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About Consumer and User Issues of Digital Rights Management Solutions

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Content

Editorial 2
By: Knud Böhle, ITAS, Karlsruhe, Germany

Intrusive DRM: The cases of Sony BMG, StarForce and Microsoft 5
By Philipp Bohn, Berlecon Research, Berlin, Germany

Rights management and the revolution in e-publishing.....8
By Bill Rosenblatt, President, GiantSteps Media Technology Strategies, New York, USA

Google Book Search: fostering public access in a controlled way
INDICARE-Interview by Knud Böhle 14
With Jens Redmer, Google Book Search Europe, Hamburg, Germany

Commission Recommendation on cross border licensing:
Last train boarding now! 18
By Margreet Groenenboom, IvIR, Amsterdam, The Netherlands

DRM researchers do not disregard consumer acceptability any more
A report on the fifth ACM workshop on Digital Rights Management 24
By Kristóf Kerényi, SEARCH laboratory, Budapest, Hungary

Governing the interrelation of information markets and the public domain
A review.....27
By Knud Böhle, ITAS, Karlsruhe, Germany

Masthead 30

Editorial of INDICARE Monitor Vol. 2, No 9, 25 November 2005

By: Knud Böhle, ITAS, Karlsruhe, Germany

Abstract: This time the INDICARE Monitor addresses first two hot topics: the Sony BMG XCP copy protection scandal is taken as a starting point to analyse patterns of disproportionate DRM systems and to show that it was not a unique case. Next, an analysis and an INDICARE interview with a Google representative deal with Google Book Search. The analysis reveals the imminent challenge of Google Book Search for the publishing industries, and makes clear why B2B DRM is required to manage the change. The interview focuses on access and usage restrictions of the service and the reasons why. The fourth contribution follows up the progress of European policy towards cross-border licensing for online music. Finally we report about DRM 2005, the fifth ACM Workshop on Digital Rights Management, and close with a review of a sociological research paper on changing boundaries and interrelations of information markets and the public domain in the fields of music and publishing.

Keywords: editorial – INDICARE

About this issue

XCP copy protection & Co

Philipp Bohn investigates three cases of invasive and intrusive DRM systems: Sony BMG's XCP copy protection, StarForce technology, and Microsoft DRM. In all these cases the impact of the technological protection measures is by far disproportionate to the legitimate purpose of DRM systems to enable new business models for digital content. The three cases are rather different with XCP installing a rootkit, with StarForce deactivating burning tools, which can not always be reactivated, and with Microsoft DRM, which may not work correctly after changes to hardware components and may lead to a loss of legitimately purchased property. Despite the differences, there are some common features as the article shows: Intrusive DRM systems tend to be intransparent and prone to create unnoticed security risks. As these systems often have an impact at the operating systems level, they are hard to detect; as they are intentionally hidden, they do not appear clearly addressed in end-user license agreements, and if detected, companies hesitate to admit what they have done. This makes it difficult for consumers to uninstall them. All these hassle-prone DRM systems have a strong taste of consumer neglect and distrust, and can hardly be envisaged as foundations of consumer-friendly e-content services. Furthermore, invasive DRM is hardly compatible with acknowledged principles of ownership, data protection and privacy.

Google Print – Google Book Search

Google Print, renamed Google Book Search, is another hot topic we address in two contributions. *Bill Rosenblatt* shows in an excellent analysis, how Google challenges existing value chains in the publishing business. Today Google Book Search and similar developments are about "discoverability" of publications: "A search engine has the power to expose content as the result of a user's Internet search, direct her to any other resource on the Internet to find the full content… and potentially make money on the referral" (Rosenblatt). While this facility already changes marketing and accessibility of publications, the true disruptive potential is visible just as writing on the wall: rendering of copyrighted works directly on the Internet. This potential has not yet been exploited. To leverage this potential content providers and service providers have to come to terms: " If publishers want to maintain control over their own rights and supply chains in the Internet age, then they will need to take control of their 'rights' and how they make them available to distributors and retailers like Google, Amazon, Yahoo, and MSN" (Rosenblatt). And that's where DRM - B2B DRM to be exact – comes in. Publishers need to define and manage the rights for themselves, decide what rights they are willing to offer to Google and others, and define the standards

for communicating these rights. While this is the main message of Bill's article, the reasoning is much more down to earth with numerous facts about companies, projects, standards, and markets.

The INDICARE interview with *Jens Redmer*, at present responsible for Strategic Partner Development for Google Book Search in Europe, reveals that Google is not willing at present to go into a strategic debate about its impact on the publishing industry and how it will develop its line of services. The profile of Google Book Search as a book discovery mechanism is underlined, while the potential of services rendering content directly on the Internet is anathema: "Google Book Search is a means for helping users discover books, not to read them online and/ or download them. We will neither put Libraries nor Publishers out of business" (Jens Redmer). What becomes very clear in the interview, however, is that Google Book Search has established sophisticated technical and organisational protection measures to cope with the different demands of its partner libraries and publishers. It does not call them DRM, because "Google Book Search is a book discovery program, not a book reading program. For this, we rather need access limitation mechanisms than DRM mechanisms" (Redmer). That's right. But if we look at the relations between any publisher and Google we see B2B DRM at work: publishers define, i.e. restrict, what Google may do with their content, and these restrictions are implemented by Google defining the usage possibilities/restrictions for consumers.

Monitoring progress of European policy on cross-border licensing for online music

In this issue *Margreet Groenenboom* follows up what she already started in the September issue of the INDICARE Monitor, namely to monitor and analyse EC policy aimed to improve the cross-border licensing for online music services. The basic idea is to come up with EU-wide copyright licenses. Appropriate policy making has already gone through (at least) six steps so far:

- April 2004: The Commission adopts a Communication on the management of copyright and related rights in the Internal Market, i.e. COM (2004) 261 final. Chapter III of this Communication touches upon collective rights management. The Commission indicates that a legislative initiative in this field is required.
- April 2004 – June 2004: A stakeholder consultation takes place with respect to this Communication and collective rights management in particular with 107 stakeholder statements as response.
- July 2005: Publication of a Commission staff working paper: "Study on a community initiative on the cross-border collective management of copyright", which is analysed in the September issue of the INDICARE Monitor.
- July 2005: A stakeholder consultation takes place with respect to the "Study" with 85 stakeholder statements in response.
- October 2005 (11.10.2005): Impact assessment on reforming cross-border collective management of copyright and related rights for legitimate online music services
- October 2005 (21.10.2005): Commission Recommendation of 18 May 2005 on collective cross-border management of copyright and related rights for legitimate online music services

The last two documents are discussed in this issue.

With respect to DRM, the EC expects that rightholders will take into account DRM solutions offered by Collective Rights Managers to protect and monitor their rights in the most efficient way. But as Margreet points out this presumes that "all rightholders favour the use of DRM", which can not be taken for granted as e.g. public statements of artists rejecting DRM systems show. To offer DRMS is not an asset *per se*.

On the other hand the article demonstrates nicely a demand for B2B DRM systems as a prerequisite to manage rights European wide. For example the idea put forward by the Commission that rightholders should be allowed to withdraw licensed rights from a Collective Rights Manager at any time is

hardly realistic without an up-to-date mechanism making transparent and instantly available the information on who is represented by which Collective Rights Managers for which rights.

Conference report

Kristóf Kerényi reports about the ACM's fifth workshop on DRM. He reported last year on the previous workshop, so he is able to compare and analyse trends. One surprising trend he found is that aspects of consumer acceptability are now also acknowledged by technical DRM experts and played a role during the conference. Interesting in this respect was the contribution of *Alapan Arnab* (University of Cape Town), who does not believe in the implementation of "fair use" in DRM systems, and therefore looks for improvements targeting “fairer use”. *Rei Safavi-Naini* (University of Wollongong, Australia), also dealt with fair use. Based on her own empirical research she stressed the importance of the social context of music and new media consumption and existing social practices. Acknowledging social practice, DRM systems should strive to enable sharing and exploring new music, a strategy which at the end of the day would also lead to business opportunities. *Andrew Moss*, presented Microsoft's view highlighting consumer acceptability of DRM systems. The challenge today would not be technology but privacy, accessibility, ease of use, interoperability and device-to-device availability. Of course there were more technical presentations, which are all addressed in Kristóf's conference report.

Review of a research paper

In the last article of this issue I review a journal article which investigates the changing boundaries and interrelations of information markets and the public domain. More precisely, *Ursula Holtgrewe* explores the different intellectual property regimes in the music sector and scientific publishing, and provides a picture of the patchwork of for-profit and non-profit activities in these fields. Her ambition is to challenge the "essentialists" who opt for either the market or the public domain, and to overcome what she calls "digital neo-Marxism". Her approach is taken from sociology of knowledge and aims to focus on different levels of knowledge use and interchange. The article is just a preliminary piece of a broader study. What makes this research interesting for INDICARE is the intention to find a third pragmatic route between "essentialist" positions, and to base judgements and recommendations on observations of real world interactions and interchanges.

