' <http://www.theesa.com/facts/pdfs/ESA_EF_2011.pdf> accessed 20 March 2012

[97] Of course, this is not to suggest that hackers may not be younger than this. George Hotz was only 20 years old when he hacked the PlayStation 3. However, I feel that he is likely to be the exception rather than the norm.

[98] Garry Crawford, 'Forget the Magic Circle (or Towards a Sociology of Video Games)' (Under the Mask 2, University of Bedfordshire) <http://salford.academia.edu/GarryCrawford/Papers/104283/Crawford_G._2009_Forget_the_Magic_Circle_or_Towards_a_Sociology_of_Video_Games_keynote_presentation_to_the_Under_the_Mask_2_University_of_Bedfordshire> accessed 20 March 2012, 1.

[99] Ferdinand Tönnies, 'Gemeinschaft and Gesellschaft' in Colin Bell and Howard Newby (eds), *The Sociology of Community: A Selection of Readings* (Frank Cass and Co, 1974) 7, 12

structure could usefully be explained by Ferdinand Tönnies' concept of *Gemeinschaft*.[100] Tönnies defines Gemeinschaft loosely as 'community',[101] which can be found '[w]herever human beings are related through their wills in an organic manner and affirm each other'.[102] Furthermore, he explains that there is a sub-group of community known as 'Gemeinschaft of mind',[103] in which individuals are united by a common-interest or ideology, and whose sole purpose is 'co-operation and co-ordinated action for a common goal.'[104] I believe that this accurately describes the gaming community of the late 20th Century.[105]

The reason the age range of our notional hacker is important is that it puts him within the right age group to have been an active part of this community, particularly as there is also evidence to suggest that the original gaming community was also a *pirate community*. As Erin Hoffman observes, 'an awful lot of people back in 1988 were what we would call "software pirates" in 2003. The label and indeed the notion didn't exist then.'[106] File-sharing communities are not a recent phenomenon as many people believe: while relatively recent cases such as *A & M Records v Napster*[107] have drawn public attention towards the issue of illegal digital distribution of media, such activities occurred well before the internet could facilitate them.

In fact, this emphasis on file sharing was an ingrained part of gaming culture for decades,[108] and there is evidence to

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[100] Tönnies (n 99), 7.
[101] Tönnies (n 99), 7.
[102] Tönnies (n 99), 9.
[103] Tönnies (n 99), 8; At the time of writing, it is clear that Tönnies envisaged Gemeinschaft of mind in terms of religious and political affiliations. However, I feel that our situation is principally similar enough that it may be applied.
[104] Tönnies (n 99), 8.
[105] Note is that the kind of community we describe here is not the kind of community that Tönnies perhaps envisaged, writing as he was in 1887.
[106] Erin Hoffman, '1988: The Golden Age of Game Piracy' (*The Escapist*, 8 September 2011) <http://www.escapistmagazine.com/articles/view/features/9110-1988-The-Golden-Age-of-Game-Piracy> accessed 28 September 2011.
[107] 239 F.3d (9th Cir. 2001)
[108] David Houghton, 'A Brief History of Video Game Piracy: : From Tapes to Torrents, the Climb of Copyright Crime Laid Bare' (GamesRadar)

suggest that the practice, while not *encouraged*, was at least *tolerated* to some degree by software companies at the time.[109] As Microsoft business president Jeff Raikes explained, if users were pirating software, he wanted it to be *his* software as, in his view, Microsoft's most 'fundamental asset is the installed base of people who are using [their] products.' Once you have got people to use pirate copies, 'what you hope to do over time is convert them to licensing the software.'[110] In fact, a number of videogame developers based business models around the practice of file sharing, known as 'shareware'. [111]

However, the last decade has seen 'a rapid and extensive transition of the videogame market from niche to mainstream'.[112] I believe that this phenomenon has brought about the gaming *Gesellschaft,* or 'society',[113] which Tönnies describes as 'the mere co-existence of people independent from each other.'[114] This theory is given further support by Jessie Bernard's account of the creation of the *first*

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<http://www.gamesradar.com/a-brief-history-of-video-game-piracy/?page=1> accessed 22 September 2011.

