Internet innovations: exploring new horizons

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ABSTRACT

The aim of this paper is to provide a standpoint on an emerging trend in sharing digital video content over the Internet. The paper is based on participative evaluative analysis of business model employed by digital video content sharing providers. The authors have found that because of wide diffusion of broadband and cheap video recording equipment, enabling digital video content to be shared online, and emerging business Internet video sharing practice its users increasingly find themselves infringing the intellectual property rights of others. This has implications for anyone using online video resources. The paper offers an insight into the increasing popularity of online video and the resulting dilemmas encountered by Internet researchers; it also offers a functional way for researchers, businesses and online users to understand the mechanism of infringement of the intellectual property rights relating to online video content. The paper further contributes to expanding the understanding of Internet users' behaviour in relation to digital video content creation and distribution in the context of challenges faced by cyberlaw.

Keywords: Internet and innovation; business and cyberlaw; generativity of the Internet; Internet users' behaviour

1. INTRODUCTION

Intellectual property rights (IPR) are concerned with incorporeal creations and are country-dependant hence reinforcing intellectual property laws differ from country to country. This lack of cohesion between IPRs creates a situation in which harmonization of international intellectual property laws is problematic and the laws do not always appear to function effectively. These conditions, whilst creating enormous commercial opportunities are accompanied by challenges arising from the exploitation and infringement of respective territory-dependent laws. The Internet, in contrast, is a cross-border infrastructure comprising thousands of interconnected computer networks (Benkler, 2006). While these networks are in reality governed according to their end users' ownership, the Internet or its content is often seen as borderless or having no particular domicile. Accessing and downloading a video, audio or textual content over the Internet is perceived to be unconstrained by its geographical locality. The same often applies to copyrighted content

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and that represents legal challenges with respect to intellectual property rights protection or enforcement, particularly in controlling content distribution, derogatory treatment of the copyrighted work and the speed of infringement.

This paper analyses the recent upsurge of digital video content sharing which is prone to the unauthorised copying and distribution of copyrighted material. Digital video content sharing is distinguished from ordinary peer-to-peer file sharing mainly by the technology used to create a digital copy of video content and the massive size of the shared video file. The latter has contributed to the emergence of digital content Internet repositories, utilising the pay-per-view revenue model, as the main method of sharing such content.

The paper begins with the introduction of the theoretical framework. This is followed by the analysis of the key influences on increasingly persistent online video content users' behaviour which is attributed here to a perceived legal freedom. The future of impending Internet regulations is then discussed.

2. THE GENERATIVE INTERNET, CYBERSPACE AND CYBERLAW

Our conceptual framework elaborates on a synthesis of the following influential discourses: the generativity of the Internet (Zittrain, 2006) and the associated rise of cyberlaw to influence processes taking place in cyberspace (Johnson and Post, 1996; Lessig, 1999).

The concept of generativity assists with an understanding of the overall capacity of technology to prompt new creative endeavours and/or innovation and 'denotes a technology's overall capacity to produce unprompted change driven by large, varied, and uncoordinated audiences' (Zittrain, 2006: 1980). The Internet today is highly generative. This is a function of its 'capacity for leverage across a range of tasks, adaptability to a range of different tasks, ease of mastery, and accessibility'. Leverage is the extent to which the Internet enables 'valuable accomplishments that otherwise would be either impossible'. Adaptability of the Internet refers to both the breadth of its 'use without change and the readiness with which it might be modified to broaden its range of uses' (ibid: 1982), while the ease with which it can be mastered makes it fairly accessible.

In this paper the concept of generativity is used to rationalise the emergence and diffusion of digital video content sharing, which is one of upshots of the generative Internet, representing the ability of Internet 'users to generate new, valuable uses that are easy to distribute and are in turn sources of further innovation' (Zittrain, 2006: 1982). Regrettably, this phenomenon has certain legal complications due to the unauthorised use of copyrighted material and the involvement of different legal jurisdictions, as the Internet comprises thousands interconnected computer networks spreading across geographical borders.

In order to address the legitimacy of digital video content sharing the concepts of cyberspace and cyberlaw will be reviewed. The Internet is enabled for cyberspace, a distributed virtual space allowing for digital content and communication, which spans geographical borders.

