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About Consumer and User Issues of Digital Rights Management Solutions

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Content

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By: Knud Böhle, ITAS, Karlsruhe, Germany

Abstract: An INDICARE-interview with *Arnoud de Kemp* about DRM in scientific publishing marks the start of this issue; six contributions related to the entertainment business follow: the fight against "piracy" is dealt with in an INDICARE-interview with *Tim Kuik* (BREIN - Beschermning Rechten Entertainment Industrie Nederland), the successful fight of consumers for their rights is exemplified by a decision of the Cour d' Appel de Paris (Mulholland case), and opinions of "Indies" about DRM are collected in a third article. Further articles tackle developments at the level of DRM technology providers: first, agreements of Microsoft with Philips, Nokia and CoreMedia are analysed, second, lessons are drawn from the recent DRM Strategies Conference held in New York, and third the chances of DMP (Digital Media Project) to establish an open DRM standard are assessed. Finally, *Nicholas Bentley* presents a new conceptual approach how to best regulate the distribution of copyrighted works in a digital environment.

Keywords: editorial – INDICARE

About this issue

DRM in scientific publishing

The interview by *Ulrich Riehm* with *Arnoud de Kemp*, responsible till 2004 for the development of new media and electronic publishing at scientific Springer-Verlag, reveals fundamental differences between scientific publishing and entertainment the entertainment business: The circulation of scientific publications is orders of magnitude below the one of music and films, royalties to authors appear to be more the exception than the rule, and scientific publishers don't strive to control the behaviour of end-users, as scientists maintain a tradition of free exchange of information and dislike monitoring how they use information.

In addition, scientific publishers have in most cases to do with institutional customers and are not able to control the end-users directly. Although DRM systems still play a minor role in scientific publishing, they are not absent – think e.g. of document delivery services. A rather optimistic statement of de Kemp is that "scientific literature for the end-user is in most cases in principle freely accessible". *Peter Suber*, OA advocate, has already disagreed about it in an online-comment at INDICARE.

Fight against piracy, fight for consumer rights, opinions of Indies

The interview by *Margreet Groenenboom* with *Tim Kuik*, director of BREIN, an organisation acting for the entertainment industries in cases of assumed copyright infringements, centres around copyright infringement, circumvention of technological protection measures, and the distribution of circumvention devices. It is good to hear that "BREIN only acts when one is able to speak of an activity of commercial significance…".

The next article deals with a particular case in which a consumer, supported by consumer organization Que Choisir in France filed a lawsuit against Universal Pictures Video France and others. Mr. P. had bought a DVD realizing afterwards that he could not make a private copy of it due to technical protection measures in place. In first instance he lost, while the Cour d' Appel de Paris now repealed the decision of the first instance. *Natali Helberger* presents the main arguments of the decision and elaborates on its groundbreaking implications.

Philipp Bohn has interviewed protagonists of the independent music scene (Indies), which does not only mean independent labels, but also content aggregators, technical service providers and distributors. Corresponding to the image of "Indies" the answers show the sympathy of Indies for consumer concerns and their antipathy to strong technical protection measures - more likely to accept forensic DRM. However, the Independents sometimes depend on powerful distributors who decide.

Technology providers' strategies and Microsoft's gravity

Philipp Bohn writes in his second article for this issue about agreements between Microsoft and three companies (CoreMedia, Nokia, and Philips). CoreMedia announced to provide interoperability between the Open Mobile Alliance's (OMA) DRM and Microsoft's DRM system; Nokia announced that its music-oriented handsets will support Microsoft's DRM system, and Philips will use Microsoft in its consumer electronic products (Nexperia family etc.). These agreements help to build DRM-bridges between the PC world, the mobile segment and consumer electronics. As the common denominator of these bridges is Microsoft DRM, these agreements are likely to strengthen the position of this player.

Thorsten Wichmann, who presented results of the INDICARE consumer survey at the Jupiter DRM Strategies Conference held last month in New York, also watched out for developments at the level of DRM technology providers. He found important indications for Microsoft's growing importance in the DRM business: uncertainties in IP matters not yet settled favour the choice of less risky Microsoft DRM technology paving the way to become a *de facto* standard. The strong position of Microsoft in the enterprise DRM sector is another indicator of Microsoft gaining strength as developments in this sector will also have consequences for consumer markets. The gravity of Microsoft seems palpable, the question if this roads to interoperability is the best and if it is inevitable may however be doubted.

Ernö Jeges and *Kristóf Kerényi* have analysed an alternative approach to DRM standardisation, namely the Digital Media Project's "Interoperable DRM Platform" (IDP) aimed to become an open standard. The authors conclude that market forces won't favour this approach, and they opt instead for governmental enforcement of interoperable standards.

A new approach between OA and DOI

Finally *Nicholas Bentley* introduces the "contributions model" and the Rights Office System, a new approach to manage rights in a digital environment, and compares it to existing schemes based on DRMS, CC and levies. The basic conceptual assumption is that all intellectual works can be described in terms of "contributions", part of which mean the sources used to produce new intellectual property, others refer to actions and transactions once the work is publicly available, such as payment, review, criticism, recognition, quotations, citations, and recommendation. The enforcement of intellectual property as a private good is abandoned and the character of intellectual property as a public good in the digital environment is stressed. Instead of a mono-directional exploitation chain, the model is relying on an exchange of rights to intellectual works. The Rights Office system is the envisaged infrastructure to mange the exchange of rights. Each contribution, no matter if it is an intellectual or a monetary contribution, is determined by two, unique, persistent, identifiers. In my view this model is located somewhere in the expense between OA and DOI. What still puzzles me most is how incentives to pay can effectively be implemented in the model. As the approach is not easy to resume in one paragraph, please take a closer look yourself and don't hesitate to discuss it at the INDICARE site.

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Science can't accept technical barriers of content use!

What matters in scientific publishing are licenses, contracts, and laws

By: Arnoud de Kemp, digilibri, Heidelberg, Germany

INDICARE-Interview by Ulrich Riehm, ITAS, Karlsruhe, Germany. The interview explores the special situation of scientific publishers with respect to the application of DRM systems. Arnoud de Kemp is convinced that scientific publishing is subject to completely different conditions than those prevailing in the entertainment sector. Among the special characteristics are a tradition of free exchange of information among scientists and unlimited access to full-text databases ruled by consortium contracts. Extensive controls and restrictions of use are not likely to be accepted by scientists and they are also unnecessary as long as legal and contractual regulations work fine.

Keywords: Interview – consumer expectations, DRMS, scientific publishing, stakeholders, user expectations

Arnoud de Kemp was the marketing and sales director and deputy member of the board of the scientific Springer-Verlag from 1984 to 2004. Apart from worldwide sales and marketing, he was responsible for the development of new media and electronic publishing ("SpringerLink"). He was a member of the Executive Board of the International Association of Scientific, Technical, and Medical Publishers (STM), was from its very start active in the International DOI Foundation, a long-time Director of the International Electronic Publishing Research Centre (IEPRC), past President of the Deutsche Gesellschaft für Informationswissenschaft und –praxis (DGD, now DGI) and now Chairman of the Electronic Publishing Working Group (AKEP) in the Börsenverein des Deutschen Buchhandels (Association of German Publishers and Booksellers), with lots of other activities going on.

Since 2004, he and his associate Ingrid Maria Spakler have been building up the digital agency and publisher "digilibri" in Heidelberg, which sees itself as an intermediary between suppliers and purchasers and which is using advanced database and security technology, especially access rights and digital watermarking. digilibri just opened its new website, a media database and an online Asset Management System with a special programme "digilibri-pro" for publishers and other organisations that would like to manage, catalogue and present their digital assets, in particular images with texts. digilibri turns digital objects on the fly into electronic publications by assigning a Digital Object Identifier and registering the electronic publication in a central internet register for permanent identification, citation and retrieval.

Arnoud de Kemp is acknowledged as one of the pioneering experts in the international scientific and professional publishing landscape. With his new company, digilibri, he is also in a position to argue from the point of view of an advanced user of DRM. Contact: dekemp@digilibri.de.

INDICARE: Mr. de Kemp, there is a lot of talk about Digital Rights Management (DRM). Our impression is that scientific publishing is largely unaware of this. Is that correct?

A. de Kemp: What's in a name? Publishers use DRM, but they call it something different. Maybe, because they organised themselves long before DRM became a well-known expression. Henceforth DRM is far more used by science and professional publishers as well as by learned societies than is generally perceived.

INDICARE: What is your underlying conception of DRM?

A. de Kemp: My overall simple definition of DRM is: DRM is nothing else but electronic or digital registration and control of the access to media, both databases and specific content. This might start with the registration

of subscriptions to printed journals in large computer systems of subscription agencies and publishers, go through the exploitation and administration of access to electronic journals through journal agencies or in electronic library collections, and go on with electronic watermarks in all kinds of documents, e.g. in audio books. This is a very broad area. The amazing thing however is that, apart from watermarking, publishers, libraries and journal agencies have been using such systems for much longer than the term "DRM" has been in fashion. In the area of scientific and professional publishing, the term DRM has not been and is hardly being used at all. People that are involved in system development, database management, telecommunication etc. of course use a different language, but they are not publishers.

In a more narrowly scientific definition, one would stress cryptographic encoding, digital identification and the regulation of use. I regard the registration of access and the metering of use up to billing as important and because there is much more money involved, the music publishers and entertainment companies exploiting their content commercially have been far more active.

INDICARE: Where do you see the difference between the entertainment industry which has strongly pushed the debate on DRM and the scientific publishing domain?

A. de Kemp: There is a whole series of differences. The most important is that in science there is a long tradition of free exchange of research results. Scientists go to conferences and present papers, present and defend their issues in poster sessions. This may result in articles that are offered for publication. Most of the material comes in unsolicited, some material is written on invitation (invited papers). For journal articles, there are no royalties involved. Secondly, you have to realise that there are only a few very large scientific publishers. The majority are small companies, university publishers and learned societies. There is little cooperation and limited standardisation going on between publishers, except for SGML and DOI. Most of the standardisation, that publishers use, comes from industries like Adobe (with PDF), database developers and network companies. Broadcasting of music and television is a completely different business than that of the scientific publishers. A good scientific journal may have a printing of up to 3 to 4,000 copies and that's it. Thirdly, we have completely different distribution channels. We sell our content, in particular journals, by subscription through bookshops and specialised subscription agencies, primarily to libraries and institutions. Practically all journals now also exist in electronic form. It is still common to sell a combination of a printed title and its electronic version. Libraries can licence for one title, a series of titles or entire full-text databases and their users then have unlimited access and can download text documents. In other words, we seem to have a straightforward DRM environment in scientific publishing, distribution and dissemination. There are services run by publishers or learned societies or aggregators, that are based on metered downloads, these however are mostly for bibliographic and factual databases: abstracts, tables of contents, chemical structures, chemical reactions, patents, news, business information, and stock market quotations.

I'd like to mention one more specific feature of the entertainment business: the prices for CDs and videos are kept artificially high by the entertainment industry. The proliferation of self-burned CDs or DVDs may thus be seen as a kind of consumer protest.

The music industry has to pay royalties to composers, song writers, musicians, conductors, studios etc. It is a far more complex business. In our world, the use of photocopiers is metered and a little fee per copy made is then paid to the central reproduction right organisation (RRO), which pays publishers and registered authors according to certain schemes. Publishers mostly pay royalties only to book authors, but with many works in science, which consist of individual contributions, not even that is the case. The publisher makes the investment, takes the risk, guarantees continuity and promises to make the content publicly known. The authors / contributors get the reward of being published and hopefully cited. For a lot of journal publications the author has to pay a page charge

to support the publisher: In most cases these publishers are societies and the payment is to keep the price of the publication low, especially for members of the society. The "Open Access" initiatives support that authors and their institutions pay enough money to make the publication free to anyone.

INDICARE: What is actually happening at publishers with respect to the introduction of DRM in the stricter sense?

A. de Kemp: Next to nothing is happening, as in the world of publishing, people feel that everything is already taken care of. Through the consortium licenses and copyright laws, there is the possibility for unlimited use of scientific literature. Students can log in from home and access literature from the databases that are licensed by the university libraries. In this way, scientific literature for the end-user is in most cases in principle freely accessible. There is little inclination to copy and disseminate scientific articles as an alternative.