[109] Bill Gates argued that it was easier for Microsoft's products to compete with open-source alternatives 'when there's piracy than when there's not; 'Look for the Silver Lining' *The Economist* (New York, 19 July 2008), 23.

[110] Matt Mondok, 'Microsoft Executive: Pirating Software? Choose Microsoft!' <http://arstechnica.com/microsoft/news/2007/03/microsoft-executive-pirating-software-choose-microsoft.ars> accessed 21 September 2011.

[111] id Software's now-famous distribution model relied on the free distribution of large portions of videogames. People who enjoyed the game were then encouraged to copy it and pass it on to their friends. Once people were hooked, it was possible for them to buy extra missions and scenarios for the game, extending the amount of content; Steven L Kent, *The Ultimate History of Video Games* (Prima Publishing 2001), 459.

Interestingly, we may be seeing the creation of a similar business model in some areas of the PC gaming market. So-called 'free-to-play' 'microtransaction-funded' games allow users to play the base game free of charge, but allow them to purchase in-game features, items and other content through an in-game store. If developers continue to supplement these games with new content, they may generate a continuous stream of revenue from one product; Alec Meer, 'The Rise of Free-to-play Games' (*PC Advisor*, 30 June 2011) <http://www.pcadvisor.co.uk/opinion/game/3289004/the-rise-of-free-to-play-games> accessed 18 March 2012.

[112] Booton and MacCulloch (n 11), 3.

[113] Tönnies (n 99), 7.

[114] Tönnies (n 99), 8.

Gesellschaft. She argued that 'the psychological and sociological concomitants of the market essential for its operation came to be known as Gesellschaft and, as such, were viewed as the great destroyer of community in the Gemeinschaft sense.'[115]

The growing intolerance for copyright theft displayed by videogame companies threatens to destabilise the old gaming Gemeinschaft. Such a community shift has no doubt bred resentment, and many of its members (particularly those who align themselves with the so-called 'open-source' movement)[116] openly rail against the new corporate nature of the videogames industry. The survival of this community has been ensured (although fundamentally changed) by developments in internet file sharing, which have allowed hackers to bypass the copy-protection measures that threaten their old modus operandi.

### *B. The Digital Commons*

To our notional uploader, software has always been, to some extent, free. It is therefore likely that he will view videogames as both non-rival[117] and non-excludable;[118] in other words, as public goods. As such, this creates an ideological rift between the uploader and the developer that cannot be easily reconciled, as any attempt on behalf of the industry to enforce copyrights could be seen as indicative of a 'second enclosure movement."[119] By working to prevent the free trade

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[115] Jessie Bernard, *The Sociology of Community* (Scott, Foresman 1973), 16.

[116] This is not to say that supporters of the open source movement cannot be sympathetic towards the needs of developers to recoup costs and make a profit. However, a core tenet of the open source philosophy is the right of users to copy and distribute programs that they own. Such a belief is entirely at odds with the position of most major videogame developers; Bruce Perens, 'The Open Source Definition' in *Open Sources: Voices from the OpenSource Revolution* <http://oreilly.com/openbook/opensources/book/perens.html> accessed 5 March 2012.

[117] Non-rival goods are goods that the consumption of which by one person does not affect the ability of others to consume them.

[118] Non-excludability means that it is impossible to exclude other people from using a good.

[119] James Boyle defines the second enclosure movement as the creation of property rights in intangible assets such as *ideas*, as opposed to the first enclosure movement

in copied games, developers have effectively disrupted a software 'commons', which is made up of all the software contributed by those active within it.

Such a situation could see the creation of a *digital* commons, in which videogames and other software are uploaded by pirates for the purposes of mutual benefit. The rationale behind such a project is that the more each individual adds to the growing commons, the greater the wealth of information to which he will have access to, as the non-rival nature of software would maximise the social benefit of such a system.