Johnson and Post (1996) argue that cyberspace needs to be regulated by cyberlaw, that is, its own set of rules and regulations not bonded to a particular territory. The mechanics for establishing cyberlaw is not clear though. Logically thinking, the Internet and cyberlaw should have been developing in parallel, however this did not occur while the Internet was evolving an open and self-regulated infrastructure. Meanwhile, the reconciliation of cyberspace's legal disputes may be guided by the principle of comity as formulated by the Supreme Court of the United States: 'the recognition which one nation allows within its territory to the legislative, executive, or judicial acts of another nation, having due regard both to international duty and convenience, and to the rights of its own citizens or of other persons who are under the protections of its law' (Johnson and Post, 1996: 1391). On the other side, Lessig (1999), as a proponent of Internet regulation, argues a case for cyberlaw is to be based on certain technological approach to imposing those regulations, i.e. building in all necessary restrictions into the code governing the functioning of the Internet, as it is only then that people's behaviour in cyberspace can be effectively leveraged.

3. RESEARCH APPROACH

The research is conducted following the hermeneutic enquiry (Gadamer, 2004) and is aimed at understanding the increasing phenomenon of the sharing of infringed digital video content, which is prompted by the advances in Internet-related technology.

The content of the established digital video sharing sites or Internet repositories (e.g. MegaVideo, NovaMov, Vidbux, VideoBb, VideoZer, XtShare, VideoWeed, VidxDen, WiseVid, ZShare) was reviewed to identify instances in which intellectual property rights of the content owners' have been respected or infringed. The data collection and analysis have followed the 'fusion of horizons' method (Gadamer, 2004) to understand the logic and the paths followed by the Internet repositories, primary and secondary infringers. What we have found in relation to the infringers' actions is contrasted with two dominating paradigms, influencing cyberlaw. This gained understanding is then used to conceptualise principles to be included in the development of cyberlaw.

4. THE RISE OF VIDEO CONTENT SHARING AND THE RESPECTIVE LEGAL DILEMMAS

The fusion of two such factors as significantly enhanced low latency throughput of the modern Internet infrastructure and high diffusion of broadband connectivity enabled the rise of video content sharing and its unparalleled popularity. The 'appeal of online video content' was then significantly broadened to include video marketing (Ming et al, 2007), video blogging (Harley and Fitzpatrick, 2009), video hosting (Von Lohmann, 2007) and video sharing (Park et al, 2011).

While communicating the findings of a survey by the Pew Research Center's Internet and American Life Project, Madden (2009) reports that the share of 'adults who watch videos on

video-sharing sites has nearly doubled since 2006' and reached 62% of adult Internet users, while the proportion of young adults watching online video is nine out of ten (89%). In 2013, Purcell reports that 'the percent of online adults who watch or download videos has also grown over the past four years, from 69% of adult Internet users in 2009 to 78% today'. Furthermore, in 2009 watching television or movies was an online experience for a third of American Internet users; while in 2013, nearly half of the respondents (47%) watch movies or TV shows through a paid subscription service like Netflix or Hulu Plus (Purcell, 2013). Watching online video outranks all other online activities including the use of social networking sites and tweeting. The UK statistics, provided by Oxford Internet Survey, are quite similar and indicate that only music downloads are higher in popularity amongst online entertainment activities (Dutton et al, 2013). These statistics raise a question about online video content's origin, including its generation and distribution, which potentially deserves some legal consideration.

Creation of digital video content becomes easier than ever due to the ready availability of relatively cheap handheld video recording devices (e.g. Flip, iPhone, Smartphones), mobile consumer electronics appliances with video recording and editing functionality (e.g. set-top boxes) and digital video recording software are widely available. Additionally to this technology-enabled ease of video content production, there are less technological factors influencing Internet users' behaviour with respect to creating and distributing video content such as users' motivation, typically explored in its duality of extrinsic and intrinsic motivation (Deci, 1971).

5. INSPIRATION TO GENERATE AND SHARE DIGITAL VIDEO CONTENT

Benkler (2006: 59) suggests that peer-produced content is not essentially a money driven activity and has many other underlying motives as assuring 'salience' or 'getting your message to large numbers of people'. However, our review of Internet video content repositories enabling digital video content sharing (e.g. EpicShare, 2014; MegaUpload, SwankShare, VideoZer, VideoWeed, Videobb, Zshare, VidX Den, WiseVid), found a prevailing trend of offering monetary rewards for uploading any video content, which was then paid per numbers of views or downloads by an unrestricted Internet audience. The reward incentives differ in details but are consistent in their appeal to the extrinsic side of human nature. For instance, MegaUpload offers one million reward points which will generate USD 1,500; VidX Den endows USD 1 per one thousand downloads; the Videobb payout rate is up to USD 30 per ten thousand video views dependent on video length. These reward schemes may certainly encourage users to produce original video content. It could be anything, for example, a family video or a chronicle of friends gathering. But how many people will be interested in watching that? On the other hand, uploading a digital copy of a popular television show recording could achieve relatively high viewing figures, leading to a substantial financial reward.