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Intrusive DRM: The cases of Sony BMG, StarForce and Microsoft

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Abstract: Recently, DRM has attracted broader public attention. The debate was triggered by the news that Sony BMG released selected CDs with copy protection that installed a rootkit affecting the owner's operating system. However, this was not the first time content providers had decided to employ invasive copy protection systems. These cases show that companies employing DRM systems with deep impact do so at the cost of their consumers' interests.

Keywords: news analysis – consumer expectations, data protection, DRMS, technical protection measures, trusted computing, users

Introduction

Mark Russinovich, an independent Windows security researcher, stirred up the blogosphere's attention with an entry in his blog on October 31 (Russinovich 2005), which then diffused into mainstream media. Testing a rootkit revealer he had developed, the program identified some cloaked files of unclear origin. Digging a little deeper, he found that they were installed along with a driver bundled into an audio CD he had purchased earlier. These drivers are employed by record companies in order to play a music CD on a CD-Rom drive and enable "sterile burning" (consumers can make a limited number of copies, which in turn cannot be duplicated again). A rootkit is a set of software that helps an intruder gain access to a computer system.

However, this was not the first time that invasive DRM has been employed, but this time it did not go undetected by the broader public. The amount of attention contradicts the content industry's argument that most users are not aware of and accept DRM. In fact, some 230 consumers posted negative product reviews on Amazon for the CD that sparked the turmoil (cf. Sources).

DRM technology like this directly affects a computers' operating system, disables access to other applications and allegedly exposes the user to security risks. This is the case with Sony BMG's rootkit and StarForce, a copy protection system for video game CDs. Another scenario where the consumer's interests might be considerably affected is the case of Microsoft's DRM licence system. This might also be an issue with alternative DRM systems, such as Apple's FairPlay.

This article discusses these three cases and evaluates the impact they might have on user experience and their attitude towards deep impact DRM and the companies employing it.

The Sony BMG rootkit case

This case has already been outlined in the introduction. In this chapter we go into some detail concerning risks and corporate behaviour in order to highlight some recurring patterns when deep impact DRMS are employed.

Intrusive DRMS create unnoticed security risks

An IT security expert detected the files when testing a rootkit revealer. For the average user, they would remain invisible. Some observers argue that this might pose a security risk to the user, as hackers might try to sneak in malicious code that would hide using the syntax of Sony BMG's rootkit.

On an Internet forum where hackers of the online game World of Warcraft exchange news and ideas, one member rhapsodizes: "For only $14.99 [the price of the CD] you get a well done rootkit" (cf. WOWSharp 2005). Reportedly, a trojan is also exploiting this security leak (cf. SecurityFocus 2005) and a security researcher estimated that about half a million networks have been infected with the files (Norton 2005).

Implementation on operating system level

While "sterile burning" players like those employed by Sony BMG and others are well known, the new thing is that files were installed on the operating system level. While

DRM usually tries to control what the consumer does with the content carrier (i.e. number of burns, etc.), these DRM systems directly manipulate the kernel, the operating system's core. The kernel controls access to a PC's hardware and various processes. They supposedly scan for activity indicating attempts of piracy. This consumes resources and power in the process.

Intrusive DRMS overstretch the boundaries of any EULA

Similar to the StarForce representative (see below), a Sony BMG spokesperson implies that by accepting the EULA (EULA is short for "End User License Agreement"), the user agrees to have the rootkit installed on the PC as part of the copy protection system (McMillan 2005).

However, given that some consumers buy a larger number of CDs and install plenty of programs, they can hardly be expected to read through and understand each EULA. And there probably has to be a point where content providers cannot cover everything that is in their interest by a EULA.

In many cases the customer is not informed about detailed specifications of the copy protection system before the purchase. And after reading the EULA, and even if the documents were transparent enough, it would very probably be too late to return the CD and ask for a refund.

Intrusive DRMS are hard to uninstall

After uninstalling the player software, said rootkit files remain on the computer. Manual removal by the expert resulted in temporary loss of the CD-Rom drive. Even the patch offered by Sony BMG originally did not remove the files, but only made them visible.

When accepting the EULA consumers allegedly agree to have the copy protection installed, the companies should assume that they want it removed when agreeing to receive and run a patch. But that is not the case.

Companies hesitatingly admit misconduct

According to the developer of the DRM system, British company First4Internet, "this is old news" (Whipp 2005), as the system had already been employed for a while. So the question remains why action is taken only now, if this is old news. "Consumers, for eight months, have been using these discs with positive feedback. When the issue arose, we addressed it quickly", says Mathew Gilliat-Smith, First4Internet's CEO (Pogue 2005). That might probably be a bit too late.

As a result of the debate, Sony BMG finally offered a patch that people had to apply for by filling out a form on the company's website, being asked to submit information such as the point of purchase, the album title and a valid email address. Only from November 10, the company offered a link for direct download of a patch revealing and removing the files. The company eventually decided to pull the discs from the market (Borland 2005a). It would have been an acknowledgement of the inconvenience actually or potentially caused by these measures to do so right away.

In an interview on American national radio Sony BMG's director for digital business, Thomas Hesse, notoriously said: "Most people, I think, don't even know what a rootkit is, so why should they care about it?" (Orlowski 2005). Although this statement might be partially attributed to situational distress, it reveals a somewhat frightening lack of respect for the customer.

StarForce

A similar pattern could already have been detected in an earlier case. StarForce is an encryption and activation technology for CD, CD-R and DVD. It is developed by StarForce Technologies and is primarily used to protect electronic games. Basically, what this system does is to deactivate tools that can potentially be used for illegitimate burning of discs, such as Nero Burning or CloneCD. These are reactivated when the user has finished playing the game. In this way, StarForce tries to dictate if or when certain applications can be used.

However, there have been reports on private sites indicating permanent loss of burning software purchased by the user (cf. Parsons 2004). One could argue that this puts every paying customer under the general suspicion of software piracy.

Although it seems evident that customers would not agree to have parts of their property disabled (if only temporarily), one company representative states that "our product is licensed to our customers and becomes part of their product, so the user by accepting the terms [of the EULA] is giving approval" (Wojnarowicz 2004). With DRM getting more invasive, it is time to think about how far-reaching EULAs can be and if the customer's acceptance reveals his actual consent. After all, he has to accept in order to access the content. But when he learns about the EULA's details, it is often too late to return the product.

Confronted with problems customers had reported, the representative replied: "Now that we hear the dissatisfaction about it, we have taken steps to fix it" (Wojnarowicz 2004). It appears to be the tactic to see what is possible and if someone notices, to withdraw due to public pressure.

Microsoft DRM

One of Microsoft's support pages describes the symptoms of the problem I want to discuss in the following: "The Windows Media Digital Rights Management system may not work if you make changes to your computer hardware. You may not be able to play protected content. Protected content includes content such as songs that you have bought and downloaded from an online store" (cf. Microsoft 2004). The reason for this is that users have to authenticate the computers they want to use to play the music they have purchased. So while this prevents the user from illegally swapping files, it may also prevent the user from swapping hardware components, as legitimately purchased property might become inaccessible. This specifically includes crucial components such as the central processing unit or motherboard.

If the consumer is confronted with these problems, Microsoft suggests restoring the PC to its original settings. In case this does not help, a lengthy step-by-step guide is offered to resolve the problem. While this is unnerving for the tech-savvy user, it seems impossible for the average consumer (keep in mind that a lot of people consider programming a VCR too complicated).

But even if the user manages to go through the processes of resetting the computer, back-up the licenses and all the other steps, there still is a chance that purchased files are lost forever. A situation that does not seem to be too far-fetched: "If you cannot back up your license for a particular file, you cannot restore that license after you change your hardware component. If you cannot restore a license, you cannot play the protected file. For more information, visit the Web site of the license issuer to determine whether they support the Backup and Restore feature of Windows Media DRM" (cf. Microsoft 2004).

This practically means that the user has to backup all DRM licenses and if this is not possible, legitimately purchased files might be lost, unless there is support from the distributor. In case there is more than one distributor, things can get even more complicated. Thus, Microsoft's DRM licensing system and authentication policy can make the replacement of hardware an annoying task, probably resulting in the loss of content.

Bottom line

Any invasion by DRM technology that goes beyond the purpose of DRM is at least questionable and should be made more transparent. Furthermore, the companies' reactions failed to show their unconditional willingness to serve the paying consumers' interest. They should keep in mind that they own the music, not their customers' computer.

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Rights management and the revolution in e-publishing

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Abstract: Google Book Search and the handful of developments in its aftermath are ushering in the next wave of digital publishing. Discoverability and rendering of copyrighted works on the Internet add up to the most disruptive force to publishers' lines of business at least since the emergence of desktop publishing in the 1980s. Digital rights management plays a crucial role in this e-publishing revolution. In this article, we outline the big changes in online publishing today, and we discuss the role that DRM plays in new online content distribution, discovery, and retail initiatives, and how it should play a role in the future.