During the past two years, there has been a hefty debate on the reform of German copyright law, under which professors, teachers, students and workgroups are to be allowed to copy parts of works and store these. There was a great fear among publishers that through this, entire journals, journals or works of reference would "leak". In my opinion, this is largely unfounded since digital literature is mostly already "free" in an organised way. It is different however with books, especially textbooks, where we still have very little experience as only few are available in electronic format.

INDICARE: Isn't there the fear that a scientist could download an article from Elsevier's Science Direct or SpringerLink and, for instance, make 10 copies which he passes on to his colleagues?

A. de Kemp: He has access to his own article and he is allowed to do that. For research and teaching purposes such practices are permitted. But it does not work that way. He will send a mail with an attachment or with a link. Still, lots of scientists order offprints or original PDFs from their publishers for documentation purposes in the funding and approval process and for exchange with colleagues.

Most publishers nowadays allow authors to store a copy of their article on their own server if at least a link to the original and formal publication by the publisher is made.

INDICARE: And there are no forces in the publishing world that are now saying, "we will no longer allow that, since in DRM we have the technical means to prevent it"?

A. de Kemp: No. As long as it is covered by licenses, contracts and laws, it is not seen as a major problem. We had that debate in the course of the reform of the German copyright law and the implementation of the law in practice certainly still needs close monitoring to prevent ill use. But in general, in the scientific publishing world the tendency is that current organisation and regulation is adequate. What we do not want, is mass copying by libraries, which then provide large-scale document delivery services in unfair competition with publishers of all kinds, for profit or not for profit.

Who should control individual use? That is the crucial question. The publishers are unable to control individual use at universities since there is only one central point of access. Publishers and their agents provide statistics on the general use to the universities and are happy, in most cases, that the literature offered this way, is better used than ever before. Reading rooms in university libraries are full nowadays.

We have had extensive discussions on this in STM circles, the International Association of Science, Technical, and Medical Publishers. Everything attempted in this direction in the past, watermarks, digital envelopes which have to be opened with codes received previously or afterwards, did not meet with acceptance. People don't want it. Scientists and students want information without technical barriers.

INDICARE: No further restrictions? No stipulations that this document may only be used on a single computer or, for instance, be printed once only?

A. de Kemp: No, no further restrictions. Anything more is not feasible to control. If one has institutional license agreements or consortium contracts with large data centres and universities, then access control is only possible by means of a general IP address. We cannot determine who is behind it. That's a problem. It is not like in P2P or B2B where there is a direct relationship between supplier and consumer. Our route is from a supplier to a large grey cloud called university. We are unable to ascertain whether this means 10 or 200 institutes or 2,000 or 10,000 students and we are also unable to organise transparency in this respect, apart from a description in the contract.

INDICARE: Do you mean that the effort to control individual transactions would be too great?

A. de Kemp: No, systems from publishers and agents would not be able to do it. Universities and their libraries don't work with access control. Everything is open. It is different in the industry, which also licenses our content. They don't wish anyone from the outside to know who is using which information. Industries may have very detailed internal costing or profit centres. But that is their issue, not ours. They don't wish transparency on which articles and documents are being used. That is by no means such a sensitive subject in the distribution of music as it is in science and research.

About barriers, we have been confronted directly with this problem when building up "digilibri". We supply pictures, high-quality photos, copies of antique documents, high resolution images of original paintings with lots of descriptive text. For each image the rights situation is documented in a very flexible way. From the very beginning we considered to work with DRM as we needed to prevent this sensible material from unwanted commercial exploitation. This starts with registration. We present three look-up formats: thumbnails a preview and a very large preview, all in a low resolution, but enough for a computer screen. We add intelligent watermarks. Each document to be found in our media database in each format is now protected by a visible "digilibri" watermark. Only registered users are allowed to see the large preview. Once a registered purchaser interested in the image has clarified all issues, related to use and exploitation, the image is released as a download or submitted on a DVD, which we think is the better way to ship high-resolution material anyhow.

However, we soon noticed, during the tests we conducted, that the acceptance of visible watermarks among artists, photographers, illustrators who see their own works in the database with a watermark is rather low down to negative. At the moment we're therefore thinking of using invisible or more transparent watermarks.

INDICARE: Hence you would be taking a direction that specialist calls forensic DRM.

A. de Kemp: Yes, of course we are thinking in this direction, although there are also problems with forensic DRM.

INDICARE: What would be the alternative?

A. de Kemp: The open route using contracts. We will conclude framework contracts with editors, image agencies, designers etc. and give them open access to our material in a special catalogue, controlled by their IP address, user name and password. We provide user rights by contract in the conventional manner (printed, stamped, sent by fax with signatures etc.) and the material provided is given no further protection.

INDICARE: Besides those that you have already mentioned, are there any other barriers to the introduction of DRM in publishing houses? For instance, is DRM too expensive, not sufficiently reliable, or inadequately standardised?

A. de Kemp: To me, the last point seems to be the main problem. There are still no standards for reliable encryption in the dissemination of scientific documents. The user does not appreciate being restricted by all kinds of technologies.

At Springer, we used to have never-ending tests with CD-ROMS, trying to encrypt them. Most technologies were obsolete from the beginning or soon became obsolete. I realize that there are more advanced technologies.

INDICARE: Isn't Adobe-Acrobat already the standard?

A. de Kemp: Yes, it is currently the best encryption for documents that we can imagine. Fantastic. It comes along with all PCs and Macintosh computers as an OEM product and the Acrobat Reader can be freely used. That is why it has been so successfully established.

By the way, there is the DocuRights system by the Aries Company that builds up on PDF. It is being tested and partly already used by a number of STM publishers. At Springer, we were also investigating it, but I don't know if Springer made the decision to apply the system. DocuRights wraps the document in a secure container and protects it regardless of its physical location in the Internet. During my time at Springer we actually came to the conclusion that this was an interesting technique, but not necessary.

INDICARE: Let's have a look at other actors involved in the exploitation of scientific content, e.g. the collecting societies. Some argue, that collecting societies might become obsolete due to DRM systems, because collective rights management and compensation schemes could now be replaced with more equitable, individual use-based billing. What do you think about this?

A. de Kemp: The collecting societies were created to collect and administer fees, charges for copiers, fax machines, DVD burners, scanners, blank media etc. Somebody has to collect, administer and distribute these dues. And that can practically only be a centralised organisation.

The alternative model is to concentrate on content and attempt to measure it. That is extremely complex and difficult to achieve, since organisations like the collecting society "VG Wort" have a legal basis and too many parties in the information sector are involved.

In the medium term, I would hope for a shift in the tasks of the collecting societies. For instance, combining Digital Object Identifiers (DOI) and DRM systems, one could establish a kind of usage counter and use this at least for detailed metering, in the long term even for a better distribution of the money to publishers and authors. The collecting societies would no longer be superfluous, since they could be responsible for the business of accounting and billing. This would not be limited to texts and images. The DOI would also be a perfect facilitator in other sectors like digital music, audible books, download platforms in general.

INDICARE: How do you view the relationship of scientific publishers to the open access movement?

A. de Kemp: As I have said before. "Open Access" wishes to make all published material free of charge. In their view, libraries and scientists stand on one side and the publishers and their helpers on the other. In principle however, the publishers should not be against "Open Access". If the money that the libraries currently pay to publishers for the use of the publications is re-allocated by the funding agencies and similar organisations, to finance the publishing process and dissemination of electronic publications, we as publishers should be happy as life will be easier. Springer very quickly presented "Open Choice" with good arguments: we don't care who pays, but whoever pays, can determine the rules of use. The "Open Access" movement is a real anti-DRM movement. The danger of "Open Access" is that relevant scientific literature becomes grey literature and there are big issues like originality, exploitation of the results described all the way up to patent application, that are not addressed at all.

INDICARE: To close, a question about the more structural mid-term changes. How do you see the functional and structural changes in scientific publishing?

A. de Kemp: Positively! By consortium contracts with universities and entire countries, scientific context is accessible everywhere. CrossRef will continue to spread its influence and support linking and hopefully better access to full text as Scholar Google is currently attempting. In the past, publications were "hidden" in large or small university libraries and not accessible. Finding the way was not always easy. Bibliographic databases have been around for a long time, but that is a very narrow access. Now the material is

accessible around the clock on the Internet. That's a fantastic development.

But I have a different worry. The worry's called Google and I have a great fear that we are being "googlified". The great simplicity and the enormous quantitative search results that Google produces are being seen uncritically. This might result in a tendency to no longer use documents, articles and books, but to solve all our information problems using Google. There, information is not really indexed deeply enough and the algorithms behind the ranking are unclear. "Googlification" should create great concern for everybody in the information as well as education sector, including parents of children.

The time will come that the majority of library holdings is available digitally. There are initiatives everywhere, triggered or accelerated by announcements from Google and Amazon to digitize whole libraries or make whole publisher catalogues readable (Inside the Book). The French National Library, the European Library, led by the Royal Library in the Hague, large university centres like Göttingen in Germany or Cornell in the US, all have retro-digitisation projects. The Gutenberg project is also a project to digitise out-of-print books. Soon, we will have the whole world in our hands.

INDICARE: Thank you very much for this interview.

Sources

Important institutions and projects mentioned in the interview:

- Arbeitskreis Elektronisches Publizieren des Börsenvereins des Deutschen Buchhandels http://www.akep.de
- Aries Systems Corporation http://www.kfinder.com/newweb/home.html
- BnF – Bibliothèque nationale de France – Le débat autour des projets de numérisation http://www.bnf.fr/pages/zNavigat/frame/dernmin.htm?ancre=com_google.htm
- Cornell University Library Digital Collections http://cdl.library.cornell.edu/
- CrossRef (Publishers International Linking Association – PILA) http://www.crossref.org/
- DGI – Deutsche Gesellschaft für Informationswissenschaft und Informationspraxis http://www.dgd.de/
- Digilibri http://www.digilibri.com/
- DocuRights http://www.docurights.com/
- DOI – Digital Object Identifier System http://www.doi.org/
- Elsevier ScienceDirect http://www.sciencedirect.com/
- GDZ – Göttinger Digitalisierungszentrum – Center for Retrospective Digitization, Göttingen State and University Library http://gdz.sub.uni-goettingen.de/en/index.html
- Google Print http://print.google.com/
- Google Scholar http://scholar.google.com/
- IEPRC – International Electronic Publishing Research Centre http://www.ieprc.org/
- The European Library: http://www.theeuropeanlibrary.org/portal/index.htm
- Koninklijke Bibliotheek – Royal Library Den Haag – http://www.kb.nl/
- Project Gutenberg http://www.promo.net/pg/
- Projekt Gutenberg http://gutenberg.spiegel.de/
- Springer-Verlag http://www.springeronline.com/
- STM – International Association of Scientific, Technical, and Medical Publishers http://www.stm-assoc.org/

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Protecting the entertainment industry against commercial piracy - About arguments and actions of BREIN

By: Tim Kuik, BREIN, Hoofddorp, the Netherlands

INDICARE-Interview by Margreet Groenenboom, IViR Amsterdam, the Netherlands with Tim Kuik, director of BREIN (Bescherming Rechten Entertainment Industrie Nederland). Circumvention of Technical Protection Measures (TPM) as well as distribution of circumvention devices are not allowed by article 29a of the Dutch Copyright Act and article 19 of the Dutch Performers and Phonograms Act. One of the organisations that act for several copyright owners and neighbouring right owners when piracy of their works occurs is BREIN. In this interview the director of BREIN, Tim Kuik, shares insights about rationale and practice of his organisation.

Keywords: interview – copyright law, entertainment industries, piracy, private copy, technical protection measures – The Netherlands

About Tim Kuik and BREIN: *Mr. Kuik is the director of BREIN. BREIN stands for the Protection of the Rights of the Entertainment Industry of the Netherlands, and as a result, BREIN fights piracy of copyrighted works of the members of BREIN. Piracy is understood by BREIN as the unauthorised copying and distribution of copyright protected works. These works can be music, movies, games or interactive software. BREIN is not limited to any one type of works but aims to fight large scale commercial copyright piracy of all works for its members; offline (bootleg or counterfeit CD or DVD) and online (illegally uploading music) – no matter what the subject is.*

INDICARE: Mr. Kuik, when were you concerned with Digital Rights Management (DRM) for the first time?