The object here is not to hold Internet video repository providers and their respective users responsible for digital video content sharing but to note and analyse this widespread

phenomenon. A brief review of the missions of these Internet repositories indicates that such service is free and intended to be 'mainly used by the user to share his videos with friends and family' (Vidxen, 2011). In some instances this intent is stretched to include customers and other unspecified audience: 'Share videos with your friends, family, customers, or thousands of people worldwide' (Videobb, 2011). Noticeably the providers of these digital video content sharing Internet resources are driven by the noble goals of (1) creating an 'online video community, allowing millions of people to discover, watch and share online videos' and (2) offering 'a network for users to produce, upload and share videos across the globe and act as a distribution platform for original content creators' (Megavideo, 2011). It appears at the first glance that the video sharing service offered is intended to facilitate the production of peer-generated content offering its users an opportunity to express themselves. Is it only a desire of ordinary Internet users to get salience that makes these Internet repositories of digital video content popular or there can be another explanation?

In our attempt to review the video content of Internet repositories a large amount of copyrighted content was identified consisting of copies of all the major Hollywood television shows and movies, including the most recent ones. This massive presence of copyrighted video content leads us to the question of why that copyrighted content has ended up in these repositories which are intended for peer-produced content? The answer being that someone, but not a content producer, has created a digital copy of the original broadcast and uploaded that copy to a video sharing Internet repository. Both of these actions, i.e. unauthorised copying of copyrighted content and its distribution, represent infringement of the intellectual property rights of the producers of the original television show or movie.

It appears that Internet repositories follow a simple business model, involving three parties: the infrastructure provider and two types of users; those who upload content and those who view content. Those uploading content are attracted to produce and upload digital video content by being rewarded at a rate dependant on the destination (country) where the content is downloaded (BillionUploads, 2014; EpicShare, 2014; SwankShare, 2014). The users who consume digital content fall into two categories: those who view content for free and those who pay to view the content. The latter are offered different payment options largely centred on the quality of the downloaded content. These who do not pay are shown advertisements and typically stumble on the digital video content offering using Internet search engines. They are then offered view only free membership saturated with advertisements to ensure repeat consumption of the digital content. The Internet repositories in this model provide the technical infrastructure for the storage and sharing of the digital content, collect membership revenue and share a part of it with the uploaders of content. This business model is characterised by low organisational effort and relatively high payoff which makes it attractive for potential investors. It is the users who upload content who carry out unauthorised copying of copyrighted content and distribute it.

After considering the process of unauthorised content production and distribution the next logical question is about its access or watching. Why is it seen to be acceptable to use other people's intellectual work over the Internet, while in any other circumstances, for instance in a shop, it would be recognised as stealing? Is it because the initial design principles of the Internet emphasised openness to ensure future growth and scalability (National Research Council, 2001)? Or is it because of unrestricted availability of web pages, that Web information can be relatively easy copied and modified? It is difficult to provide a definitive

answer but the fact is that the content of cyberspace, unless it has a price tag, is often perceived as open and easy to copy. Zittrain (2006: 1989) points that historically abuse of the Internet was 'of little worry because the people using it were the very people designing it — a culturally homogenous set of people bound by their desire to see the network work'. An insight into human perception informed by cognitive psychology as 'an activity that takes place over time', 'modifiable by experience' and 'specific to what is being perceived' (Neisser, 1976: 54) suggests that perceived legal freedom can develop over time if (1) an activity becomes seen as a part of the usual routine and (2) an infringer does not face any consequences of breaching the law.

Laws are codes of conduct imposed and agreed by society which if broken, breached or infringed have consequences. These can be severe. Our conduct is therefore governed by these rules which for most people are clearly defined. Cyberspace is frontier-free and most users are solitary users, so who will find out if the 'law' is infringed? Indeed as activities carried out in cyberspace are virtual, are codes of conduct and legal principles applicable? This is the dilemma – the user has a perceived legal freedom of surfing at will and infringing potentially becomes 'par for the course' over a period of time.