Keywords: policy analysis, economic analysis – Amazon.com, business models, eBooks, Google Book Search, Open Content Alliance, publishing

The end of growth in eBooks

Many types of DRM technologies were offered to the publishing industry over the past decade, but few of them caught on. For the past six years or so, DRM has largely meant only one thing in the book-publishing world: eBooks. The eBook market emerged and rapidly consolidated during the Internet bubble of 1999-2000, and never really measured up to the hype that surrounded it (cf. Bohn 2005).

Two signposts for the end of growth in the eBook market appeared recently: first, in November 2004, Adobe quietly announced plans to withdraw its market-leading eBook DRM packaging software (Adobe Content

Server) from the market and shift its focus to corporate document security (cf. Rosenblatt 2004); second, the trade association Open eBook Forum (OeBF) changed its name to the International Digital Publishing Forum in April 2005.

The usual reason given for eBooks' lack of success is that most consumers don't like reading books on PCs or dedicated hardware devices such as those from Gemstar and Franklin. But an equally important reason is that publishers only really accepted eBooks as digital facsimiles of print books that were cheaper to manufacture and distribute. Publishers did little to explore the potential of eBooks to implement new business models or new ways of distributing content – not even in markets that seemed especially promising, such as professional and higher education publishing.

The lack of innovation around eBooks can be largely attributed to publishers' reluctance to disrupt their existing supply chains, which, after all, they have cultivated carefully over a period of centuries.

Google Book Search

Google's Google Book Search program, which emerged in July 2005 (and which was called Google Print until mid-November), represents the biggest threat to those supply chains in a long time. Google has been scanning, digitizing, and indexing tens of thousands of print books, mostly borrowed from prominent university libraries, and making their texts searchable online.

The Association of American Publishers (AAP) organized a lawsuit against Google in October 2005, on behalf of five major US-based book publishers, alleging that Google infringed copyright when it scanned and indexed books without publishers' permission (cf. AAP 2005). But that allegation was more like a subterfuge: supply chain concerns are the biggest reason for the publishing industry's concerns about Google.

The truth is that Internet search engines like those of Google, Yahoo, and MSN have the potential to radically change the business landscape for book content, because they capture consumers' interest at the primary point of *discoverability* for content online. A search engine has the power to expose content as the result of a user's Internet search, direct her to any other resource on the Internet to find the full content… and potentially make money on the referral.

In the publishers' lawsuit (and a similar one brought by the Authors Guild; (cf. Authors Guild 2005), Google is arguing that its use of the print books is legal according to US copyright law (17 U.S.C. 107), which judges "fair use" of content based on four principles. One of those principles is the effect that the use has on the market for the content; Google claims that because it is helping more consumers purchase more content, its effect on the market is positive for publishers.

However, another of the four principles is the purpose and character of the use, including whether such use is of commercial nature. In addition to the revenue that Google currently garners from ads that it displays alongside book content in search results, the potential number of content transactions from which Google could directly benefit financially is staggering.

To put the potential impact into some perspective: the technology that may currently be the largest source of online referrals to copyrighted text works is Amazon's affiliate marketing program, Amazon Associates. Amazon Associates' websites contain specially encoded links that lead users to purchase pages on Amazon; if the user makes the purchase, the Associate earns a commission. Although there are over a million Amazon Associates, the impact of Google's ability to lead consumers to copyrighted material has the potential to dwarf that of the Amazon Associates program: bear in mind that *any* Google search can lead a user to book content, whereas users must click on special URLs to find book content through Amazon Associates.

DRM and the discoverability paradox

Discoverability of copyrighted works online has been a stumbling block to the growth of the market for online content. It is a paradox: many copyrighted works – those generally judged to be the most valuable – are the

hardest to find on the Internet. Publishers are concerned about piracy of their valuable works (as opposed, say, to copyrighted works judged less valuable, such as ephemeral news stories), so they don't expose them online, which means that users of search engines can only find them through more limited means, such as summaries, abstracts, and metadata.

DRM provides a way out of this paradox – and not just in theory. Perhaps the cleverest application of DRM to making copyrighted works discoverable was a technology called eLuminator, which appeared around 1999. ELuminator was the product of MediaDNA, a DRM startup that originated in Sweden and subsequently moved to the United States.

ELuminator worked by extracting all of the nontrivial words from a document – a typical step in search engines' text indexing techniques – and placing them on a web page as invisible meta-tags. Search engines would then index that page, so that users searching for words included in the text would find the page in search results. The visible portion of the page would contain an offer to purchase a version of the document that was packaged (encrypted) with MediaDNA's proprietary DRM.

In other words, eLuminator was a fancy, automated version of what we now call search engine optimization (SEO): the art and science of tweaking web pages so that the major search engines are more likely to give them more favourable search result rankings. Unfortunately, eLuminator did not catch on with publishers beyond a handful of pilot projects. MediaDNA ceased operations, sold eLuminator to Inceptor (an SEO technology company), and sold its core DRM technology to Macrovision – all in late 2001.

With Google Book Search, Google is, in a way, taking the eLuminator concept to the next level. It indexes the text of copyrighted works and makes them available for viewing, but only a few lines at a time – just enough to provide context around search results. This is really just a form of access control, i.e., DRM.

Once a user sees book text in Google search results, Google could then offer to sell the user a DRM-protected document itself; but instead – at least for now – it provides links to other websites, such as Amazon, Barnes & Noble, BookSense, and publishers' own websites, for purchase of physical products. (It could just as easily refer users to purchase opportunities for other versions of the content, such as eBooks at eReader.com or OverDrive, or audiobooks at Audible.com.)

More recently, Google has been holding discussions with book publishers about supporting a weekly rental model, somewhat like a cross between a public library and an online video-rental service like MovieLink. The discussions are very preliminary at this point, but one thing is for sure: Google will need to adopt full-blown DRM technology in order to make that model work. Although Adobe's Content Server technology might be available for acquisition, one suspects that, given its history, Google will design its own.

Amazon and the Open Content Alliance

Amazon itself announced plans in November 2005 to take the concept of online rendering a step further (cf. Amazon.com 2005). Amazon already offers "Search Inside the Book," a feature that makes a small number of pages in books available for online viewing in a streaming-style page rendering format that inherently deters piracy. It intends to extend this in two ways: Amazon Pages, which will enable users to purchase content by the page rather than by the book, and Amazon Upgrade, which will enable purchasers of print books to view their contents online for an additional fee.

Both of these programs will build on the technology from Search Inside the Book. It is unclear whether the increased amount of digitized text that Amazon will create as a result of these new programs will enable it to make that text discoverable by search engines.

It is worth noting that Amazon quietly purchased a French eBook technology company called Mobipocket in March 2005. Mobipocket's eBook platform for a variety of handheld devices is fairly popular in professional and technical publishing, an analog to eReader's platform for trade eBooks (cf.

Rosenblatt 2005a). Amazon has done nothing (publicly) with Mobipocket's technology, which affirms that the future of online publishing is direct Internet rendering rather than downloads to closed devices.

An organization called the Open Content Alliance (OCA) formed in October 2005, shortly before the publishers filed their suit against Google. Yahoo and Internet Archive were the co-founders; now the membership also includes Microsoft's MSN, O'Reilly Media (a publisher of IT-related technical works and prominent open source advocate), and several archives and libraries. The intent of OCA is similar to Google Book Search, with one important difference: while Google Book Search has had an "opt out" policy toward publishers (i.e., publishers must notify Google if they do *not* wish their books to be scanned), OCA is "opt in" (publishers must give the OCA permission upfront to scan and digitize their books).

It is possible to view all of these initiatives as implementations of DRM or DRM-like mechanisms that are built for specific, narrow purposes. Google Book Search indexes the full text of books, controls access to the text by only exposing it a few sentences at a time, and facilitates commerce in rights to the text by passing users along to others via links.

Amazon's Search Inside the Book technology, meanwhile, controls access to text by only exposing it a page at a time. A precedent for this is ebrary, an online library service that was founded in 1999 with backing from Adobe and three major book publishers, and that now serves both schools and public libraries; ebrary lets users query large repositories of book content and view text, through a browser interface, a page at a time.

Amazon Pages, using the Search Inside the Book technology, facilitates commerce in rights internally by allowing users to purchase access to ranges of pages. Time will tell what kinds of mechanisms Yahoo, MSN, and other OCA members will use to provide controlled access to copyrighted content.

Publishers are effectively at the mercy of these narrow technologies and thus of the business models that they enable. Of course, it works both ways: these technology companies cannot offer online content without publishers' blessings. In Amazon's case, Amazon Pages arose out of a decision by Random House – a division of Bertelsmann AG and the world's largest trade publisher – to support page-at-a-time access rights via micropayments.

Publishers' responses

Internet-based discoverability and content display can be powerful forces for publishers if they harness them appropriately rather than simply letting technology companies take the reins. Two initiatives in Germany, announced during this year's Frankfurter Buchmesse (Frankfurt Book Fair) in October, represent attempts to do this. One comes from the publisher Verlagsgruppe Georg von Holtzbrinck; the other from the Börsenverein des Deutschen Buchhandels (German booksellers' trade association).