If videogame developers are to be successful in convincing uploaders of their position, they must justify the standpoint that a gaming common, if taken to its logical conclusion, would stifle the videogame market. As Jon Garon notes, 'The public good nature of the distribution model does not transform the underlying work's property attributes... Each additional copy does have some costs'. [120] Therefore, videogames cannot be considered as public goods, as the creation of excludability is required to recoup the game's development costs. Without this excludability, the vast development costs of triple-A games would likely make them unsustainable, and the tragedy of the digital commons would not occur due to its over-consumption, but through stagnation and lack of growth.[121]

The difficulty here is that this takes us full-circle to the problem of the pirate downloader: the piratical motivations of each may only be countered by strong arguments for the

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which conferred rights in physical property; James Boyle, 'The Second Enclosure Movement and the Construction of the Public Domain' (2003) 66 *Law and Contemp Probs* 33, 37.

[120] Garon (n 49), 1328.

[121] I would suggest that the continued value of a digital commons is determinative upon its continued growth. In a fast-paced industry like that of videogames, consumers are constantly seeking new and improved content. If the need to experience new content is not satisfied by what is contained within the commons, its value to consumers will decrease until it falls into disuse. Note that this is quite different to the scenario depicted Garrett Hardin's famous hypothetical 'tragedy of the commons'; Garrett Hardin, 'The Tragedy of the Commons' (1968) 13 *Science* 1243.

need to exclude consumers of videogames. If these arguments are to be persuasive, developers must be able to show a failure in their current business model.[122] Considering the huge profits some games earn,[123] this may be very difficult indeed.

## VI. Conclusion

The current model of mainstream videogame development will not be sustainable in an environment where copyrights are rejected outright. However, in their attempts to ensure compliance with copyright norms, developers have often gone too far. The monopolies sought by many videogame companies extend far and beyond any notion of a monopoly in intellectual property, and the overly restrictive nature of these rights is often at the expense of consumer freedoms.

I suspect that if developers are serious about regulating piracy, they will seek to reduce the restrictiveness of their copy-protection measures. After all, gamers, like most consumers, merely want to be treated equitably. A return to the classical balance between physical and copyright ownership will surely benefit both parties, as user's rights to engage in legal uses of software will be restored, and the consumer backlash against DRM will be diminished. In fact, the inherent value of videogames will also be improved, due to the reduced amount of 'cripple-ware'[124] on the market.

Nevertheless, as long as users are allowed to maintain some form of autonomy over their computing and online activities, pirate communities will likely always exist. The aim

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[122] Many arguments levied by the entertainment industries against piracy thus far have relied upon 'scare tactics', such as the threat of legal action against those who are caught engaging in piracy. Considering the scale of piracy today, such methods have clearly been ineffective. I believe that a better form of consumer education should involve engaging users in a discussion as to the nature of their contributions to the industry, and how the quality and quantity of that industry's output may be affected if they continue to resist financing it.

[123] Whitworth (n 59)

[124] 'Cripple-ware' is generally defined as software whose functionality is severely diminished, whether it be by the inclusion of DRM or otherwise; Hal Varian, 'Edited & Excerpted Transcript of the Symposium on the Law & Technology of Digital Rights Management' (2003) 18 *Berkeley Technology Law Journal* 697, 707.

of the videogame industry should not be to stamp out piracy completely, but to limit it to within acceptable levels. The scope of a copyright monopoly is necessarily limited to an extent that some illegal copying may occur. A completely secure form of copyright would undermine the distinction between intellectual property and property per se, and possibly risk undermining core tenets of copyright such as the idea-expression dichotomy.

Therefore, piracy limitation should be achieved primarily through consumer education, although DRM and alternative business models that discourage piratical activity will also have a large role to play. The fundamental message that must be conveyed is that if games matter to users (and the widespread sale and piracy of them suggests they do), they must be willing to contribute to the industry that provides them with their main source of entertainment.

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