Not all Internet users are inclined to develop deviance from established ethical norms by making unauthorised copies. It may all begin with the quite rational and legitimate motive of creating a digital copy of a video content for the purpose of saving a memorable experience to enjoy it later on and then to share it over the Internet with friends, who in the case of social networking is a loose but large audience. Does this behaviour then become a habit, which is mechanically applied in the case of copying and sharing of copyrighted content?

6. TYPICAL SCENARIO OF INTELLECTUAL PROPERTY LAWS INFRINGEMENT

Intellectual property rights are territory-dependant and therefore the person who creates and uploads for sharing an unauthorised copy of a proprietary television show broadcast for instance in the US would infringe US intellectual property laws and would be known as a primary infringer. Furthermore, anyone else who watches the unlawfully created and shared video content online may unwittingly, in the eyes of intellectual property laws, become a secondary infringer. Watching any video content online consists of two processes – downloading, usually unnoticeable as it is performed automatically by an Internet browser, and playing it on a local computer. If the watched copyrighted video content is shared further then it also represents an infringement which can lead to prosecution.

When both the primary and secondary infringements occur in the US, both infringers can be sued according to US intellectual property laws. However, if the primary infringement takes place in the US, but the secondary infringement takes place in the UK this represents a legal predicament as each infringer will be subject to different legal systems. Nonetheless, the proprietor of the original video content (e.g. CBS) can request that the unauthorised video content be removed from the Internet video repository and the secondary infringers can be

fined according to UK intellectual property laws. The repository encourages infringing behaviour by its very existence, this notion is refuted as it is argued that the repository is merely a platform, which is not capable of controlling the behaviour of its users.

While assuming the number of primary infringers in relation to the overall number of Internet users is quite small, a number of Internet users who become secondary infringers may grow exponentially. The latter number can be rationalised by the latest advancements in Internet search technology provided by web search engines (e.g. Google, Yahoo!) and growing popularity of digital video content. Today a relatively skilled user of a search engine can easily become a secondary infringer as soon as she finds and then watches or shares digital video content, which was generated and posted online by a primary infringer. Furthermore, information-seeking Internet users are not renowned for self-censorship when it comes to the discovery and sharing of Internet resources relating to a particular interest. In fact, the basic principle of social media or networking is the sharing information or textual, audio and video content (Morgan et al., 2010). However, if the shared content is infringing intellectual property rights then social media users inadvertently become secondary infringers and face a potential legal quandary which stems from the sharing of the infringed content. Meanwhile, Internet video repositories are business enterprises enabling this process appear to be not liable in this scenario as they provide a platform which is being misused.

There are however some exceptions with regard to secondary infringement. According to the current state of the respective (e.g. EU, US, UK) intellectual property laws, any unauthorised use of digital video content that can be regarded as for private and domestic purpose is regarded as a permitted act under section 31A of the Copyright Designs and Patent Act 1988 (CDPA 1988) and incurs no fine. However, if this content is somehow shared with a third party, i.e. friends or similar, it then the act becomes an infringement. It is important to distinguish between primary and secondary infringement. Primary infringement occurs where a person commits or authorises another to commit, without the license of the copyright owner, one of the exclusive acts restricted by the copyright. Importantly there is no requirement of knowledge on the part of the infringer. Secondary infringement occurs where a person facilitates primary infringing activities or deals in infringing copies of a work.

To establish primary infringement it is necessary to ask whether a subject has carried out one of the exclusive acts (under the CDPA 1988) or authorised the carrying out of one of them. As discussed previously, because copyright is territorially limited, the infringing act must occur within the UK. However when it comes to authorising the *doing* of an exclusive act, it is possible for the act of authorisation to occur outside the UK, provided the commission of the exclusive act itself occurs within the UK (*ABKO Music and Records Inc v Music Collection International Ltd* [1995] RPC 657).

Secondary infringement falls within the scope of sections 22-27 of the Act, which requires that the infringer must know or have reason to believe that they are dealing with an infringing copy. The most vulnerable category with regard to infringing behaviour is the younger generation who use the Internet and social media in particular (Morgan et al., 2010) as a main source of reference, one of the key functionalities of which is sharing, which takes

place in cyberspace. Sharing of the shared content also represents secondary infringement. Should the infringing behaviour be tolerated and for how long?