Holtzbrinck is developing a system it calls BookStore, which it will use for its own publishers' content but also offer to other publishers. BookStore will be an online text repository with its own e-commerce capabilities as well as the ability to make text available to search engines for indexing. BookStore is being developed by MPS Technologies, a subsidiary of Holtzbrinck's Macmillan unit based in the UK and India (cf. MPS Technologies 2005).

The Börsenverein is working on something similar, which it calls "Volltextsuche Online" (Full Text Search Online): a text repository that publishers can use for their own material and that enables searching across the repositories of all publishers that use the system. Search engines like Google and Yahoo would be able to search those repositories directly instead of scanning content into their own infrastructure, and the Börsenverein is in talks with search companies about this type of arrangement (cf. Börsenverein 2005).

The main difference between Holtzbrinck's BookStore and the Börsenverein's Volltextsuche Online is that the latter is oriented toward "federating" search for book content, so that companies like Google and Yahoo do

not end up with monolithic collections of copyrighted material. BookStore is really more like an incremental improvement on online eBook retail system providers such as OverDrive, the improvement mainly being the system's ability to release full text to search engines for discoverability purposes, instead of just making abstracts and metadata available (as Amazon and its ilk do today).

It's about the rights

Unfortunately, both of these proposals miss the point. Once copyrighted content exists *somewhere* on the Internet, it's no longer about the content – it's about the rights. If publishers want to maintain control over their own rights and supply chains in the Internet age, then they will need to take control of their *rights* and how they make them available to distributors and retailers like Google, Amazon, Yahoo, and MSN. Then the content can be served up from wherever it is.

Right now, publishers grant or deny certain rights to online distributors in ad-hoc ways. In the case of Amazon and its new initiatives, the rights are bounded and well understood. But in the cases of Google Book Search and the OCA, the rights effectively pass out of publishers' control once they give the service provider the right to scan and index the content; their only recourse is contractual.

At this point, Google can simply provide links to other sites that presumably already have rights to sell publishers' product in pre-existing forms. The true power and flexibility of the Internet emerge once publishers can supply companies like Google with rights to digital content, which can be realized through interfaces to all kinds of devices and services.

In effect, this means that publishers should be supplying rights descriptions to online distributors in forms that they can handle – i.e., in machine-readable form. The publishing industry (at least in the US) started to look at this issue in the context of bundling rights with eBooks. In 2003, the OeBF Rights and Rules Working Group (RRWG) defined a rights expression language (REL) standard (cf. IDPF 2003) based on the ISO standard MPEG REL (cf. sources). The UK-based publishing industry e-commerce standards organization EDItEUR has also been working on developing rights-related standards for book content, with library usages particularly in mind.

The MPEG REL is a reasonable starting point, but it is not really designed for this purpose. It is designed to convey descriptions of rights and their attributes (e.g., identities of grantors, payment terms, identities of grantees) to end-users through their hardware devices or software. The language is not intended to automate rights aspects of distributor relationships.

Another standards initiative called the Content Reference Forum (cf. sources) is not only intended to address this particular problem but is also intended to be compatible with (and complementary to) MPEG REL. The CRF, which arose primarily out of the music industry, was created to automate rights processing aspects of multi-tiered content distribution networks. Its most important work product has been the Contract Expression Language (CEL), a machine-readable language that expresses distribution relationships along with rights, obligations, financial terms, and so on. Unfortunately, neither the OeBF RRWG nor the CRF have seen much activity since the end of 2003.

The publishing industry could revisit standards initiatives like the OeBF MPEG REL extensions, the CRF, and some of those cited in Brian Green's recent INDICARE article on EDItEUR initiatives (Green 2005). Holtzbrinck, for example, could then build standard rights and distribution terms expressions into its BookStore system.

There is an important precedent for this type of standards-based supply chain automation in the publishing industry: the ONIX standard for book product metadata (cf. sources), which many publishers use to feed product information to Amazon and other distributors and retailers, and which has substantially improved the efficiency of this process. ONIX contains fields for such things as book identifiers (e.g., ISBN, UPC, DOI), product metadata (e.g., price, minimum order quantity), physical characteristics (e.g., size, weight), and descriptions of content. The AAP steered

the development of ONIX, and it is maintained by EDItEUR along with the Book Industry Study Group in the US. There is also a version of ONIX for serials content, such as academic journals.

At the same time, just defining standards for communicating rights information to online distributors is not enough. Publishers must be able to define and manage those rights for themselves first, so that they can express them mechanically in a REL or similar technology. Yet few publishers have viable internal databases of the rights that they are entitled (e.g., by contract) to offer; solving this problem can involve large-scale system development, process rationalization, and (in many cases) integration with legacy systems. Publishers must also think seriously about what rights they are willing to offer to online distributors, of the ones that they are able to offer. Random House's decision to offer per-page rights through Amazon is only a small step in that direction.

Bottom line

Throughout the development of the Internet, publishers have had various opportunities to take control and make the most of this hugely impactful new medium as it moves from physical commerce facilitator to content distribution and rendering medium. Developments like Google Book Search show that technology companies have the potential to force dramatic changes to publishers' business models and supply chains. Publishers must realize that once content is out there on the Internet, control over rights is the key to control over their industry's future. If they do not act soon, then Internet technology companies will take over their supply chains, they will be marginalized into lesser relevance in the content world, or both.

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Google Book Search: fostering public access in a controlled way

By: Jens Redmer, Google Book Search Europe, Hamburg, Germany

INDICARE-Interview by Knud Böhle, ITAS, Karlsruhe, Germany with Jens Redmer, Google Book Search Europe. The interview makes the essence of Google Book Search clear: an innovative and powerful Online Public Access Catalogue integrated into Google's overall index and search service for the Internet. Due to the focus of the INDICARE Monitor questions centre on content protection, usage limitations, and copyright.

Keywords: interview – access control, business models, copyright law, Google Book Search, Google Print, libraries, public domain, publishers, technical protection measures

About Jens Redmer: *Jens Redmer, born 1967, studied computer science and medicine at Kiel University, Germany. From 1995 until 1998, he directed various projects in the fields of interactive media within the Axel Springer Publishing Group's Strategic Planning Department. Last position at Springer was regional MD for a local internet service provider, a Bertelsmann/ Springer/ WAZ joint venture. From 1998 until 2001, he directed Business Development for ricardo.de, a pan-European internet auction site as a member of the Board. Further stations of his development include AOL Germany, where Jens directed Premium/ Paid Services from 2001-2004, and Endemol TV Productions in Amsterdam/ The Netherlands and Cologne, Germany, 2004-2005. Here Mr Redmer directed Endemol's multimedia department. At present he is responsible for the Strategic Partner Development for Google Book Search in Europe.*

INDICARE: Mr Redmer, there are gigabytes of articles about Google Print recently renamed Google Book Search (Grant 2005) and information by Google itself (cf. sources). Nevertheless, let's start with some up to date figures about the *Google Book Search Library Project* and the *Google Book Search Publisher Program* to set the scene: How many books have you scanned already? How many books are available online via Google Book Search? How many libraries are actively participating in Google Book Search for Libraries? As there are news (cf. e.g. Charny 2005) that you are giving more attention to the European region than before; who are the European libraries and publishers currently participating?

J. Redmer: We have experienced a tremendous interest in our program so far. Up until today, thousands of publishers have successfully joined Google Book Search. Let me point out that virtually every major US and UK publisher is an active member of the Google Book Search Program. Our commitment to create a truly international product has just been underlined by our recent launch of Google Book Search in many more languages in European countries, including France, Italy, Germany, Spain, and the Netherlands. In the Library program, we currently work with 5 leading libraries, 4 of which are based in the US (Universities of Stanford, Harvard, Michigan, NY Public Library) plus our first European Library partner, the University of Oxford. We continue to explore further partnerships and expect to cooperate with additional Libraries soon. Google is international, so language diversity is key.

INDICARE: As INDICARE is especially interested in DRM from the consumers' point of view, could you please split the number of titles available in those already in the public

domain, those from libraries still under copyright, and those made available by publishers?

J. Redmer: While I cannot disclose the actual numbers within our Publisher and Library Programs, let me explain that right now, most of our books come from the Google Book Search Publisher Program, a program that lets book publishers of all sizes have their book content included in Google's main search results. Publishers send us their books and we digitally scan them and add their content to our search results – all for free. Through our partnerships with well-known libraries, through the Google Book Search Library Project, over time your Google search results should start to show more books from these collections as well.

INDICARE: Please allow me to insist on figures, although I know Google is somehow reluctant to communicate them. The order of magnitude of books covered by the *Google Book Search Library Project* and the *Google Book Search Publisher Program* respectively should be no secret.