T. Kuik: From the 1980's on, I have been concerned with DRM as a copyright expert for filmstudios. That was before BREIN existed (BREIN was established in 1998). A case I was involved in concerned the protection of pay-TV smartcard technology in Ireland. The smartcard was hacked and the problem was that if you reveal how the smartcards works in a civil or criminal law suit, you give away the blueprint and the security of the smartcard becomes worthless. There was a clear need for *sui generis* legislation prohibiting circumvention of the technological protection device, the smartcard, without giving away how the technology works. This legislation needed to prohibit not only circumvention but also distribution of circumvention devices. With the current legislation on the circumvention of TPMs, this *sui generis* legislation has been realised.

This issue also plays an important role for DRM systems relying on TPM. These can be hacked, see for example the DeCSS case some years ago (This programme is capable of decrypting content on a DVD that has been encrypted by using the Content Scrambling System). From the 1980's on, I promoted the use of DRM systems but it took a lot of development to make them acceptable for consumers, because they were either cumbersome and expensive or cheap but easy to hack.

INDICARE: What is your general view of DRM?

T. Kuik: In the view of BREIN, copyright owners should have the possibility to decide themselves how they want to exploit their work. Do they wish to exploit the work on the Internet or not? If they want to use digital exploitation on the Internet, they should have the possibility to either use a DRM system (and as a consequence to decide under which conditions they want to license the content) or to make available free downloads from their websites.

A DRM system can be protected by TPM. As you know, circumvention of TPM and distribution of circumvention devices is not

allowed by the articles 29a Dutch Copyright Act and 19 Dutch Performers and Phonograms Act. So if copyright owners do decide to use TPM, and someone circumvents this protection measure, or someone distributes circumvention devices for a commercial purpose, BREIN takes action and sues the alleged infringer.

I think that when people talk in general about the definition of DRM, a distinction can be made. On the one hand there is simple DRM which aims at copy protection, and on the other hand there is more detailed DRM which uses watermarking or fingerprinting to distinguish individual works and/or makes it possible to charge for individual use.

When talking about download services such as Apple's iTunes, an issue that will become much more important in the future is the interoperability of services. When services become interoperable, this is likely to lead to a greater acceptance rate of DRM systems by consumers. In my view, what is also important for consumers is transparency. When copyright owners do decide to protect their CD in a way that consumers cannot make a private copy of the CD any more, this should be stated on the CD. If it would not be stated on the CD, this would not be fair to consumers because they are used to being able to make a private copy.

INDICARE: The articles 29a and 19 already mentioned became effective in 2004. Have these articles already formed the basis of a prosecution initiated by BREIN in the Netherlands?

T. Kuik: Interestingly enough, on 21 July 2005 the District Court in Rotterdam gave his judgement on the first case initiated by BREIN involving the commercial distribution of circumvention devices. BREIN obtained an injunction against the company Teledirekt which distributed circumvention devices that have been ruled unlawful in the United States. The case concerned the programs DVD X copy Gold, DVD X copy Platinum and DVD Xpress. With these programs it is possible to circumvent the CSS on a DVD. It was advertised by Teledirekt in their brochure that this programme "is the most effective programme to make a copy of a DVD" and "it is able to handle all kinds of protection on DVDs". Moreover, Teledirekt's direct mail mentioned "Copy also protected DVD movies. Circumvents all protection measures". Teledirekt suggested that it should be possible to make a back up copy for consumers of DVDs and that their programme DVD X copy would enable this. The judge ruled though that the programme can be considered as a circumvention device and distribution of those devices is not allowed on the grounds of 29a of the Dutch Copyright Act.

INDICARE: This case concerned the distribution of circumvention devices. Are there also lawsuits expected on the circumvention of TPM?

T. Kuik: Of course, when cases arise, these will be pursued by BREIN with civil enforcement actions. At the moment, what we see occurring in the Netherlands, is the distribution of circumvention devices and methods instead of the hacking of technological protection itself.

INDICARE: You said earlier that every kind of protection ultimately is hackable, do you think TPMs are efficient enough to protect copyrighted works?

T. Kuik: Yes, in my opinion they suffice for protecting works although there always is the possibility that a TPM can be circumvented. That is why legislation prohibiting circumvention and distribution of circumvention is required.

INDICARE: Recently the Enforcement Directive (Directive 2004) was adopted. Will this Directive influence the current possibilities for enforcement of copyright (thinking for example of article 8 which encompasses the right to request information in the context of proceedings concerning an infringement of an intellectual property right)?

T. Kuik: This Directive will certainly clarify the current situation with regard to what internet providers should do when a copyright infringement occurs. For instance, BREIN sued several internet providers because they refused to give the name and ad-

dress data of certain alleged infringing users of peer-to-peer networks. The judge ruled that BREIN is entitled to ask the providers for this data and that the providers should consider supplying those to BREIN. In the circumstances of the particular case the judge denied BREIN's claim, in short because use was made of an American company to collect IP addresses and download data.

INDICARE: The making of a private copy is allowed on the basis of article 16b and 16c of the Dutch Copyright Act. Imagine someone circumvents a TPM for making a private copy. What is your opinion about this?

T. Kuik: First, I would like to mention that in principle the private copying exception is not a right for consumers but an exception to the exclusive right of copyright owners. When it is possible to make a private copy, then there is no problem. Again, transparency as to whether it is possible to make a private copy, is very important. In my opinion, circumvention to realise a private copy, should not be allowed. The risk exists, that everyone will say that they are making a copy only for private use. Where should you draw the line in that case? It is very hard to make a proper distinction between the honest consumer who makes a private copy indeed intended for own personal use or study and the dishonest consumer.

INDICARE: In Italy it is also not allowed to circumvent a TPM, but in case this occurs for the purpose of making a private copy, the punishment will be less severe than when circumventing occurs for commercial purposes. Should this example be followed in the Netherlands?

T. Kuik: In civil law suits it is the judge who decides on the punishment. Probably he will take into account that circumvention took place to make a private copy. I think this case is hypothetical because if indeed the copy was made as a private copy, no one will find out about it. Only in the circumstance that the maker of a private copy takes another action, for instance placing instructions on how to circumvent a certain device on the internet, his circumvention becomes public. At that moment, his behaviour can not be seen merely as the making of a private copy anymore, he does something more and will be liable accordingly. BREIN only acts when one is able to speak of an activity of commercial significance; the making of a private copy would not qualify, but offering circumvention devices or placing information on a website on how to circumvent a TPM certainly does!

INDICARE: Who should in your opinion be liable for guaranteeing the protection of the consumer: the consumer, judge, legislator or consumer organisations?

T. Kuik: The legislator is the one who is responsible for balancing the rights of rightholders and consumers. The next step, clarifying the law, will be the responsibility of the judge. Consumer organisations also play an important role because they are able to present consumer interests to rightholders, for instance about making use of the exceptions that are incorporated in the Copyright Act. I believe that it all comes down to what the consumer wants because the end goal of the rightholder is to get his product to the consumer.

INDICARE: What will in your opinion be the future of legal download services versus the peer-to-peer networks?

T. Kuik: At the moment the market share of legal download services is growing rapidly and even legal file sharing of music is in development, for instance Snocap by Shawn Fanning of Napster fame. When downloading music, consumers will take the easiest and fastest way which guarantees the best music quality. Peer-to-peer services do not guarantee music quality or even that you find what you asked for and, moreover, there is the risk of not only downloading the music file but also spyware. When there are more legal download services people will use these more and more because they know it is good quality music and more important, the one offering the music can be identified and addressed.

INDICARE: Mr Kuik, thank you very much for this interview!

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Not so silly after all – new hope for private copying

By: Natali Helberger, IViR, Amsterdam, The Netherlands

Abstract: The decision of the French court in Paris in the so-called Mulholland case has left a sour after-taste since. Could it be true that the private copying exception, a long standing tradition in many national copyright laws, was in fact not much more than a toothless paper tiger? When we reported about this case we expressed our disbelief that this should have been the end of the private copying exception. And indeed, as the Court of Appeals has recently decided, the tiger may be made of paper, but it still has its teeth.

Keywords: legal analysis – consumer expectations, consumer law, private copy, court decision, EUCD, film industry, technical protection matters – France

Introduction

In an earlier article (Helberger 2004) we reported about the “Mulholland Drive” case – a case that was bad news for private copying. It was the case of Mr Stéphane P. in France who had bought the DVD of Mulholland Drive. Later, he had to realize that technical protection measures in place prevented him from making a copy of this film for his parents. Together with the French consumer organization L’Union fédérale des consommateurs "Que Choisir" (UFC) he started proceedings before the Tribunal de grande instance de Paris 3ème chamber (Tribunal Paris 2004). And he lost.

The Paris court dismissed the plaint by saying that the private copying exception in French copyright law was not a right of consumers and, hence of no or little significance for consumers who complain about technical anti-copying protection. The court, moreover, cast some doubt on the compatibility of the private copying exception with the so-called three step test (in more detail see below) in the case of digital copies. The Paris court held that the interest of distributors in selling copies of DVDs was an act of normal exploitation, based on a legitimate interest to recoup the investments made. The pursuance of this interest may not suffer from the possibilities technology offers, namely to make a private copy, so said the court of first instance. But the last word in this matter was not yet spoken.

The case went into appeal and was decided in April of this year (Court of Appeals, Paris 2005). The Court of Appeals repealed the decision of the first instance, and it became clear that it disagreed with most points. The decision is enlightening in many respects. This article will report some of them.

Main arguments of the Court of Appeals

Private copying exception not at the disposal of rights holders

The Court of Appeals answered one nagging question that many readers of the first decision had: even if the private copying exception is not a “right”, can this mean that rights holders are free to simply ignore it? The decision from April made unmistakably clear that the private copying exception, even if it

is not a "right" but "just" an exception, is still law. The Court of Appeals said that it is up to the legislator to formulate limitations to the private copying exception or the modalities of limiting the private copying exception ("cette exception légale ne peut être limitée qu' aux conditions précisées par les textes"). The private copying exception is not per se at the disposal of private parties, such as DVD producers and distributors; they still must abide by the law even if consumers have no corresponding right. The court said explicitly that the complete blocking of any possibilities of making private copies was an impermissible behaviour under French copyright law ("comportement fautif de sociétés qui ont 'verrouillé' totalement par des moyens techniques le DVD en cause").

Making the use of TPM subject to restrictions is a task of the legislator

The Court of Appeals refrained from specifying under which conditions the use of technological measures would not conflict with the private copying exception. The Court of Appeals found that Article 6 (4) of the European Copyright Directive (EUCD 2001), i.e. the provision that addresses the relationship between technological protection measures and exceptions in copyright law, did not formulate a principal obligation for rights holders to observe the private copying exception or any other exception in copyright law. Neither was it up to courts to replace the legislator in this matter determining how technological protection measures should look like in order to be in conformity with copyright law. The court also refrained from drawing any conclusions concerning the interesting question of whether technological measures that do not respect existing boundaries in copyright law still deserve the protection of the so called "anti-circumvention rules". The decision of the Court of Appeals confirms, however, once more that the rules on the legal protection of technological measures in copyright law are still in many respects flawed and incomplete. It concludes that it is task of the legislator to bring more light in the complicated relationship between private copying and the usage of technological measures.

Three steps forward and two steps back

A second question that the Court of Appeals had to deal with was the possible conflict between the private copying exception and the three step test. The three step test permits to apply an exception in copyright law in certain special cases, namely when the application of that exception does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the rightholder (Article 5 (5) of the European Copyright Directive, Article 9 (2) of the Berne Convention) (cf. EUCD 2001 and Berne Convention). This compatibility of the private copying exception with the three step test is of considerable relevance for the validity of the private copying exception for digital media. In the initial case, the court had argued that distributing copies of DVDs was an act of normal exploitation of films, and that the possibility of making private copies in digital quality would seriously endanger this form of commercial exploitation. In practice, this would mean that the private copying exception would eventually not apply to digital private copies. The Court of Appeals countered this argument and observed, rather reasonably, that preventing a consumer from making a private copy would not imply that the consumer would purchase another DVD with the same content. Moreover, as the Court of Appeals reminded, the interests of rights holders in protecting their commercial interests and investments was already sufficiently safeguarded by the fact that consumers have to pay levies for analogue as well as for digital carrier media exactly for the reason to compensate rights holders for private copies made of a work. Insofar, no conflict between the private copy exception and the three step test could be detected, so said the Court of Appeals.