7. ENFORCING INTELLECTUAL PROPERTY LAWS IN CYBERSPACE

The most pertinent question deriving from the preceding discussion of intellectual property law infringement revolves around the issue of enforcement of these respective laws in cyberspace. It should be noted here that there are intricate differences between the Internet and cyberspace. The Internet is an infrastructure formed and shaped by a large number of interconnected computer networks with particular ownership. Each network is connected to the Internet with the help of Internet Service Providers (ISPs) and that makes it and its networked resource bound to a particular geographical location. Cyberspace is a distributed virtual space, enabled by the Internet, and allowing for digital content and communication within it. While the digital content, though often distributed, can be pinpointed to a particular location on the Internet, the digital communications are essentially cross-territory activities as they more often than not include remote intermediaries, depending on the type of service provided. Intellectual property laws which govern both the Internet and cyberspace are still at a formative stage and are commonly referred to as cyberlaw.

The cornerstone of the cyberlaw debate is that cyberlaw is not and cannot be the same law that is 'applicable to physical, geographically-defined territories' (Johnson and Post, 1996: 7). The challenge for cyberlaw is to establish what can and what cannot be readily copied and disseminated (Zittrain, 2006: 1979). Would it be possible for cyberlaw to deal *effectively* with primary and secondary infringements?

One of the proponents of a regulatory approach to the Internet and cyberspace, Lessig (1999) argues that the debate concerning cyberlaw is limited. It should consider the impact of technology on human behaviour. Both technology and behaviour can be regulated but in different ways. Technology can be regulated by the code operating it and that would assist the controlling of human behaviour which traditionally is regulated by legal policies. Any legal policy proposal unsupported by technological interventions is deeply incomplete.

Despite its understandable appeal, Lessig's argument is flawed due to a mismatch between technology and cyberlaw developments. Technology in this context is the Internet which is highly generative in its essence and therefore becomes an inexhaustible source of innovations. The digital video content sharing discussed is an example of an Internet service enabled by recent developments in broadband connectivity and the availability of digital video making technology. Cyberlaw on the other hand develops, or rather expands, by imposing restrictions, some of which may block or prevent these technological innovations from taking place.

A further complication of the regulatory approach is ingrained in the heterogeneity of cyberspace. Lessig (2006: 84) also acknowledges that cyberspace is not one homogeneous place. It comprises of many diverse places and 'the character of these many places differ in

ways that are fundamental. These differences come in part from differences in the people who populate these places, but demographics alone don't explain the variance'. For Lessig, these cyberspace communities can still be regulated by means of coding the technology, that is, if policies are built into digital architectures. This argument is difficult to substantiate due to vast heterogeneity of devices connected to the Internet. And it also evokes memories of 'the Fritz chip' agenda proposed in the US Consumer Broadband and Digital Television Promotion Act in 2002 which was intended to incorporate certain hardware and software amendments to any 'digital media device' in order to prevent its users from copying, playing and distributing unlicensed copyrighted works. This way of imposing cyberlaw may work well, but it calls for certain amendments in the existing Internet connected infrastructure with implications for manufacturing costs and implementation time for upgrades. However, the Act represented an attempt by the content generating industries 'to regulate hardware and software to fit the distribution model of Hollywood' and was not accepted due to the resistance of the various technology and telecommunications services developing industries (Benkler, 2006: 410). This attempt, if it had succeeded, would certainly have prevented the Internet being a generative platform for innovations.

Analysing the practical steps of some governments towards establishing cyberlaw, it can be noted that the regulative approach is gaining popularity. The Digital Economy Act 2010 was pursued and passed in the UK, enabling government to make laws regulating Internet Service Providers, enabling courts to block copyright infringement propagating websites and establishing the rights of copyright owners to obtain information about infringers for further legal action. The procedure essentially enables copyright owners to identify incidents of infringement and compile lists of Internet protocol addresses at which they believe their copyright has been infringed. This is sent to the ISP in the form of a report, with evidence of infringements. The Act increases the penalty for online copyright infringement to a maximum of £50,000. The Act also gives the secretary of state the power to order ISPs to impose technical measures on users who meet certain levels of infringements, these measures might include bandwidth capping or shaping, or temporary suspension of an account. In US the Digital Millennium Copyright Act was signed into law in 1998. It is divided into five titles, Title II, the 'Online Copyright Infringement Liability Limitation Act' section 512 creates limitations on ISPs for copyright infringement when engaging in certain types of activities; these are limited to four categories: transitory communications, system caching, storage of information on systems or networks at direction of users; and information location tools. To fall within the scope of the Digital Millennium Copyright Act, an ISP must, among other things, take certain steps when it receives notice that infringing material resides on its network; adopt and implement a policy that provides for termination in appropriate circumstances of users who are repeat infringers; and accommodate standard technical measures that are used by copyright owners to identify and protect copyrighted works. Liability under the Act is both civil (Section 1203) and, where the acts are wilful and for commercial advantage or private financial gain, criminal (Section 1204).