J. Redmer: These numbers are big. Really big. But, unfortunately, I cannot share the actual number with you. You will get a good indication of the magnitude of the books covered within the Google Book Search by trying it out yourself for a set of search requests by navigating to http://books.google.com.

INDICARE: There are different usage restrictions for each of these types of sources, as explained roughly in the "Google Book Search Help Center" (cf. sources). Could you explain in technical terms how content protection works in Google Book Search, and what is even more interesting, the reason why exactly you have chosen the different sets of usage restrictions.

J. Redmer: Google carefully respects rights of all copyright owners, this is why we restrict usage of the books discoverable on Google Book Search. Google hosts all material on our secure servers. We disable the print, cut, copy, and save functionality on all pages displaying book content, in order to protect the material. Of course, also no downloading is possible. In addition, the publishers can choose how much of a book a user will be able to view over a 30 day period, from 20% to 100%. Adding to these user-focused restrictions, there are also page-level restrictions. Portions of the book will be available to all identifiable users (using the cookie technology), but those users wanting to browse additional pages must additionally sign in with their Google Account to view the full pages. They will still be restricted to the percentage of the book a publisher chooses to make available. At all times, only a part of the book is online since Google makes a significant portion of a book invisible to all users.

INDICARE: Google's content protection policy may seem to some already exaggerated, for example I wonder why you don't offer a download function or at least a print function for books 100 % out of copyright.

J. Redmer: Again: Google Book Search is a means for helping users discover books, not to read them online and/ or download them. We will neither put Libraries nor Publishers out of business. Because of this, users who want to read the whole book can use the "Buy the Book" links to purchase it. Users can also click through to the publisher's website where there may be a digital version available. If the book that a user discovered is no longer in print, we link users to libraries where they can find the book to access the book in physical form. Google Book Search supports all parties: It drives publisher sales by leading our users to book retailers including the publisher's website, and it also helps libraries fulfil their mission better by leading our users into libraries.

INDICARE: I see; in essence Google Book Search is a sophisticated "Online Public Access Catalogue" (OPAC). Last year Electronic Frontier Foundation's Cory Doctorow indicated that Seth Schoen (EFF's so called staff technologist) had found "some avenues toward breaking" Google Book Search's DRM (Doctorow 2004), and more recently Greg Duffy (alias Isometrick) claimed to have written a "simple code that can instantly create PDFs of entire books from Google Book Search" (Duffy 2005). Do you believe

that these hacking tools really do what they promise? Has Google Book Search already been hacked? Have you done anything meanwhile to repair these security breaches?

J. Redmer: Google is in the focus of users trying to get unauthorised access to our services frequently, independent of the Google Book Search Program. Thus, we are used to identifying inappropriate usage patterns for all of our products. As explained above, we have developed sophisticated and extensive technology that strictly limits the access for a single user. Please also bear in mind that at no time, a full book is online since we make a significant percentage invisible to all users at all times. Also, book pages visible within Google Book Search are shown at a very low resolution that is not usable for further processing – high-resolution images are not even connected to the internet. We can identify repetitive usage patterns and react appropriately. Since a book is never online in full, no one is able to view a full book, even with thousands of search requests and multiple machines.

There may be a very small fraction of users trying to circumnavigate access limitations (by the way: that is not "hacking"). Much more importantly, these users are by far outnumbered by thousands, millions of new users that discover – and possibly buy – books that they may not even have been thinking of.

Let me counterask the following questions: Can an offline bookseller guarantee that no-one is reading an entire book on their premises (and not buying it)? Can they guarantee that no-one is taking photos of all those pages of interest to that user, in high resolution, without any limitation? Can a library guarantee that no-one is reading and copying – legally – a full book on their premises? Can a publisher guarantee that one of their books are available on the internet illegally, in full, in high resolution?

Here's our answer: We do not create new risks here, we minimize them. In addition, we constantly add new security features, for example the page-level login requirement recently launched. Google Book Search is not a threat, it is a fantastic opportunity for both authors, publishers, and libraries - and, of course: new readers.

INDICARE: In a way we might say Google Book Search needs DRM technology to be viable?

J. Redmer: Google Book Search is a book discovery program, not a book reading program. For this, we rather need access limitation mechanisms than DRM mechanisms.

INDICARE: Google has been sued by the Authors Guild (Authors Guild 2005), and more recently by the Association of American Publishers (AAP 2005) for copyright infringement (cf. Band 2005a and b for a neutral analysis of the copyright issues). I don't expect statements on these pending law suits, but I would like to ask you what the real foundations of the controversy are. While you are expanding the commons or better, access to them, you pose a threat to commercial publishers' business models – that's more or less what e.g. Lawrence Lessig (2005) assumes. One might add that publishers will fear that Google will be able to derive new value-added services from the database of scanned books without revenue sharing with publishers. How do you cope with publisher concerns?

J. Redmer: Let me point out one very important thing here: Google Book Search does not threaten authors' and publishers' business models, it helps drive their businesses. This is very widely misunderstood. Whatever we do is in the interest of both authors and publishers.

We regret that the groups mentioned above chose to sue us over a program that will make millions of books more discoverable to the world - especially since any copyright holder can easily exclude their books from the program, so: no law suit required. What's more, many of Google Book Search's chief beneficiaries will be authors whose backlist, out of print and lightly marketed new titles will be suggested to countless readers who wouldn't have found them otherwise.

Let's be clear: Google doesn't show even a single page to users who find copyrighted books through this program (unless the copyright holder gives us permission to show

more, like in the Publisher Program where we explicitly sign an agreement with publishers). At most we show a brief snippet of text where their search term appears, along with basic bibliographic information and several links to online booksellers and libraries.

The use Google makes is fully consistent with both the history of fair use under copyright law, and also all the principles underlying copyright law itself. Copyright law has always been about ensuring that authors will continue to write books and publishers continue to sell them. By making books easier to find, buy, and borrow from libraries, Google Book Search helps increase the incentives for authors to write and publishers to sell books.

To achieve that goal, we need to make copies of books, but these copies are permitted under copyright law. For those books still under copyright Google is only showing: (1) bibliographic card-catalog-like information and, (2) at most very brief text excerpts. For copyrighted books, full text will not be available, and extensive safeguards to prevent copying and excessive access are in place.

Think of Google Book Search this way: it is very similar to web search. In order to electronically index a webpage, you need to make a copy of it. In order to electronically index a book, we have to make a digital copy of the book. As with web search, the copies we make are used to direct people to the books. Our experience with web search is that many people ask to have their web pages included in our search results and very few ask to be excluded.

INDICARE: Google Book Search, as acknowledged by many, could become a milestone towards a true "docuverse" envisaged by Ted Nelson more than 30 years ago. In the words of the National Consumers League (2005) the same vision is present: “If properly constructed and wisely administered, this new venture sets the stage for a quantum leap in consumer access to information”. In the light of this great perspective one may however argue that Google’s approach is not yet open enough. As researchers from OCLC (cf. Lavoie et al. 2005) estimated, the titles of the five major libraries (Google 5) would just cover a third of the entire record of publications. To be really successful building the new Commons there should be ways to offer a more federated approach, and an approach which leaves more autonomy and ownership with the libraries. How does Google reconcile the public interest in a true docuverse (without artificial proprietary boundaries) with the private company’s profit maximising business strategy?

J. Redmer: Thank you for this important question which is easily answered by citing our mission: “To organise all the world’s information and make it universally accessible and useful”. With Google Book Search, we have just tapped into the vast amount of content that today is not yet accessible online. We will continue to create and improve products to make accessible and useful much more of today’s offline content. Allow me to quote our founders: “We are only at the beginning”.

INDICARE: Frankly speaking, I would have expected a less easy answer outlining your strategic ideas about co-operation, sharing, federating etc. I can hardly imagine that the Internet population (whatever this may be in social terms) will ever accept a monopolistic gateway regulating access to its record of information…

J. Redmer: Google is constantly aiming at creating even better products to fulfil our mission to organise the world’s information and make it universally accessible and useful. As with all products, it is the user who decides if they are helpful and useful. We are very happy with the fact that we are successful with matching user demands with our exiting products, existing and coming.

INDICARE: Thank you very much for this interview.

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Commission Recommendation on cross border licensing: Last train boarding now!

By: Margreet Groenenboom, Institute for Information Law, Amsterdam

Abstract: The "Study on the cross-border collective management of copyright" released in July 2005 by the European Commission (EC) was discussed in the INDICARE Monitor of September 2005 (Groenenboom 2005). The present article is a follow up reviewing the EC's subsequent Impact Assessment and the ensuing Recommendation. The article also elaborates on some specific proposals brought forward by stakeholders in their reactions to the Study.

Keywords: Review – collecting societies, competition, DRMS, licensing – European Union

Introduction

The “Study on a community initiative on the cross-border collective management of copyright” released in July 2005 by the EC aimed to improve the cross-border licensing for online music services (European Commission 2005a). In this Study, the EC proposed three options for the improvement of the current situation:

1. do nothing;
2. suggest ways in which cross-border co-operation between national collective rights managers in the 25 Member States can be improved;
3. give rightholders the additional choice of authorising a collective rights manager for the online use of their musical works across the entire EU.