Copies for parents are private use

In a next step, the Court of Appeals had to look more closely at the question of what a private copy actually is. The opponents argued that Stèphan P., who wished to make a copy for his parents, could not invoke the private copying exception. A copy for one's parents was not intended for the own, personal use of the person making the copy, so said the court of first instance. Again, the

Court of Appeals disagreed. The possibility to make private copies is not restricted to the domestic sphere of the person making and using the copy. It can extend, to a limited extent, also to the family circle. In other words, making a copy for one's parents could be covered by the private copying exception. In this context it is worth mentioning that in most member states a substantial body of national legislation exists on what constitutes private copying, how many copies can still be considered private copying and whether the person copying and using the copy must be identical (for an overview, see EuroCopyrights.org; cf. sources).

The ability to make private copies is a legitimate expectation

The decision is also ground-breaking insofar as it touches upon aspects of general consumer protection law. The Court of Appeals clarified that the possibility to make copies for private use constitutes an essential characteristic of a DVD. It, thereby, approached one of the crucial and still unsolved questions concerning the relationship of general consumer protection law and copyright law: whether general consumer protection law can be invoked in order to protect legitimate or reasonable expectations that consumers might have on grounds of copyright law, such as the possibility of making copies for private use.

As Schaub (2005) explained, the notion of legitimate or reasonable expectations is key to the application of consumer protection law. Consumer expectations would play a crucial role in determining whether a certain product or a contract relating to it is lawful. So far it was unclear , whether consumers could reasonably expect being able to make private copies of a DVD, applying to the rules provided by general consumer protection law on contracting, unfair commercial practices, defective products and labelling. The question was denied by the court of first instance. As opposed, the Court of Appeals made very clear that the notion of legitimate expectations can also include expectations that flow from copyright law. This is an important step towards improving the legal standing of consumers, as users of copyrighted works. According to the Court of Appeals, expecting to being able to make private copies is not silly at all.

Bottom line

The decision of the Court of Appeals is an important step towards strengthening the position of consumers as regards the use of technical anti-copying measures. It also adds considerably to the ongoing debate about the relationship of technical anti-copying protection measures and the private copying exception. Probably its main conclusion is that the legislator has to clarify this relationship, and that the private copying exception is not at the free disposal of rights holders. This finding may also be interesting for a related question, namely whether the private copying exception can be limited contractually. One example are the user conditions of Apple iTunes, according to which a consumer who purchased a playlist is allowed to copy it at most to seven devices. For the time being, it is still an open question whether iTunes is entitled to impose its particular definition of what private copying is on consumers. Following the decision of the French court, one could argue that the decision of what private copying entails and where its limits are is reserved to legislators and judges, not to private parties. Moreover, the appeal decision prepares the grounds for the application of general consumer protection law in cases where consumers find that the products they have bought prevent them from using this product in a way that is in conformity with copyright law. The court expressed explicitly that consumers can reasonably expect being able to make private copies from a DVD they buy.

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Attitudes towards DRM in the Independent music sector - Some insights from interviews

By Philipp Bohn, Berlecon Research, Berlin, Germany

Abstract: Although the major music industry is usually the focus of discussions about digital distribution and DRM, Independent music is a factor whose importance is growing. This article describes attitudes and strategies along the value chain of the Independent music players: labels, content aggregators, technical service providers and distributors. The information provided is mainly drawn from interviews with these actors.

Keywords: business analysis – business models, forensic DRM, Independent labels, music sector, stakeholders

The growing importance of Independent music

Big online retailers like iTunes or MSN need Independent content to offer a broad range of music. In 2003, the market share of Independent music on the world market was 25.3 % and 19.4 % in Europe (cf. IMPALA). In the United States, Nielsen SoundScan found that content delivered by Independent-owned labels makes up 27.5 % of the retail market volume (Morris 2005). According to the British Association of Independent Music, Independent music averaged 21 % of sales in digital format in the top 75 chart of week 15 / 2005 (cf. AIM 2005). Apple's iTunes Music Store claims to offer tracks by more than 1,000 artists signed with Independent labels (cf. Apple 2005).

To better understand the DRM and online strategies in the Independent music business, we have interviewed various players along the value chain, from labels to download platforms.

While major labels have the market power to pursue their own DRM strategy, Indies often have to accept the license conditions of content distributors – and these requirements are often at odds with those of smaller labels.

Independent labels form a multifaceted group, ranging from very small businesses that primarily market the music of their creative founders, over labels that use the majors' distribution channels for their music, to labels that are co-owned by one of the major media concerns (EMI, Sony BMG, Universal, Warner). These affiliations also influence attitudes towards DRM.

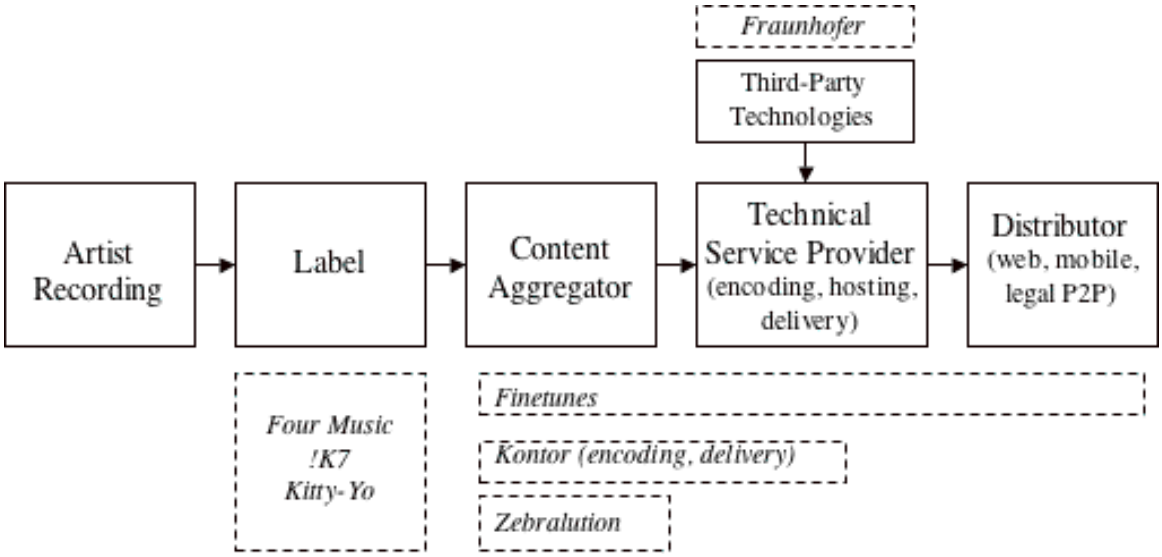

Figure 1: The value chain in the Independent music sector (*Note:* The companies mentioned are those interviewed. The figure is solely meant to position the stakeholders.)

Independent labels

Kitty-Yo (Berlin, 16 artists, 8 employees): If possible, the label licenses mp3 or wav-files DRM-free. But in the end, large-scale distributors, among them iTunes and musicload, decide, concedes *Peter Armster*, then a production manager at the label. It is only the smaller download shops that go with the label's opinion: that once a customer has bought a song, he or she should be free to do with it as pleases – within the bounds of private use, he says. DRM-enabled business models like P2P, subscription and mobile music are being considered, but not yet realized. Creative Commons Audio licenses are not used, as there is no demand on the sides of the artists.

!K7 (Berlin, Hamburg, London, New York City, Tokyo, 30 artists, 10 employees): The label's founder and CEO, *Horst Weidenmüller*, has taken radical steps: he has decided to abandon active DRM and the CD-covers even say so: "Copy Protection Free". The label strongly believes in the possibilities of online distribution. Distributors and labels will have the opportunity to bill one cent for a single music streaming or 20 € for a full album featuring additional content and artwork, Mr. Weidenmüller predicts.

!K7's content is sold DRM-protected via major stores like iTunes, but also via finetunes in unprotected mp3- or ogg-format. DRM supposedly is an issue raised by the major industry and reveals an anti-consumer attitude. The customer relationship should rather be one of "two-way loyalty", he demands.

Four Music (Berlin, London, 20 artists, 8 employees; note: Sony BMG holds a 50% stake): Online business amounts to less than 5% of overall sales of this label. Considerable growth is expected and online business is an important part of the market strategy. The label must abide by the policy of the download shop, but tries to bargain protection as convenient as possible for the consumer. Four's sub-label, London-based Fine Records, for example, uses Beatport (see below) without any DRM protection. If possible, the label employs watermarking, i.e. passive or "forensic" DRM. This would make copyright offenders identifiable while not restricting consumers' private usage, *Markus Roth*, the label's new media director, assures.

Business models that are based on active DRM – such as subscription services – are very attractive for the company, which already supplies Napster's subscription service. Legal P2P platforms such as Peer Impact are also viable distribution channels, although not at the moment. Mobile music is an option once hardware and infrastructure

are advanced and affordable enough, according Mr. Roth.

Content aggregators

Online distributors cannot negotiate with every single label. Content aggregators act as rights intermediaries between Independent labels and download shops, bundling and licensing the libraries on behalf of the participating labels and artists. They often have to act as a buffer between the needs of the labels they represent and the DRM requirements of major download stores.

Zebralution: Independent labels usually lack the personnel and financial resources to deal with major digital stores; and the stores are not interested in contacting every single independent label. Zebralution represents about 100 labels, a catalogue of 20,000 songs and supplies 150 online shops. It delivers content to major online retailers AOL, iTunes, Microsoft MSN, Sony Connect, T-Online and OD2.

According to *Sascha Lazimbat*, Zebralution's head of business, no single artist or label strictly insists on DRM protection. One of the shops the company supplies – 24-7 MusicShop – sells music by major labels DRM-protected, while it sells Independent music unprotected.

Distribution over Peer-to-Peer (P2P) networks is managed using technology developed by Snocap, the company founded by Sean Fanning of Napster fame. When it comes to business models like subscription, the Independents' attitude towards DRM is more favorable. The industry expects growing demand for services like these.

A number of the Indies' songs are popular enough to be marketed as ringtones. Monophonic ringtones are protected by OMA DRM 1.0. Until OMA DRM 2.0 is fully available, main distributors stick to SDC's DRM protection (Swiss company SDC offers a Java-based mobile DRM technology). In the US, bliptones is trying to establish itself as a download platform for ringtones based on Independent artists' music.

Kontor New Media: A competitor to Zebralution, Kontor represents Independent labels dealing with download, mobile, subscription and P2P platforms. With consumer satisfaction in mind, *Michael Pohl*, head of new media, prefers watermarked mp3 files. He explicitly mentions Fraunhofer's Light Weight DRM system (see below). Kontor delivers content to major online retailers AOL, iTunes, Microsoft MSN, Napster, Rhapsody, Sony Connect, and OD2. Both companies also offer consultancy, marketing and coaching services.

The German Association of Independent Labels and Producers (VUT) also fulfils functions of a rights intermediary. For example, it offers members a frame contract if they want to make their libraries accessible to subscription services like Napster. It is interesting to note that VUT has decided not to supply subscription services like Yahoo! Music Unlimited. This is because the service openly acknowledges offering music to sell advertisements for its websites, says Eva Kiltz, VUT's general manager. This attitude hints at the self-image of the Independent business: to make money but at the same time uphold artistic credibility.

Third-party technologies

One technology already mentioned earlier is digital watermarking. With the help of a watermark, the person who has bought a certain file can be tracked back in case of infringement. However, the technology does not actively limit the consumer's usage rights.