Will these regulatory measures succeed? There is no straightforward answer. On one hand, despite quite severe liability implications prescribed by both the Digital Economy Act 2010 and the Digital Millennium Copyright Act those reviewed digital video content Internet repositories were saturated with unauthorised copies of infringing video content and this number is steadily increasing (AllMyVideos.net, ModoVideo.com, SpeedVid.tv,

VidBull.com, VideoPremium.net). On the other hand, there was and still is strong opposition to the implementation of regulatory measures.

In 2002, the Consumer Broadband and Digital Television Promotion Act came under fire from the technology industries who in terms of revenues are much bigger players than the Hollywood producers of the creative content (Benkler, 2006: 423). Today circumstances have changed and the opponents of the regulated Internet also include political parties and human rights groups, inspired by United Nations maintaining that 'the Internet is one of the most powerful instruments of the 21st century for increasing transparency in the conduct of the powerful, access to information, and for facilitating active citizen participation in building democratic societies' (La Rue, 2011: 4). It is strongly argued that in order to preserve this democracy facilitating capacity of the Internet access to it 'for all individuals, with as little restriction to online content as possible, should be a priority for all States' (ibid).

There are also focused efforts to oppose regulative indiscriminate sanctions targeting Internet users due to privacy concerns. Furthermore, measures proposed in the Digital Economy Act 2010 and Digital Millennium Copyright Act have a tendency to stifle creativity on the Internet (Open Rights Group, 2011). However, these efforts, by those facilitating greater democracy and innovation, also indirectly facilitate the perception of legal freedom among those Internet users who may illicitly use the intellectual work of others.

8. CONCEPTUALIZING THE DIGITAL VIDEO SHARING PHENOMENON

Our conceptualisation of the online video sharing phenomenon utilises the concepts of generativity and legal moralism. Holistically taken, the Internet 'denotes a technology's overall capacity to produce unprompted change driven by large, varied, and uncoordinated audiences' (Zittrain, 2006: 1980), which would prompt new creative endeavours and/or innovation. The digital video sharing phenomenon represents such an endeavour and gives rise to certain business models and the associated dilemma of infringement. It was emphasised earlier that the number of primary infringers is a relatively small one, while the number of Internet users who voluntarily or otherwise become secondary infringers may grow exponentially because of increasing popularity of Internet video repositories and the sharing trend influenced by social media such as Facebook, Twitter, and MySpace.

Legal moralism emphasises that law can be prescriptive and used legitimately to prohibit behavioural patterns, even those not resulting in physical or psychological harm to others, which would conflict with established collective moral judgments (Devlin, 1965). Applied to the case of Internet video infringement it would infer that primary and secondary infringers need to be treated differently. While secondary infringement is often circumstantial and unintentional and in many cases is led to, by the use of search engines, primary infringement on the contrary reflects a type of behaviour conflicting with established societal moral norms and if pursued would threaten a common morality which serves as an invisible bond holding it together, the glue at underpins society. Therefore, the onus in dealing with infringement should be on primary infringers, who need to be identified and prosecuted, as

laid down in the CDPA 1988, or similar comparative legislation. The secondary infringement can and needs to be tolerated due to the non-malicious and often non-intentional nature. Some educational measures can be deployed, for instance by search engines providers, to help Internet users to distinguish between the original and infringed content. This approach would establish a situation in which the creativity potential generated by the Internet and creativity exhibited by original content's producers can be reconciled with each other to power and sustain rapid technological innovation.

In response to Lessig's (1999, 2006) view on enforcing cyberlaw by building it into Internet architecture together with enforcement of legal policies and adequate social norms some practicalities need to be mentioned. Firstly, there is no clear mapped territory of cyberspace to match it with cyberlaw, as cyberspace is diverse in its demographics and behavioural patterns. Secondly, the sophistication of the code required to implement such a version of cyberlaw would raise doubts of its adequate application.