The EC favours option 3, since first, option 3 enables rightholders to choose the collective

rights manager (CRM) they want to join. Secondly, this option enables competition between CRMs, and, as a result, this would lead to the improvement of services offered by CRMs (European Commission 2005b). This competition between CRMs would result in a "survival of the fittest", and, as a consequence, there would be fewer CRMs for online music services to address which would diminish the licensing costs.

Eighty-five stakeholders submitted reactions to the Study to the EC. This article examines the Impact Assessment (European Commission 2005c) conducted by the EC following the reactions submitted, as well as the ensuing Recommendation (European Commission 2005d).

Impact Assessment

The instrument of the Impact Assessment was introduced in 2002 by the EC to improve the quality and coherence of the policy development process for all major initiatives, i.e. those initiatives which are presented in the Annual Policy Strategy or in the Work Programme of the EC (European Commission 2005e). In an Impact Assessment – which should contain certain components - a systematic analysis of the likely impacts of intervention by public authorities can be found. It should be noted that an Impact Assessment is not a substitute for a political decision; however, it might increase transparency, communication and information on the EC's proposals.

In October 2005, the EC released the Impact Assessment on the cross-border licensing of online music services, which contained 7 Chapters:

1. Problem definition;
2. Objectives;
3. Policy options;
4. Analysis of impacts;
5. Assessment and evaluation;
6. Results of stakeholder consultation;
7. Commission proposal and justification.

Chapters 1 to 3 of the Impact Assessment roughly correspond to Chapters 1 to 3 of the Study. Although their titles differ, Chapter 5 of the Impact Assessment (called assessment) generally corresponds to Chapter 5 of the Study (called monitoring). Therefore, this article will focus only on the Chapters of the Impact Assessment relating to the Analysis of impacts (Chapter 4), the Results of the stakeholder consultation (Chapter 6) and the Commission proposal and justification (Chapter 7).

Analysis of impacts (Chapter 4)

In this Chapter, the EC sets out the submissions of the stakeholders per topic, i.e. legal certainty, transparency/governance, culture/creativity, innovation and growth, competition, employment, consumer/prices, impacts outside the EU, consequences for large and medium CRMs, consequences for rightholders and consequences for online music providers. For each topic, the EC concludes by making its own evaluation. All topics gave rise to intense discussion amongst stakeholders, discussion which often centred on the question: who benefits from option 2 or option 3? With respect to this issue, the EC recognises that the basic difference between option 2 and option 3 is that option 3 would introduce competition in the relationship between rightholder and CRM (the rightholders option), while option 2 would introduce competition at the level of commercial users (the commercial user option). If, according to option 3, rightholders would be given the choice which CRM to join, CRMs must ensure their attractiveness to attract rightholders. This means for instance low transaction costs and high royalties. Option 2 would lead CRMs to ensure their attractiveness for commercial users, this means for instance offering a good repertoire and low royalties.

The EC also pays attention to the possible use of DRM by CRMs. The EC expects that rightholders will take into account the DRM solutions applied or imposed by the CRMs to protect and monitor their rights in the most efficient way. This could have an impact on the development of DRM.

Results of the stakeholder consultation (Chapter 6)

In this Chapter, the EC summarizes per category of stakeholders the favoured options. It is important to note here, that the stakeholder consultation described in Chapter 6 of the Study concerns a prior consultation round, which had been launched on 16 April 2004. Overall, the general opinion of stakeholders in the July 2005 consultation is that indeed something needs to be done, for no stakeholder favours option 1 over option 2 or 3.

Option 2 - suggest ways in which cross-border cooperation between national collective rights managers in the 25 Member States can be improved - is favoured by:

- *Author's societies.* GESAC favours option 2, but stresses that additional safeguards are indicated; first, safeguards against dumping of valuable repertoire by smaller rivals within the network of reciprocal representation agreements and, second, safeguards that enable CRMs to control the price of their own repertoire. These safeguards are needed because GESAC fears that when collecting societies all offer the same (popular) repertoire as a result of implementing option 2, this would result in a downward movement with regard to the amount of royalties being paid to authors. To attract customers, CRMs should offer customers (i.e. online music services) a good price for getting a license. Competition between CRMs for customers would thus lead to lower licensing prices. Lower licensing prices automatically lead to a lower royalty to be paid to authors. With regard to this pricing issue, some very large authors' societies (such as the UK and French societies) are willing to withdraw from reciprocal arrangements with authors' societies that devalue their repertoire by undercutting on the price.
- *Major record companies.* Because they are licensees of authors' rights and thus are amongst the commercial users, they wish to minimise the payment of royalties to be paid to authors' societies. Unlike the author's societies, they favour the downwards pricing movement resulting from competition amongst CRMs to attract customers.
- *Record producer societies.* Because they would like to improve governance and accountability in reciprocal agreements, they favour option 2.
- *Radio broadcasters.* Since they are amongst the commercial users and they aim to serve the market at the lowest possible price, they favour option 2 with an EU wide one stop shop license.
- *Niche European cross-border television channels* (e.g. MTV). MTV favours this model because it would favour competition between societies and price levels.
- *Online music providers.* Like the radio broadcasters, they favour option 2 because they would like to have an EU wide license for the aggregate EU repertoire. In addition to this, they favour the introduction of a mandatory dispute resolution mechanism.
- *The European Consumers' Organisation* (BEUC). BEUC aims to establish consumer choice at attractive prices. A good price for online music services, means a good price for consumers. BEUC mentions that option 2 of the Study might have been a viable basis to address the current problems of collective management. With regard to option 3, BEUC points out the risk that commercially active CRMs might not be able or willing to support national artists on the margins of commercial viability when this option is followed. When minor, national artists are not considered, cultural diversity might diminish.

Option 3 - give rightholders the additional choice of authorising a collective rights manager for the online use of their musical works across the entire EU - is favoured by:

- *Music publisher's community*. Some music publishers already announced that, whatever the outcome of the stakeholder consultation, they will withdraw their repertoire from the existing reciprocal agreements and tender the repertoire for a single EU wide license.

- *Independent record labels*. These record labels favour option 3 because this would enable them to establish their own CRM.

Two groups need to be mentioned separately here: first, the performers' societies, because they are uncommitted to any of the proposals; and secondly, the mobile network operators, because they favour a combination of option 2 and option 3 with a dispute resolution mechanism. The mobile network operators state that commercial users should have the possibility to choose between obtaining license rights directly for the entire EU, and via reciprocity agreements for the remainder of the repertoire.

Commission proposal and justification (Chapter 7)

The different views expressed regarding the Study resulted in a proposal by the EC in which the parallel deployment of the business models in option 2 and option 3 is embedded. In addition, the EC introduces a series of fundamental freedoms that should form the basis of the relationship between rightholders, CRMs and commercial users.

According to the EC, commercial users should be able to obtain multi-territorial licenses for the entire EU irrespective of the Member State of residence or nationality of either the CRM or the rightholder; the categories of rights and the territorial scope should be defined in the license; and CRMs should enhance transparency, for instance by publishing repertoire and applicable prices.

Rightholders should be able to determine the categories of rights and the territorial scope entrusted for collective management; they should be able to withdraw rights from existing agreements with CRMs in order to join the CRM of their own choice, irrespective of the Member State of residence or nationality of either the CRM or the rightholder.

In addition to the principles mentioned above, the EC also introduces rules on governance, transparency and accountability that CRMs should adhere to. These rules include the following principles:

- CRMs should grant commercial users licences on the basis of objective criteria and without any discrimination against users;
- CRMs should be obliged to distribute royalties to all rightholders or categories of rightholders they represent in an equitable manner;
- CRMs should establish clarity among themselves and vis-à-vis commercial users as to which rightholders they represent and update this information on a regular basis;
- CRMs should specify vis-à-vis all the rightholders they represent, the deductions for purposes other than for the management services provided;
- Management contracts between CRMs and rightholders for the EU-wide management of musical works for online use should also specify whether and if so, to what extent, there will be deductions for purposes other than for the management services provided;
- The relationship between CRMs and rightholders, whether based on contract or statutory membership rules should comprise the principle that a CRM treats domestic and non-domestic rightholders or categories of rightholders equally in relation to all elements of the management services provided;
- The relationship between CRMs and rightholders, whether based on contract or statutory membership rules should contain the principle that rightholders' representation in the internal decision making process is fair and balanced namely commensurate with the economic value of their rights;
- CRMs should report regularly to all rightholders they represent whether directly or under reciprocal representation agreements on licences granted, tariffs applicable and royalties collected and distributed;
- Member States are invited to provide for effective dispute resolution mechanisms in relation to tariffs, licensing conditions, entrustment of online rights for management and withdrawal of online rights

available to commercial users and rightholders in their territories.