Light Weight DRM: The Fraunhofer Institute for Digital Media Technology – a German institute for applied research and part of the Fraunhofer Gesellschaft – has realized the needs of Independent music distribution. Light Weight DRM (LWDRM) is a passive DRM system that combines watermarking technology with a personalized digital signature. LWDRM permits copying of content for private use. Due to the personal signature, illegally shared files can be tracked. Thus, the system provides both for the consumer's and the content provider's need for convenience or security respectively. It is employed by download shops such as finetunes (see below). Of course no DRM system – be it active or passive – is completely unbreakable

as *Patrick Aichroth* of the Fraunhofer Institute confirms.

Audible Magic: One of the leading British Independent labels, V2, has just signed an agreement with Audible Magic (Business Wire 2005). Audible's technology allows the tracking of files registered with their database within P2P networks, using digital fingerprints.

Beth Appleton, V2's new media and business development manager, stresses the importance of a good relationship between content providers and consumers to make this business model and security system work: "we trust that they [i.e. the consumers] understand the implications of sharing such files illegally".

Online distributors

In order to distribute music online, there must be download portals selling the library catalogues of labels and artists. They are the digital equivalent to the traditional "brick and mortar" record stores. Some platforms specialize in Indie music and their attitude towards DRM is very much in sync with the content providers – unlike major platforms like iTunes or musicload that usually comply with the majors' DRM strategy.

finetunes: The company offers distribution and encoding services, an own download shop and white-label shop solutions. The shop solutions are licensed to anyone establishing their own online distribution system (labels, Internet service providers, retail brands, music magazines, etc.).

According to *Felix Segebrecht*, head of marketing and shop solutions, finetunes employs a proprietary watermarking system along with Fraunhofer's LWDRM. Active DRM would increase support-expenditures due to interoperability problems between devices and systems.

Mr. Segebrecht distinguishes between two different subscription schemes: renting music (like Napster To Go) or subscription to a fixed number of tracks per month for a bundled price. Superdistribution with peers receiving a cut from profits is regarded to be rather unattractive from the consumers' perspective – they can hardly be expected to enrich themselves by selling music to their friends.

If it spots copyright offenders operating within P2P networks, finetunes usually does not take legal action, which is considered to be too costly. Sales figures are climbing despite online piracy. Fighting infringement is a moral, rather than a legal and technological challenge: an "honest" offer in combination with "gentle pressure" and mutual trust is expected to prove a successful strategy.

Beatport: This online distributor is deeply rooted in the dance-music scene. It caters to fans of this genre, a large proportion being DJs. The music is formatted in high-quality mp3, mp4 or wav, usually featuring 320 kbit/s compression.

Beatport completely abstains from active DRM protection. It would not be acceptable in a tight-knit music community that is based on mutual trust, says the company's director of European sales, *Ronny Krieger*. As about two-thirds of the customers are DJs (amateurs included), files must be compatible with Native Instrument's Traktor DJ-software, which does not support any active DRM system.

Also, the portal is not interested in DRM-based business models. Subscription is not an attractive option for the customers. Pre-listening 30-second snippets does not make sense, given the notorious length of dance-music songs.

All files are watermarked. Customers either accept this policy or simply do not care. A song watermarked by Beatport has been spotted on P2P networks only once (P2P networks are not tracked systematically, however). The company issued the offender a caution and refrained from engaging in a lawsuit.

Again, among the labels using the portal for online distribution, there is not a single one insisting on DRM-protection, Mr. Krieger affirms. The company feels that legitimate buyers of digital music should not have less usage rights than those downloading pirated material.

Bottom line

It is interesting to note three major differences for the Indies in comparison to the majors' perceived strategy of active and extensive DRM-protection. First, the smaller and more independent the label, the more sympathetic it is to consumers' convenience and perceived rights. Second, Indies try to avoid active DRM whenever possible. But they acknowledge that this decision is up to the distributor. Third, Independent labels' preferred DRM strategy is a passive one: watermarking. They feel that this does not limit their customers' convenience and at the same time identifies users in case of infringement.

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Mobile DRM convergence

By: Philipp Bohn, Berlecon Research, Berlin, Germany

Abstract: This year, Microsoft has signed three agreements with players in the mobile entertainment market: Philips, Nokia and CoreMedia. This article compares these deals and identifies its beneficiaries.

Keywords: business analysis – interoperability, mobile DRM, music sector, standards, stakeholders

CoreMedia: first mover or early adopter?

CoreMedia has recently announced to deliver a secure client DRM-implementation for wireless devices. It is promoted to support interoperability between the Open Mobile Alliance's (OMA) and Microsoft's DRM systems. Due to the company's *Multi-DRM* technology, files can be moved from mobile phones to PCs. A plug-in for Windows Media Player allows playback of OMA DRM protected songs on PCs (CoreMedia Press Release 2005).

Other companies have signed similar agreements with Microsoft earlier this year. In February 2005, Microsoft and Nokia announced mutual technological support, as did Microsoft and Philips in May 2005.

OMA and Microsoft DRM

The OMA is an industry forum composed of fee-paying content owners, hardware and software providers, telecom companies, mobile carriers and manufacturers, and technological enablers. CoreMedia, Microsoft, Nokia and Philips all are members of this body. OMA's standard is open in that all stakeholders are invited to join and contribute to technology development, issue statements and test for interoperability on so-called *TestFests*. According to CoreMedia's website, its OMA DRM-based solution is implemented on more than 250 mobile handsets. It is employed by major carriers and mobile music portals such as Vodafone.

Microsoft's DRM 10 system is proprietary and heavily integrated into its multimedia software (Windows Media Player), its upcoming operating system (dubbed *Vista*) and its *PlaysForSure* interoperability program. Devices featuring the PlaysForSure logo are interoperable with download music stores delivering content protected with Microsoft DRM.

DRM 10 rests on patents held by ContentGuard, in which Microsoft holds a minority stake. The DRM-system is pitched as a security and delivery platform both for PCs and portable devices. But to date there is only a limited range of smartphones playing WMA-files: namely the Audiovox SMT 5600, Motorola MPx200 and Samsung i600 / i700 (however, there are almost 60 mobile phones that run Windows Mobile OS).

Both DRM systems use an XML-based Rights Expression Language (REL): XrML in the case of Microsoft and Open Digital Rights Language (ODRL) respectively. The languages are very similar to each other, although ODRL "is focused more specifically on publishing and media applications" (Rosenblatt 2003).

In collaboration with Microsoft

Nokia: After having launched its own mobile music portal solution for mobile carriers, Nokia announced that its handsets will be interoperable with Windows XP based PCs. The technology partners have agreed on long-term, non-exclusive collaboration. Nokia's music-oriented handsets will support Microsoft's DRM 10 and Media Transfer Protocol (MTP). Windows Media Player will playback OMA DRM-protected files as well as MPEG's AAC codec.

Philips: Only three after the deal between Microsoft and Nokia, Philips announced an agreement with the company from Redmond, which is also long-termed and non-exclusive. According to a press release, "Philips plans to support Microsoft Windows Media Audio

and Video and Windows Media Digital Rights Management 10 (DRM) in its Nexperia family of multimedia semiconductors" (Cf. sources). It is also "committed to obtaining PlaysForSure verification" for its products. The Nexperia Mobile Cellular System Solutions are especially designed for mobile handsets and also supports mp3 audio format. Philips claims that 150 million Nexperia-based systems are on the market and one-tenth of GSM / GPRS-handsets use a Nexperia solution (Cf. sources).

Who benefits?

Consumers: Without doubt, consumers benefit from DRM-interoperability. They want to transfer music purchased with their mobile handset to their PCs and even accept to pay a premium for this service (Dufft et. al. 2005). So far, this is a one-way street, as CoreMedia's technology does not allow transfer from PC to mobile device. To develop the technology for transferability in the other direction is the responsibility of the wireless developers, says Willms Buhse, CoreMedia's head of marketing.

But portable devices' popularity does not rest on their capability of handling DRM-protected music. Players like Apple's iPod are successful because consumers convert audio files into (DRM-free) mp3s – this is one of the results of the INDICARE consumer survey. DRM-interoperability is a step in the right direction, but it leaves some fundamental problems of mobile digital distribution unresolved – consumers may still feel restricted when it comes to their perceived legitimate usage rights.

Microsoft: Part of the software vendor's strategy is to establish the PC as the center of home entertainment, and interoperability helps achieve that goal (Cf. sources). The strategic partnerships can also be considered a challenge to Apple's announcement of cooperating with Motorola and the company's dominance in the music download market via iTunes.

OMA: The agreements are an official recognition of Microsoft's market position and DRM-technology (LeClaire 2005). At the same time, they show that OMA DRM may not yet be the uncontested DRM-standard. This can partially be blamed on the licensing structure proposed by MPEG LA that has so far not been accepted by the market, especially not by the wireless vendors (MPEG LA is a private company bundling and licensing the necessary patents for OMA DRM systems). If these quarrels do not come to a quick resolution, the standard's success might be severely threatened.

Wireless vendors: Nokia reaps benefits both as a manufacturer of mobile handsets and as content distributor. Interoperability with stationary devices increases the value of handsets and content. The moves are also in accordance with Philips' *Connected Planet* vision that intents to enable consumers to access content wherever and whenever they wish (Cf. sources). As is the case with Nokia, the value of their products rises the more choice they give their users. Being on terms with Microsoft also give vendors additional leverage negotiating fees with MPEG LA (Cf. Wichmann 2005).

Apple: The company from Cupertino seems to lose in the short run. Once the repeatedly announced but still withheld collaboration with Motorola yields an actual iTunes-enabled mobile phone, it should provide at least the same degree of interoperability with OMA DRM.

Bottom line

The agreements hold benefits for consumers, device-manufacturers and digital enablers alike. They provide transferability between mobile and stationary devices, which is partially inherent in the respective DRM technologies that both rely on XML-based RELs. But in order to really benefit the consumer, there must also be transferability from PC to mobile device. Although OMA DRM is dominating distribution of mobile content, it is not uncontested. Agreements with Nokia and Philips acknowledge the leadership Microsoft has gained at least in the desktop DRM-environment. It remains to be seen if Microsoft will gain ground in the mobile environment. Wireless vendors, software developers and online distributors seem to have realized the limits of the "walled garden" principle of locking in their customers.

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The ungrateful task of establishing a new technology

Some lessons from the DRM Strategies Conference 2005

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Abstract: The DRM Strategies Conference, which took place on July 27-28 in New York, showed that establishing DRM technology is a rather slow process. Obstacles like unsolved intellectual property issues, changing strategic focus of DRM solution providers and the need to have DRM integrated in the IT infrastructure of consumers and enterprises make for a very slow penetration. In the long run, especially Microsoft may benefit from this situation.

Keywords: conference report – competition, DRM technology markets, enterprise DRMS, intellectual property, interoperability

Introduction

The DRM Strategies Conference organised by *Bill Rosenblatt* and Jupiter is one of the few major industry events on Digital Rights Management. This year the conference took place in New York from July 27-28.

Unlike other DRM conferences, the DRM Strategies Conference is focused on business issues. Political, legal and societal questions like "What rights should consumers and content owners have?", "Are specific features of DRM compatible with copyright law?" or "What should the government do?", which make up a significant part of more general conference programs and which frequently lead to passionate discussions, played only a minor role. They were mostly restricted to a panel on the implications of the US Supreme Court's decision on the P2P file sharing ser-

vice Grokster. With the Electronic Frontier Foundation's *Fred von Lohmann* participating, however, the discussion on panel and floor contributed enough passion for two conference days.

The focus on business issues provided rather interesting information about the state of the market for DRM technology – insights that often get lost in conferences with a broader focus on societal aspects. Especially when compared with the wants and needs of consumers – as presented on the conference based on the INDICARE consumer survey (Dufft et al. 2005) on the conference – these lessons can help to better understand why DRM systems have certain capabilities and lack others or why they develop in certain directions and not in others.

Many open issues – especially about intellectual property

Generally, the presentations and discussions on most panels gave the impression of an industry with many question marks and many open issues. Most issues discussed at the conference were not totally new. Problems of DRM like missing interoperability or intellectual property issues related to DRM technology, for example, are well-known to the industry. It's only that nobody came up with a solution yet.