Another perspective on cyberspace as a communal space, with cyberlaw initially being similar to netiquette but emerging later, building on the reciprocity of national intellectual property laws (Johnson and Post, 1996), may appear to be more practical than at first glance. For its instigation it requires international collaboration towards a cyberlaw convention and the engagement of various law influencing organizations, for instance a pan European association of European Internet Services Providers Associations (EuroISPA, 2011), which is already working towards a holistic approach regarding the European Intellectual Property Rights framework (European Commission, 2010). While this framework is more concerned with establishing a single pan European market for intellectual property to encourage creative and inventive efforts it generates a useful experience with respect to multilateral intellectual property rights initiatives, especially in the case of infringement.

It is evident that the Internet, if left unregulated, will continue to generate innovations and some of them may facilitate different types of infringement. The rate of innovation will also depend on the effort to regulate the Internet. In the Lessig paradigm, regulations can be embedded in technology and govern its code, but it is not possible to envisage the amount of effort to implement such a mass scale programming of the Internet being undertaken at the moment. Lessig perhaps has drawn his inspiration from IP version 6, which was envisioned in 1992 as having a rich functionality, but its gradual implementation has been taking place ever since due to the need for the massive upgrade of all Internet-supporting infrastructure and client devices connected to it. The other efforts to regulate and ensure the predictable use rather than development of the Internet will always be targeting ISPs as a fundamental and yet flexible element of the Internet infrastructure. The latter approach certainly can also facilitate the development of a heterogeneous cyberlaw, which is currently still on the level of debate due to the complexity of such an endeavour and the absence of a coordinating agency.

This discussion should lead to the suggestion of a framework to mediate between the interests of the key stakeholders: policymakers (as arbitrators of legal practice), industry (as originators of creative content) and digital content users (who, intentionally or not, may become infringers). Common sense however would seem to indicate the rejection of such a proposition because of the irreconcilable conflict between the stakeholders' interests.

More than anything, users act as catalysts for change by challenging the status quo with their ignorance of or denial of the existing copyright laws. While Lessig's argument provides a useful analytical basis for improving copyright practice, it does not recognise users as an active element capable of generating new creative endeavours supported by the overall capacity of technology to produce unprompted change (Zittrain, 2006). With time more manageable or copyright compliant devices and restrictive ISP measures will ensure tighter control of copyright compliance (Zittrain, 2009) but will not stop users finding new ways of consuming digital content.

9. CONCLUSIONS

Diffusion of broadband connectivity and fairly cheap electronic devices with video recording functionality have significantly contributed to the popularity of digital video content sharing. This popularity supported the emergence and rapid growth of digital video content Internet repositories, often using financial incentives as a means of attracting and retaining their clientele. One of the side effects of such development is that these Internet repositories become the epicentres of unauthorised copyrighted video content sharing, as users uploading unauthorized content perceive the absence of clear and enforceable cyberlaw as freedom to use the generated or copied digital video content without restraint. Furthermore, this trend coupled with increasingly advanced web search technology may convert an ordinary user of search engines into a secondary infringer when she finds and then watches digital video content generated and shared online by a primary infringer.

In our view, while cyberlaw is still in its infancy and its effective implementation is constrained by different jurisdictions (Johnson and Post, 1996) the emphasis of law making authorities should be on developing the commonly accepted principles to safeguard against infringement but not restrain the creative endeavours facilitated by the Internet (Zittrain, 2006). One of the principles discussed in this paper is shifting the emphasis from the efforts to impose control or regulate the Internet, especially in building restrains into technology or code (Lessig, 1999, 2006), to prevention of it from happening. The prevention needs to begin with treating primary and secondary infringers differentially. The primary infringer needs to be identified and tried as set out in current legislation (e.g. CDPA 1988). The secondary infringer shall then be tolerated whilst educating Internet users to distinguish between the original and infringed content. The development of cyberlaw in this way would preserve the growth and innovation in information technology and facilitate creative efforts by original content producers.

On the whole, if the law is to be seen as a regulating code made up of two elements; a software code and a legal code, then it will always be unbalanced due to the realisation that traditionally law plays catch up with technology. Meanwhile, the Internet's generative capacity to facilitate creative endeavours will be continuing to yield intellectual property related dilemmas.

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