Recommendation

The Impact Assessment formed the basis for releasing the Recommendation (European Commission 2005d and European Commission 2005f). It is important to note what the status of such a document is. The Recommendation, which is based on Article 211 EC Treaty and is directed at Member States and all economic operators that are involved in the management of copyright and related rights in the EU, can be interpreted as a signal to stakeholders that they will need to do something to improve the current situation in a way that will enable online music services to license music in an easier way. A Recommendation is not binding for the concerned parties. However, it does have a certain persuasive character since it forms the last possibility for the parties concerned to introduce self- regulation before the EC issues binding legislation.

The different views from stakeholders on the issue have resulted in a Recommendation which does not impose the implementation of either option 2 or 3 upon the concerned parties. Rightholders and commercial users of copyright-protected material should be given a choice as to their preferred model of licensing. To achieve a better functioning of the existing reciprocal agreements and to make option 3 a possibility, the EC proposes the elimination of territorial restrictions. In addition, customer allocation provisions in existing reciprocal representation agreements should be eliminated. Furthermore, rightholders who do not wish to make use of reciprocal agreements to manage their repertoire should be offered the additional option to tender their repertoire for EU-wide direct licensing. Lastly, the Recommendation contains a number of principles to which CRMs should adhere in order to introduce a culture of transparency and good governance enabling all relevant stakeholders to make an informed decision on the licensing model best suited to their needs. These principles correspond to the principles mentioned in Chapter 7 of the Impact Assessment and are applicable to all CRMs, irrespective of whether they manage rights according to option 2 or option 3.

A bit of discussion

Some issues resulting from the Impact Assessment and Recommendation are worth mentioning here.

Attractiveness of DRM

The statement of the EC according to which rightholders will take into account the DRM solutions applied or imposed by the CRMs to protect and monitor their rights in the most efficient way, suggests that all rightholders favour the use of DRM. One indication in support of this statement is the fact that legitimate downloading services are becoming more and more popular. However, more and more artists are publicly rejecting the use of DRM (and, more specifically, copy protected CDs which hinder the transfer of the bought CD to an MP 3 player) by their record companies. Use of DRM might thus also drive a certain artist away from the record company. In the future, more discussion between rightholders and the party applying a DRM concerning the possibilities of applying a certain DRM is needed.

Choice as an advantage

The EC wants to give rightholders a choice when joining a CRM. Do rightholders actually want to have a choice, do they have the knowledge to make a profound choice and, moreover, would they use the opportunity to join a CRM not based in their territory? Big rightholders, like record companies, are more likely to have the knowledge to make a profound decision to choose (or even establish) a CRM than individual rightholders. In addition to this, the right of the rightholder to withdraw licensed rights from a CRM at any given time does not enhance certainty amongst online music services. Only a register which is updated regularly (probably at least daily) might give a good overview of who is represented by which CRM for which rights. If there is no such on-going registration, an online music service might address a certain CRM who does not represent a certain rightholder anymore.

Reduction of costs

It remains also to be seen whether implementation of option 3 indeed does diminish the costs for online music services when offering digital music. The online music service still would have to conclude several licenses if a rightholder grants different CRMs the right to license certain rights in a designated area and when no reciprocal agreements are in place.

Bottom line

Whether one supports option 2 or option 3, it is now up to the stakeholders to implement either of those options and to improve the current situation. Whatever stakeholders decide to do, the implementation of the principles to which CRMs should adhere, will definitely improve the greater good of transparency!

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DRM researchers do not disregard consumer acceptability any more – A report on the fifth ACM workshop on Digital Rights Management

By: Kristóf Kerényi, SEARCH laboratory, Budapest, Hungary

Abstract: INDICARE was present at the 2005 ACM DRM Workshop in Alexandria, VA, to monitor what has changed during the past year in the field of DRM technology. Although the attendance of the workshop was not too high, we heard quality presentations, and a little bit surprisingly the focus has moved from completely technical to multidisciplinary, and much heed was given to consumer acceptability of DRM solutions.

Keywords: conference report – consumer research, DRMS, fair use, rights expression language, standardisation, technical protection measures

Introduction

Having been at the last year's DRM workshop organized by ACM (Association for Computing Machinery) (cf. Kerényi 2004), I looked forward to visiting the 2005 event organized in Alexandria, Virginia. This time the workshop, being part of a week-long event, the 12th ACM Conference on Computer and Communications Security, was organized in a more prestigious place than last year, the Hilton Alexandria Mark Center. Therefore I was surprised, that compared to the previous workshop, the number of the audience was approximately halved. The around twenty participants came from all over the world, mostly universities, but there were some representatives from the tech industry (Microsoft, Motorola).

As the name of the enclosing event suggests, I expected the presentations to havie mainly technical focus, but the title of the first two presentations (cf. event web site, workshop program) suggested a stronger consumer-related view. As the whole event was introduced, the workshop this year promised a "comprehensive intellectual view", mentioning the legal and market-related questions of DRM beside the expected technical focus.

Opening block – Legal issues and fair use

Alapan Arnab from the University of Cape Town talked about the well known controversy, that DRM, which was meant to be an active protection of copyright, as opposed to the historic passive enforcement, does not actually implement the fundamentals of copyright law. One of the most salient signs is that current systems do not allow fair use. As he said fair use was "a feature for lawyers", that computers, more specifically Rights Expression Languages, could not express. Therefore he concluded that "fair use was unsuitable for DRM". Instead he proposed that "fairer use" could be achieved, than what is available at present.

Arnab discussed the question whether DRM systems are rather similar to buying or licensing. He stated that DRM systems will never be able to enforce core protection (copying, redistributing), they can only restrict usage. Thus, if we drop the old view of 'buying music just as one used to buy a CD' and look at today's 'buying content from the on-line store' as licensing (basically a contractual process), then consumers will not necessarily be in a worse position. However, for contracts it is necessary, that both parties can provide their input, and agree on the terms and conditions under which the deal will be made. Current DRM systems, he said, do not allow the users any input on the terms of the usage licenses. For this, he proposed two different solutions, which could contribute to achieving fairer use.

First, he talked about negotiation of licenses. He described a protocol, based on which the end user and the license server could conduct the negotiation process, and by which e.g. different prices could be paid for different sets of rights. He proposed that instead of a separate language for negotiation, RELs should be extended to be able to support bi-

directional requests. (see also Rump, 2004) He also proposed extensions to the two most widespread RELs, ODRL and XrML, to make such negotiation of terms possible.

The second solution Arnab proposed was credentials-based. He said that credentials-based systems were not new, and such functions could be achieved in DRM systems, too. A simple example of credentials-based access could be that for average users some form of license is granted to a piece of writing, in which any derivative work is forbidden, but those who have a journalist credential are allowed to excerpt. Naturally trusted credentials servers are required for strong identity management in order to maintain security of the system. Arnab again examined both ODRL and XrML, and concluded that the latter was ready for credentials-based use, and proposed an extension for the first one to be compatible with this approach.

Rei Safavi-Naini from the University of Wollongong, Australia, presented research done by four fellows, one dealing with computer law and three sociologists. She analyzed fair use and *fair dealing*, as similar concepts in many countries, including Australia and also appearing in some EU documents. She gave a detailed background about the history and law cases in connection with fair use and personal use.

Safavi-Naini talked also about the social context of music and new media. The authors examined several surveys, and concluded that music was very important in society, because "music and talk about music is a way of constituting and maintaining friendship networks". They also conducted in-depth interviews with 23 consumers, somewhat similar to what INDICARE did (cf. references). The authors found out that both listening alone *and* sharing one's vision with friends was a basic social need. Thus she concluded that DRM systems need to encourage sharing and exploring new music, because this is what people always wanted. Safavi-Naini said that exploration of new music based on sharing often leads to purchase. Thus, revenues can be collected by different means, e.g. with the purchase of concert tickets, T-shirts, CDs, etc.

The key recommendation of the presentation was that "DRM systems should concentrate on how sharing and exploring new music can lead to a purchase, rather than try to stop a core music activity". DRM system designers should address user requirements in the area of file sharing, and make it possible for users to legally exchange music.

Interoperability

At the workshop we had also quite some presentations regarding interoperability, one of the questions that interest consumers most. The three speakers who touched the topic the closest each had a different view of how to achieve this goal.

Pramod A Jamkhedar, from the University of New Mexico, continued research that he had presented in the previous year's conference. At that time he had talked about creating a layered architecture for DRM and standardizing the function of the layers (cf. Kerenyi 2004). This year he analyzed what is necessary for achieving interoperability (interfaces, protocols, standards that should be developed). Jamkhedar's view was that standardization does not have to happen all at once; while today's DRM systems are monolithic, and in the future the aim is to create highly interoperable system, there will be a gradual change through intermediate levels of interoperability.

Sam Micheils, a researcher from the Katholieke Universiteit Leuven took a very different approach: instead of defining layers and dividing DRM functionality in a vertical manner, he looked at the functionality that DRM systems provide. Micheils analyzed state-of-the-art DRM technologies and extracted from them high level usage scenarios with respect to consumers of content, producers and publishers. He identified seven subsystems which are, or should be common to all different systems. These are Content Service, License Service, Access Service, Tracking Service, Payment Service, Import Service and Identification Service.