This was shown very well in a panel on DRM and intellectual property. INDICARE has already reported about the efforts by MPEG LA to combine many different IP claims into a single patent pool license for the OMA DRM (Wichmann 2005). However, so far these efforts have not led to a solution accepted by all parties involved (see also Bohn 2005a).

So it is quite likely, the panellists thought, that the current state of uncertainty for implementers of DRM systems persists. And the risk from this uncertainty may well be quite significant: One panellist estimated the average total cost of a lawsuit in the DRM field to be around 2 million US $. While DRM opponents might welcome such a situation, since it is likely to slow down the spread of DRM systems, it also has a downside: new services for consumers, where some party insists on DRM being used, might not be introduced.

Market-driven standardisation towards Microsoft DRM technology?

In the end there might be a laughing third party, as another panellist pointed out: Microsoft. Many technology companies have already agreements with Microsoft in place, which cover the use of Microsoft's intellectual property. For them it might be easier to simply settle on Microsoft technology for DRM than taking the risk of getting sued when using other technology. So there might be a market-driven standardisation towards Microsoft DRM technology. Microsoft spends significant money on licensing IP from others and is therefore able to offer the users of its technology indemnity against any infringement lawsuits. One panellist even concluded that clearing IP rights and indemnifying technology users might become the future raison d'être of large technology companies.

However, while such a market-driven standardisation might make life easier for smaller technology companies and also for consumers, it is unclear – to say the least – whether they benefit in the long run from such a strong position of a single company. While DRM solutions that build on a common set of technology will tend to be more interoperable – and consumers want that, as the INDICARE survey has shown –, there tends to be more innovation in a system characterised by different technological approaches.

Sobering state of the e-book industry

This dilemma was also illustrated in a panel on e-books, another topic recently covered by INDICARE (Bohn 2005b). The market for electronic books never lived up to early expectations, and nobody on the panel had the hope that this might change any time soon. It is still a rather small market with an annual turnover of 10 million US $ per year, as the International Digital Publishing Forum (cf. sources) estimates.

The coexistence of several different, not interoperable e-book standards was pointed out as one reason for this situation, as this makes e-books rather unattractive. One candidate

for a market-driven standard might haven been Adobe with its omnipresent Adobe Acrobat Reader. However, Adobe decided at the end of last year that enterprise DRM would be a more interesting market and discontinued its Adobe Content Server, a product used by several publishers of protected electronic texts. One panellist saw this as another blow to the market for electronic text documents. It also shows quite well that market-driven standardisation may well fail if the single party able to drive it decides that the pastures are greener elsewhere.

Enterprise DRM figured prominently

Enterprise DRM figured prominently at the conference, which was divided into sessions of general interest, a DRM tutorial, a media section and an enterprise DRM section. One impression from the conference was that several DRM companies place their bets on the increasing use of DRM systems in the enterprise. Many vendors pointed out that the requirements of the Sarbanes Oxley Act (SOX) (cf. sources) could best be met by enterprise DRM solutions. (The act requires companies, among other things, to make sure that only authorised persons have access to sensitive financial company information.)

However, it is clear that for DRM systems being able to protect spreadsheet or text documents throughout their use in companies have to be part of the basic IT infrastructure of a company. If this protection is supposed to cover also partners, it has to be compatible with their infrastructure, too. Again this makes Microsoft and very few other large software companies obvious candidates for providing this infrastructure. Many of the smaller enterprise DRM vendors presenting at the conference are therefore cooperating with Microsoft.

This strong position of Microsoft in the enterprise DRM sector might also have consequences for consumers. As basic DRM functionality is part of future Windows operating systems, also consumers' PCs will be equipped with this functionality. So technology providers for consumer solutions will have another incentive to use the Microsoft DRM functionality as basis for their solutions.

Bottom line

The conference showed very well that theoretical DRM concepts and consumers' wishes about DRM functionality are one thing. The penetration of DRM technology in the market is quite another one. There are many influencing factors: technical requirements like the need to have DRM systems integrated in the basic IT infrastructure, strategic considerations by vendors about which areas of DRM to focus on, or battles about intellectual property. Settling all the involved issues is a tedious task taking a long time.

Putting all these things together leads to the rather sober conclusion that well-functioning interoperable DRM systems as requested by consumers are probably not soon to come.

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Digital Media Project – Part II
Chances of an open standard

By: Ernő Jeges and Kristóf Kerényi, SEARCH Laboratory, Budapest, Hungary

Abstract: The Digital Media Project, often referred to as DMP, is the fruit of a "bottom-up" initiative that developed in 2003. Its main aim is to develop the fundamentals of standardized and interoperable Digital Rights Management for digital media. Although the project is making publicly available numerous documents on its website (DMP web site 2005), it is not easy to put the pieces together and to assess the project. Therefore INDICARE has dedicated a two part article to DMP. The present second part tries to assess the project in a critical manner finding out the chances of DMP to establish a *de-facto* or even a *de-jure* DRM standard We see a good chance for it, provided the proposed standard would be mandated, for example by the EU for the European market.

Keywords: opinion – consumer rights, digital media, fair use, interoperability, stakeholders, standards

Introduction

In the first part of the article (Jeges 2005) we presented a brief overview of DMP and its approach. The proposed Interoperable DRM Platform (IDP), as the main outcome of DMP's efforts, is a toolkit, i.e. a set of standardised DRM tools based on "primitive functions" derived from existing digital media systems by investigating several selected use cases. In addition DMP has analysed and listed a large number of Traditional Rights and Usages (TRUs) expressing present users' expectations about how digital media should behave and be usable. These TRUs serve DMP as a yardstick and a means against derailing.

In this article we aim to discuss the chances of DMP's Interoperable DRM Platform to become accepted and widely used, taking into account the present state of technologies and markets related to DRM (relying on the publicly available information). Among others we are seeking the answer to the question whether it makes sense to create an open DRM standard without the support of the current big players.

The DRM business

Today the DRM market, focussing on technology providers for the music industry, is extremely polarized: there is Apple with its own FairPlay DRM technology, licensed to no other company than Motorola, and there is Microsoft with its Windows Media DRM technology licensed to everyone else. Even RealNetworks, the former inventor of Helix DRM, has converted their music store to use Microsoft's technology, only Sony is trying to gain ground with its proprietary ATRAC format. On the MP3 player market iPods are estimated to have a 30 percent market share, Sony's devices close to nil (until recently Sony players had not supported unprotected formats, like MP3!), and everyone else uses Microsoft DRM to be compatible with most on-line music services. From the providers' point of view there is no chance to license neither FairPlay nor ATRAC, so one has to go with Microsoft to be compatible.

So for many it may seem as if the DRM game in the music industry was already decided. The founders of DMP, however, think that there is still room left for a new interoperable DRM standard. The project members, we could also say, the supporters of the idea, are mainly educational and research institutes as well as national telecommunications companies – let it be admitted, not really those who drive the market. There are of course also some industrial partners, among them Japanese mammoth CE manufacturers and American technology providers who have not yet committed themselves to any of today's DRM standards. However, today's business leaders – both technology and media companies – are missing. This is not to say that today's leaders will be tomorrow's winners, but if they were interested, they

would have joined DMP, to fight for their interests. On the other hand, it is understandable that they are not among the supporters, because they have already created their solutions, hoping those to become standards.

So the situation today is quite different from the times when e.g. MP3 became a standard, as there was no – or hardly any – alternative solution. We could think of those times as a market without competition. This was very important for the development of digital media, as the single MP3 standard opened the market for on-line music. But today, what are DMP's chances to become the laughing third, overcoming Microsoft and Apple in the standards game? We think that beating the big players is not a must for DMP to succeed. By understanding DMP's goals and their methodology, it became obvious that IDP is aimed to be an "umbrella standard", with a loose Interoperable DRM Platform, to form a framework with which others *could be*, *will be* and finally and hopefully *must be* compatible.

Benefits of a loose standard

Till now everyone wanted to ride the growing wave of digital, especially on-line digital music (and later video) distribution, so big companies being first steppers could not wait for a standard to be elaborated. The manufacturers and distributors tried or – better to say – were forced to develop a quick solution to an urgent problem, and thus today we have several independent, and due to the circumstances of their birth, non-interoperable systems.

In order to ensure interoperability and longevity of the standard, DMP's approach is loose in prescribing, but still all-embracing: they start from the past, examine the present needs, hoping to eventually create a standard that will fit future needs. By defining primitive functions DMP is primarily starting from *what* can be done with content on digital media, but does not deal in detail with the issue *how* it can be done: only the information necessary to handle the content, the format of content elements (e.g. metadata, rights, licenses, use data) will be specified. Many technological questions, however, important from the implementation viewpoint, are left open in IDP on purpose. Encryption and compression methods to be used, different media formats and other issues are not specified, leaving the opportunity for competition among different role-players on the market, existing today or appearing in the future. And more, IDP aims not only to work with music or video but also with e-books, images and any kind of content that we can not even think of today.

We see that the hardest goal will be to find the proper balance between looseness and strictness. A standard being too generic means that it can easily become meaningless and empty; even if some or all DRM implementations would comply with it, they could still be incompatible in their essential parts, as a multitude of solutions are left open, and can vary. On the other hand, if a standard is too rigorous, it might turn out not to be future-proof meaning that changing demands in the near future could require newer solutions requiring either new standards, or new versions of the existing ones, which would start the tedious standardization process all over again.

Benefits of an open standard

Who could benefit from an open IDP? It is obvious that consumers are benefiting from compatible devices and services, and from lower prices due to higher competition. Content distributors and device vendors will still have to pay for the DRM solutions they use, however, the price of the DRM inherent in their service and product prices would be less due to a free standard and higher competition without monopolies.

Some might say that for content providers the type of DRM used and occasional incompatibility would not matter, because online vendors would always licence the same amount of content from them – regardless of the used technology. We think, however, that content providers and also creators would also benefit from expected larger sales due to the growth of the on-line markets. Moreover, if a free (e.g. GNU General Public License based) DRM solution, based for example on IDP, existed, everybody could become a "creator". This could even lead for example to the appearance of new forms of

employment agreements, where the rights to the created work (content, programs or documents) remain with the employee.

The only losers of an open standard would be current DRM solution providers, holding monopolies on the market today: if they have to be compatible with new standards, they will loose their monopoly; new solution providers will more easily be able to appear, and this could mean a higher probability for a possible new breakthrough in the world of digital media.

Conflicting interests or common goals

The remaining question is what the motivating force will be that are able to push the current solutions, competing with each other on the market, to become compatible with the IDP? DMP is a not-for-profit organization and their standards will also be free. In principle the common interest in interoperable systems will be shared by all players in the DRM game. But is there any interest like this? Is interoperability really desirable for manufacturers and distributors? We have seen that there would be benefits to some players, but the other opinion is that "incompatibility isn't an unfortunate side-effect of deficient DRM systems — it's the *goal* of DRM" (Felten 2004). We also remember the case of Apple and RealNetworks when the latter created interoperability between the two services (Naraine 2004). The sad fact is that interoperability of DRM platforms is not really the interest of the industry.

Thus in our opinion a possible answer could be the enforcement by governments ensuring interoperable standards. It would be especially salutary, if this could be done by the European Union in the first place. Currently all major DRM providers (licensers) are United States-based and therefore the EU is paying money to them with every Cent we spend for on-line digital media. The benefits for the EU, or any government could be in legally enforcing compatibility and interoperability by mandatory compliance to the standard for every product or service offered on the common market, thus not only serving the needs of the European consumers but also re-opening the market for European players, like newcomers to the DRM technology market, eventually making it to the global market.

We see that the market is moving towards proprietary systems, so in the current situation only governments could enforce interoperability by not allowing non-compatible products (e.g. players) or services (e.g. downloadable music or video) to appear on their markets. We imagine this as the CE sign to be found on all electrical equipment sold in Europe.

If the Interoperable DRM Platform was this mandatory standard, it would have multiple benefits.

- No company could charge for the standard itself, so it would be entirely free to step on the market with any new player or service. This would increase competitiveness and be a "sledge-hammer" to break the rules of current oligarchs (currently Apple and Microsoft).
- An interoperable DRM standard would also directly serve the interests of consumers, since they would not have to worry any more about compatibility issues. It is so good to know that an AA battery we buy in the store will fit in every device, and it would be similarly easy if we could be certain that the purchased songs will play in every player today, and will probably do the same in future products.

Bottom line

Either IDP or any new standard dealing with digital media could presumably not become a de-facto standard without a common interest of DRM solution providers. As this common interest does not seam to exist, it is not surprising, that the current big players are not on the list of the members of the Digital Media Project. We see the chances of success of DMP's standardisation efforts depending on governmental enforcement, for example on the European internal market. This would be essential for both the market of digital media as a whole, including online music and video markets, and consumers, as interoperability is becoming their elementary need, which can only be ensured by a good standard.

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Managing copyright in a digital world

An introduction to the contributions model and the Rights Office System

By: Nicholas Bentley, Rémuzat, France

Abstract: Is copyright still on the right track? Are DRM systems and Creative Commons licences the only solutions that can support copyright in the digital world? This paper suggests that copyright is founded on a *contributions model* for creating intellectual works and that an exchange of rights to intellectual works would be more productive than continued trade in copies. A *Rights Office* system is proposed as an alternative infrastructure to support copyright and its potential benefits (registered rights, privacy, new business models, non-specialised hardware) for all users, from creators, to commercial users, to consumers, are discussed. The ideas expressed here have been developed with feedback from a number of individuals via Web sites and discussion lists.

Keywords: vision - business models, contributions model, copyright, Creative Commons, DRMS, levies

Introduction

This article presents a summary of the *Intellectual Contributions* (Bentley 2005) philosophy and the *Rights Office* system (Bentley et al. 2005) and explains how these ideas might provide an alternative model for regulating intellectual works in the information society. Under the Rights Office system the right of access to intellectual works is considered paramount and the regulation of copies takes a secondary role. This simple conceptual step makes restricting the distribution of copies by technical measures unnecessary, allows legal copies to

compete with illegal manifestations, and introduces a host of social benefits in the spirit of a balanced copyright regime. Analogue copyright is reviewed in the light of a *contributions model* and some of the shortcomings of prominent digital implementations of copyright (DRM, Creative Commons, levy systems) are highlighted.

Intellectual contributions

Many people tend to view copyright as a single stream process: authors produce works that are then edited, processed, and distributed to consumers who take in the content and that is the end of it. More careful analysis suggests that this one-way stream of information is not the correct view and that the "contributions" that go towards a new work come from many sources. Authors and creators rely on many preceding works to feed their creativity either directly or indirectly. If we take a broader view of contributions, where contributions mean any support for the artist (payments, reviews, criticism, recognition, quotations, citations, and recommendations), the contributions model can be still more complex. In the broad context of the contributions model there are many users: some contribute directly to the intellectual content (creators of pre-existing works, the author[s], and the editor[s]), others contribute by way of the remuneration chain (distributors, reviewers and consumers). Figure 1 illustrates some of these activities.

Copyright in the analogue world grants the right of access to intellectual content to the consumer via the proxy of the physical copy (for instance, owning the book). Copyright gives the author the right to receive the contributions from potential users of the work via the proxy of granting her the sole right to print and distribute copies. However, limitations are put on the rights of the original author (first sale, term limits, fair use) to protect the contribution chain, allowing future authors to quote, cite, etc, and allowing consumers to pass-on the physical copy thus disbursing their investment.

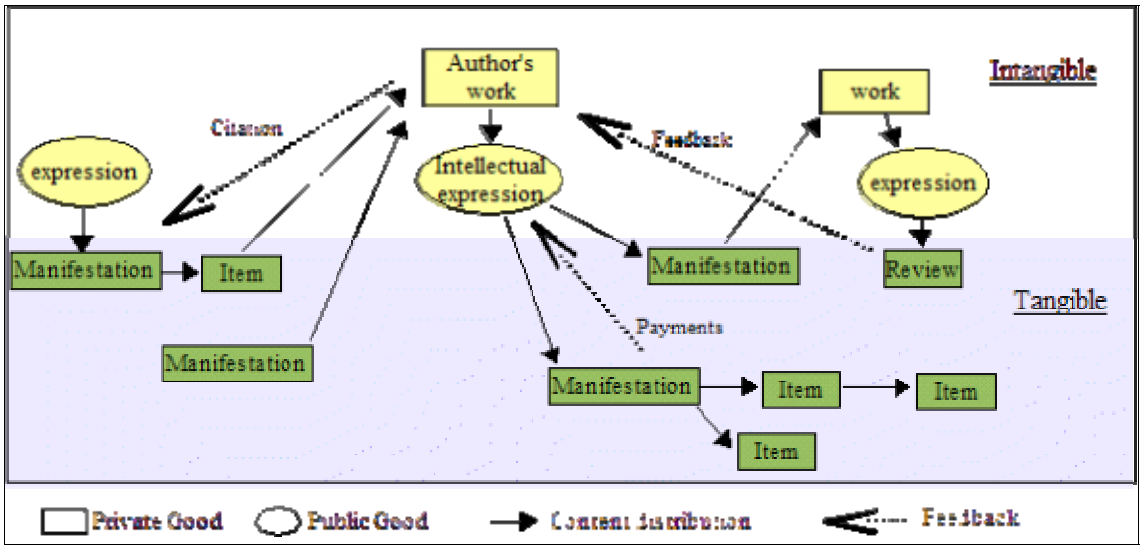

Figure 1: Intellectual contributions in the analogue world

Analogue copyright transforms each manifestation of the work into a *private good* (cf. Wikipedia) and thus provides the tangible structure to support the financial aspects of the contributions model. The limited supply of physical books can be traded to funnel funds to the rightsholder and the author can be identified via these tangible manifestations. Figure 2 shows the liaison between the public/private good and the tangible/intangible elements.

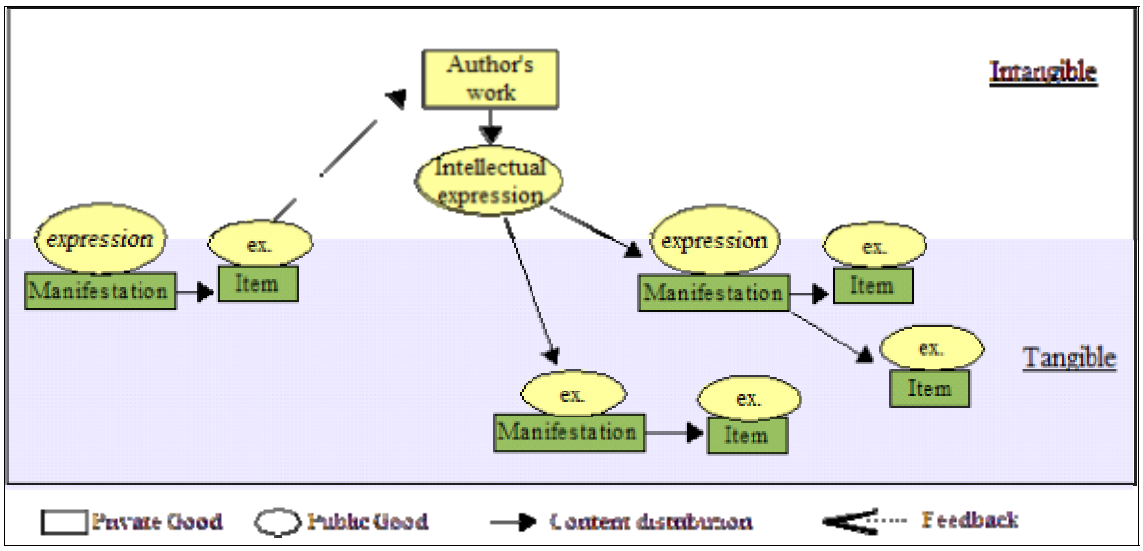

Figure 2: Public/private goods, intangible expressions, and tangible manifestations

Moving to a digital world causes these manifestations to become intangible and the financial part of the contributions chain breaks down when multiple copies can easily travel far and wide. These digital manifestations loose their excludable and rivalrous status and effectively become *public goods* (cf. Wikipedia). Most attempts to maintain a viable contributions model in digital form either try to make the digital manifestations a *private good* again by locking up the content (e.g. DRM) or abandon any idea of restoring the *private good* status and hope for remuneration via another route (e.g. Creative Commons).

Rights Office system

The Rights Office system recognises that in the Intellectual Contributions model the finite creative efforts of the author are the important *private good* and that the author's right to allow contributing consumers to share access to this rivalrous and excludable "effort" forms the fundamental aspect of any economic model. In the digital world the product of this collaborative effort produces a manifestation of the intellectual work that is a *public good* and the Rights Office system does not attempt to make these manifestations rivalrous or excludable. It does, however, insist that the contribution to the creative effort, whether intellectual or remuneration, is recognised in the form of two, unique, persistent, identifiers that record every transaction in the contributions chain. This recognition can be represented (see Figure 3) by a tangible layer in the contributions model that firmly establishes the rights of all users as a regulated resource.

In the Rights Office system, all rights to an intellectual work are recorded in a permanent, secure, location on the Internet. The Rights Office System allocates a dual identifier to each work and further identifiers to any subsequent physical manifestations (copies) of the work. These identifiers are in the form of unique, permanent, Universal Resource Identifiers (URI). The Handle system (cf. CNRI) might provide the persistent infrastructure for these dual identifiers but unlike the Digital Object Identifier system (cf. DOI) that uses one Handle name to identify a work, the Rights Office system uses the names to identify the rights of the users and only subsequently the work or the manifestation involved.

Throughout this paper, by way of an example, we will describe how an author and a consumer will record rights to an exchange of an intellectual work (see Figure 4) although the same principles apply to any users exchanging works in the system (e.g. publisher with distributor, distributor with consumer, etc.). A typical chain might be a publisher transferring distribution rights to a commercial service that then registers access rights to individual consumers.

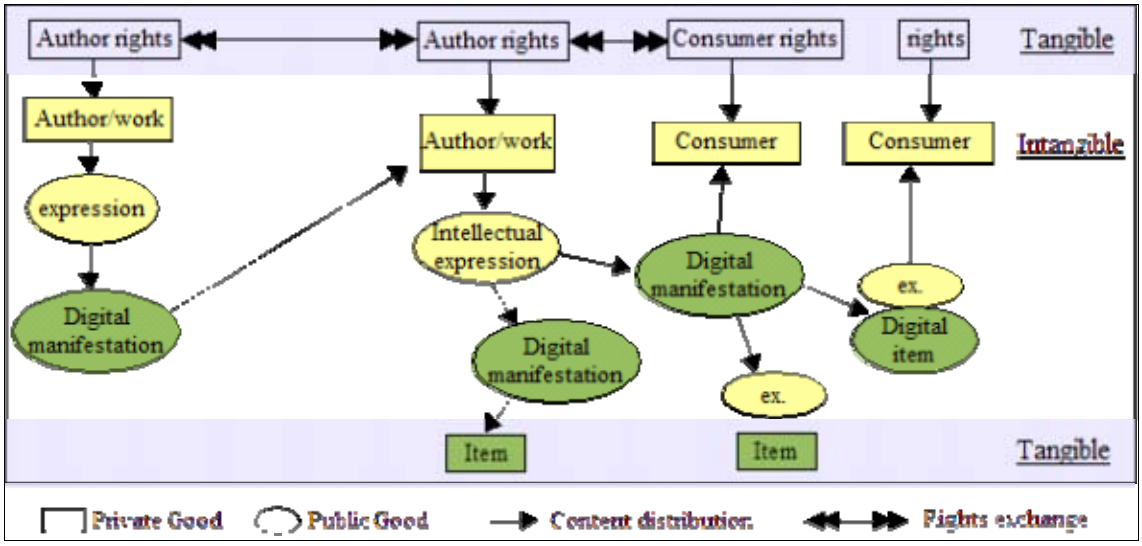

Figure 3: Rights and intellectual contributions

As a right-of-access passes from author to consumer, the system goes through the following steps:

- Two rights identifiers are created; one for the author, recorded in the Authors Rights Office database (ARO), and one for the consumer, recorded in the Consumers Rights Office database (CRO).
- The ARO and the CRO exchange and record each other's identifiers, thus linking the transfer of access rights to the work. The combination of these two identifiers is known as the Product Rights Descriptor (PRD). Thereafter, any copy of this manifestation will, as it goes through life, contain the unique PRD it was assigned.