Micheils concluded that today's DRM systems lack a generic software architecture that supports interoperability and reuse of specific DRM technologies. He proposed that

the identified functions and key services should be located in an overall software architecture for DRM, and the different functions and sub-services of DRM should be standardized. This could also contribute to the gradual change to full interoperability, and provide a way for newcomers to the market to step in with just one of the functions newly implemented and using existing subsystems for the other key services. By not having to re-implement the whole DRM architecture every time one has a new idea for one of the six functions, the market could open up to new ideas and grow faster, to the benefit of consumers.

While the previous two speakers presented "just research", and had no intention to promote actual standardization, *David W. Kravitz* from Motorola talked about a real device which could help achieve interoperability. He introduced the Rights Issuer Module (RIM), a central device in one's home entertainment system, which achieves functional interoperability by acting as a content and rights object translator between the "upstream device" (could also be the content provider) and the "downstream device" (this is the device receiving the content and rights). Motorola's aim when designing the RIM was to create a supplementary system with the help of which one can easily move content among devices with minimal or potentially even no change to existing players, and that was secure, while at the same time reducing robustness requirements for home devices.

Technical research going on

Just to touch on other topics mentioned at the workshop, we also had presentations about broadcast encryption, watermarking, and software protection techniques. *Markus Rohe* from the Ruhr-Universität Bochum introduced a secure digital rights distribution infrastructure, where customers can verify the legality of a license. This is important, when digital content is used for important calculations, and accuracy of data is crucial, and this infrastructure can guarantee liability of the content provider. *Andreas Matheus* from the University of the Federal Armed Forces Munich talked about extending DRM systems to the geospatial domain – with GeoXACML Matheus successfully added location information to both content and rights, which can be important if heterogeneous and distributed geodata are to be used at the same time, or usability of licenses can vary based on the location of the consumer.

Microsoft's DRM vision

The liveliest discussion emerged, when *Andrew Moss*, a Windows strategist from Microsoft stepped on stage and gave a less technical and more visionary speech. After his talk, attendees of the workshop asked questions about Microsoft's vision and to me it emerged that consumer acceptability is indeed a very important question for the "bigs". Moss emphasized the importance of simplicity of DRM systems. He said that most consumers are not engineers therefore simplicity of solutions is one of the most important points when designing a DRM system. Therefore the best DRM is invisible, "if you realize it is there, they do something wrong". Moss said that "the challenge now is not too much in technology", instead he identified today's key disputes as privacy, accessibility, ease of use, interoperability and device-to-device availability.

Bottom line

Compared to the results of last year's similar DRM workshop by ACM where researchers did not pay much attention to consumer acceptability, it seems that now the approach of both researchers and technology providers have changed, and today the end user, and his wishes are in the focus of research.

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Governing the interrelation of information markets and the public domain. A review

By: Knud Böhle, ITAS, Karlsruhe, Germany

Abstract: The journal article reviewed here (Holtgrewe 2005) attempts to explore the changing boundaries and interrelations of information markets and the public domain in the light of digital technology, digital goods and changing intellectual property regimes. The music sector and scientific publishing are the cases studied in more depth. The concepts used are derived from a sociology of knowledge understood as an “interactionist” and “constructivist” endeavour.

Keywords: review – intellectual property, music markets, scientific publishing, sociology of knowledge, copyright law, open access, consumer behaviour

Introduction

By and by changing intellectual property regimes - copyright and DRM included – are appearing on the radar of social scientists. The input of social science to the many-voiced transdisciplinary dialogue about these issues - INDICARE being one place among others for this exchange - is welcome. Social scientists as observers promise to generate a broader perspective beyond the narrower view of stakeholders. The article by *Ursula Holtgrewe* which we review in the following is an interesting case in point.

Some basic assumptions

Holtgrewe starts from two premises: *First*, the commercial sector and the public domain do not follow the either-or-rule of a "zero-sum game". What has to be understood is the interrelation between both. The public domain is understood here in a broad sense as "the sphere of freely accessible knowledge and/or cultural goods that may be circulated, used and further developed by anyone" (p. 41). *Second*, intellectual property regimes are a means to govern the relation between commercial and public information provision: And as such they become "a dynamic object of action, discourse, power and influence themselves” (p. 40).

Her reasoning is meant first of all to challenge the "essentialists" who opt for either the market or the public domain. Second, she argues against current legislation, the European Copyright Directive and its national implementation in Germany in particular, which she perceives as a threat to the (once) beneficial balance between the commercial and public sectors.

What I find most interesting, however, is her claim in the field of social theory, namely to overcome what she calls "digital neo-Marxism" (p. 45). Digital neo-Marxism basically sees at work the “capitalist contradiction between forces and relations of production” (p. 44). It exists in two variants, the optimistic one highlighting the inherently free and cooperative logics of new technology, while the pessimistic one sees the intensification of capitalist exploitation logics. “At this point, the perspective of the sociology of

knowledge brings in a contrasting view. It emphasises the contextual, processual, potential and generative character of knowledge. Here the focus is on the practical and embedded utilisation of knowledge" (p. 45).

In order to demonstrate some benefits of this sociological perspective, she takes a closer look at two concrete social "contexts": the music sector and scientific publishing. The differences she identifies between the two sectors are indeed very interesting.

Comparing the music sector and scientific publishing

While the music sector might appear at first glance as governed by markets, and scientific publishing as governed ultimately by the "communist" (Merton) rules of scientific knowledge production and dissemination, in reality both fields present patchworks of mixed economies. In the music sector for instance the creation of music and performing are often "not purely for-profit" (p. 46), and important parts of distribution and consumption take place as non-commercial "social exchange". In addition levy schemes and collecting societies have their role.

In scientific publishing knowledge production is mostly public, the physical production and distribution however mostly commercial, although authors often do the pre-press work. Archiving is a public activity when done by libraries and a commercial one when done by databases providers etc.

Following Holtgrewe, in both fields the institutional arrangement is in crisis. In the music sector consumers have been empowered by new technical possibilities (provided by the ICT industry) and they have leveraged this potential by enhanced forms of "social exchange" – think of file sharing networks for instance. High prices for CDs to be paid by the end-users themselves are regarded as an important incentive to go for free content. At the same time, as she observes, the music industry was reluctant to make use of the technical potential and to come up with new attractive business models. Instead the industry followed a conservative strategy relying on restrictive legal regulations and technical protection measures. All in all the music industry has manoeuvred itself into a crisis of demand.

In contrast in scientific publishing the "serials crisis" (or "journal crisis"), a supply crisis, is the starting point. This crisis made obvious that the basic institutional arrangement with commercial publishers on the one hand and libraries on the other hand - as bridge between the commercial publishers and the public domain – did not work well any more. The new technical possibilities are used now to redefine the boundary between for-profit and non-profit activities in this sector. Preprint archives, open access journals etc. are indicators of the attempt to get larger parts of publishing back into the public domain. The attitude of end-users and industry in this field is rather distinct from the music sector: Scientists as users did not protest significantly against the established arrangement for a long time, because they often do not have to pay themselves for the information needed. The university or research institution pays. From the point of innovativeness, commercial publishers were early birds starting many electronic services, especially databases, even before the invention of the Internet, and were thus prepared when the new network technology appeared.

Discussion

Overall the article shows that context matters and that a comparison of different fields is a worthwhile exercise. But there are more topics Holtgrewe's "exploratory study" (p. 40) touches upon. I would like to point out four worth further debate.

- Holtgrewe warns not to overestimate the Open Access movement. It took a long time for authors to become aware of the serials crisis and the changes happening, and as long as reputation is linked with commercial journals the general picture will not change too soon. This however may differ from discipline to discipline. With respect to the OA movement she misses "institutional imagination" when developing open access platforms, e.g. to "experiment with more open forms of evaluation instead of peer-review" (cf. p. 53).

- With reference to Michel Callon she points to the fact that technical accessibility is not yet "open access" as it does not *per se* avoid exclusion from knowledge. "The very contextuality of knowledge makes it exclusive" (p. 45). Additional information work is required to make scientific knowledge digestible and usable for other groups.
- Drawing attention to "social exchanges" - to address non-commercial exchanges between colleagues, family, friends etc. - is an important step. It adds a level of consumption and information use transverse to both commercial exchanges and exchanges in the public domain. I doubt however that a broad generic term like "social exchange" is very helpful to address this level.
- A further interesting aspect she touches is the contradictory policy of governments, who on the one hand support OA initiatives and on the other hand comply with the demand of commercial lobbies when it comes to legal regulations.

Bottom line

The article reviewed is strong in exploring the intellectual property regimes in fields as different as the music sector and scientific publishing, and in providing a picture of the patchwork of for-profit and non-profit activities in these fields. However, the article does not live up to its ambitious claim of a sociology of knowledge which makes the utilization of knowledge the centre of observation.

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