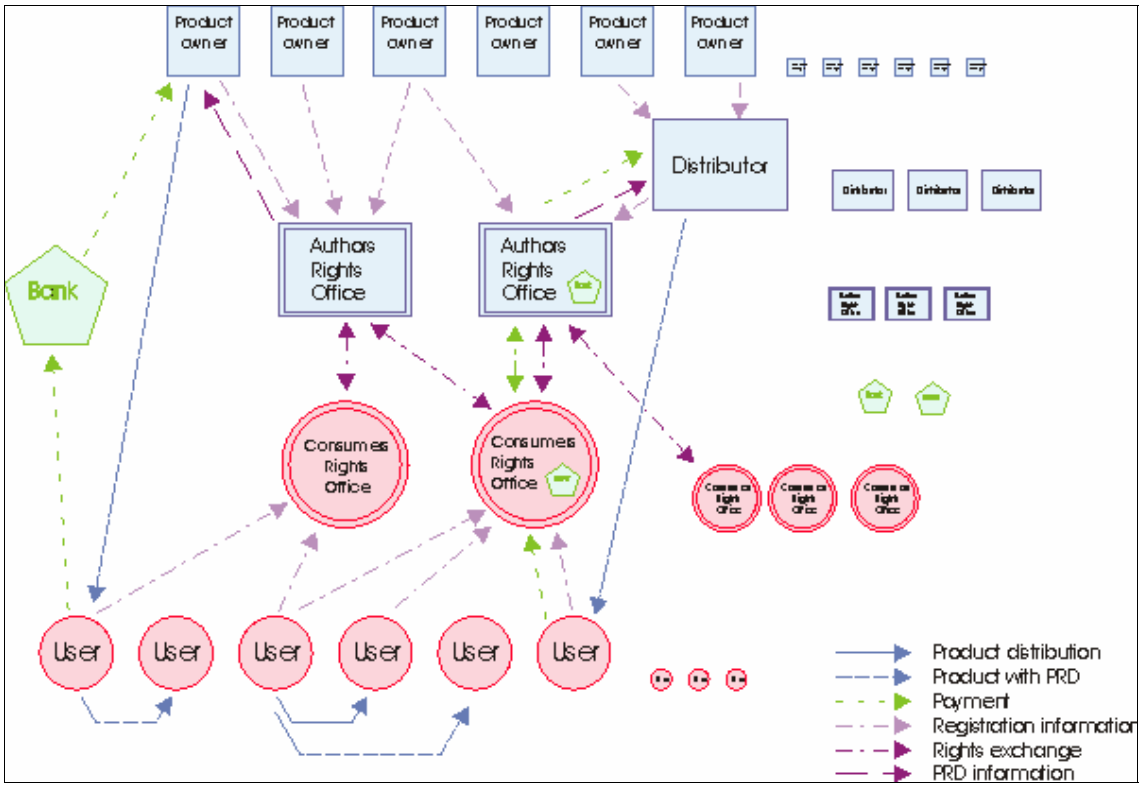

Figure 4: Rights Offices

In the Rights Office environment the independent duel office structure provides the one-to-one exchange that builds trust. Privacy is maintained because personal information is only held in the office that acts as an agent for a particular user and the identifiers attached to the product are effectively anonymous. Identified rights add value, especially for consumers, and more value can be introduced with business models that allow consumer participation in the success of the product. Potentially, these multiple, distributed, "offices" on the web not only provide the backbone for the allocation of user rights but could also provide the "trusted" infrastructure for funds transfer and so might provide the framework necessary for widespread micro-payment transactions. The rights office environment therefore corresponds to the statement of Simon Nicholson that "*… the combination of value, trust, and privacy will determine future digital services*" (quoted in Guth et a. 2005)

Why will the Rights Office system work?

The first questions to arise are; "How does the Rights Office system work if there is no mechanical protection of copies?", "Surely unremunerated copies will spread everywhere?", and "What is the incentive for consumers to pay for content?" The short answer is that some copies will become widely distributed but we don't care and the system does not try to track or directly control copies. Some examples on business methods and incentives:

All copies regulated in the Rights Office system will be properly identified and so there is always the chance that a consumer coming across one of these copies will reward the rightsholder. The "chance" that the rightsholder will be rewarded becomes a significant possibility when the rights of the consumer are considered. For instance, the Indicare consumer survey found that "*Consumers are willing to pay for more usage rights and device interoperability*" (cf. Dufft et al. 2005). The Rights Office environment supports these rights, device transparency, and permanent access to the work. The reason why the identification will remain intact is that identified works compete on an equal footing, if not better, with any illegal unidentified copies; there is no penalty for holding a properly identified copy so why risk holding an illegal copy?.

- Copies can be given to family and friends but only one tier of copying is allowed. Someone who is given a copy in this way has no rights to make further copies.
- Sometimes, for the purposes of promotion say, it is a positive advantage that copies are widespread and the fact that these copies will provide a direct link to the rightsholder is a major advantage. "*For independent publishers, wide exposure of their content is a prime promotional tool"* (cf. Bohn 2005)
- The registered partnership between the rightsholder and the consumer allows for business models that reinforce the advantage of having bought rights to the content. e.g. discounts on future products, upgrades, even a model where the consumer could be encouraged to recommend the content to others and receive a partial refund if the third party purchases their own copy.
- Presale of rights to a work could be an option to cover production costs for the artist or author for example. As soon as the work is complete all registered rights holders would have instant access to the work.
- Damaging, unauthorised, third party, commercial use of a work in the Rights Office environment will be naturally limited for two reasons. Either, this unauthorised user will be issuing new identifiers and will risk having his or her illegal act traced to them, or, they will be passing on works to another consumer who won't be given their own identifier. This second act will be unattractive because the receiving consumer could either have probably obtained a "free" copy elsewhere or could have bought a legal copy with all the rights that come with it.

Contributions vs. other regimes

All the articles from the July issue of the INDICARE Monitor (cf. INDICARE Monitor) consider DRM to be the main contender for regulating commercial uses of copyrighted material in a digital world. Creative Commons is usually relegated to the non-commercial sidelines with the odd exception of the likes of Magnatune (cf. Buckman). Here we examine some of the limitations of the various solutions and at the same time compare them to the contributions model.

Contributions vs. DRM

When someone buys an analogue book they create a new intellectual contributions chain. There is only ever one excludable book in this chain (the first one) and this helps define the monetary value to be placed on this chain. If a digital copy of this book is introduced into a new chain the work can be reproduced indefinitely, easily distributed along the new chain (even in a branching fashion) and these public good characteristics make the value of this contribution chain uncertain. DRM, i.e. technology that controls who and how users can use content, attempts to restore a known value to this chain by limiting copies (making them excludable again). The ideal might be said to be a limit of one copy as in the analogue world.

There are potential disadvantages to this DRM modelling of the analogue world from the intellectual contributions point of view:

- The limit of one copy without regard to "fair use" could disrupt the citation feedback chain;
- The "first sale" doctrine, which created a contributing chain, allowing a buyer to recoup some of his contribution while furthering the distribution of the work, could be disrupted; and
- Most significant, chasing the analogue model of copyright destroys the potential advantages of digital distribution. i.e. speed of transmission, access to a wider community, lower reproduction and distribution costs.

The Rights Office system removes the need for any control of content at the hardware level or in the realm of the individual user and hence could remove the considerable technical burden of controlling content from source to destination. The burden of control and regulation is shifted to the "Office" level, where protocols will have to be established and the exchange of rights identifiers fully protected, however this will be orders of magnitude simpler than the full scale DRM approach. Also, all the complexity is one step removed from the average consumer.

Two recent Indicare articles (cf. Knopf 2005, Tyrväinen 2005) argue the benefits to DRM systems if they were to support Fair Use and other copyright exceptions and they offer technical solutions for achieving this. The benefits include trust and consumer acceptance. The Rights Office system, in contrast, considers these exceptions as vitally important and even goes so far as to licence the user to make unlimited copies (provided the identification rules are met). The rational of the Rights Office system is that consumer "rights" are so fundamental to the operation of the contributions model that they should be transferable to the consumer and that once you have taken this step and instituted a system to regulate these rights any form of DRM becomes redundant and could even have a negative impact on the operation of the system.

Contributions vs. Creative Commons

Creative Commons and Rights Office both support the freedom of the rightsholder to choose how they distribute their work and what rights they choose to withhold. Like Creative Commons the Rights Office system is founded on copyright and will rely on a series of licences to specify how the work can be used by third parties. The Rights Office also supports the notion that if someone has a work made available to them they are allowed to absorb the content, thus supporting the "unregulated use" where anyone can read the book (cf. Lessig 2002).

Rights Office differs from Creative Commons as follows:

- The Rights Office licences are granted to individuals and not issued as open licenses. This is of fundamental importance as it establishes the one-to-one relationship between the rightsholder and the user that is essential for the

contributions model and at the same time forms the basis of any commercial transaction.

- Some of the Rights Office licences allow the user to pass on "rights" to third parties. This again is of significant importance because it can establish the user as both a contributor and recipient in the contributions chain and this inclusiveness will lead to more support for the original rightsholder.

To give an example of just one of the licenses in the Rights Office environment, the general licence granted to the average purchasing consumer might start something like this in common deed terms:

> *The consumer who holds a valid identifier to this product is allowed to make unlimited copies to protect their access to the work provided that the product and its identifiers remain intact and unmodified.*

Note how this might lead to the consumer making a copy available to a third party, a friend say, however this third party has no rights to do anything with the product, not copy it, pass it on, nothing accept her basic unregulated use of absorbing the content.

The Rights Office system also offers the exciting possibility of porting some of the Creative Commons licences into the Rights Office environment where they would be able to compete on an equal footing with more restrictive licenses.

Contributions vs. levies

Levies or flat taxes on hardware or services have been proposed and enacted in some cases in an attempt to reward artists for private copying and other uses of the copyrighted work (cf. Tan 2004). One disadvantage of levies is that they are indiscriminate and therefore penalise non-copyright related uses of the service or hardware. Widespread use of the Rights Office system could remove the need for levies because of the possibility of directly rewarding the rightsholder. A second objection to levies is the lack of a means to fairly track usage and funnel funds to the artist in proportion to the use of their work. If it were decided that some levies were still required in the future the persistent identifications generated by the Rights Office system could provide the means to track usage.

Rights Office development status

If the will was there to establish a Rights Office system there is no obvious legal or technical impediment to doing so. The fact that no central control of the numerous distributed Rights Offices is required just as there is no central control of the Web makes the possibility of establishing a global system more feasible. Users who decide to use Rights Office could have their products compete with other intellectual property distribution methods and the best would win out. Some of the practical obstacles and steps to be taken can be listed as follows:

- Promotion of the subtle principles involved in exchanging rights in the Rights Office system, such as, how the independent Rights Offices will tend to be self regulating, and how legal copies can compete with illegal copies.
- Development of open Rights Office protocols.
- Development of an initial set of standard licenses.
- Development/adoption of the appropriate persistent identifier framework.
- Implementation of a basic Office system and user interface.
- Enforcement of the principle that a work should not be separated from its identifiers would need to be vigorously supported with a publicity campaign and where necessary legal sanctions.

Bottom line

The Rights Office proposal offers a formal system for regulating copyrighted works in a digital environment that removes the need to restrict digital copies by DRM or any other technological solution. Distributed "Rights Offices" provide a self-regulating, end-to-end, rights trading environment that can support many business models from free promotional distribution to restricted, single customer, streaming models while maintaining privacy and allowing for copyright limitations. Maybe the "*bottom line"* in the digital files of the future should

contain the Product Rights Descriptor, the identifiers that establish the rights of access of all users, along side the copyright © –

Document Product Rights Descriptor:

http://www.commonrights.com/RightsOffice/ARO-126.htm#ARO1

http://www.commonrights.com/RightsOffice/CRO-500-CRO1.htm

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Masthead

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