INDICARE Monitor

About Consumer and User Issues of Digital Rights Management Solutions

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Content

The **IN**formed **DI**alogue about **C**onsumer **A**cceptability of D**R**M Solutions in **E**urope

Editorial of INDICARE Monitor Vol. 2, No 5, 29 July 2005

By: Knud Böhle, ITAS, Karlsruhe, Germany

Abstract: The articles in this issue comprise a prudent reply by Creative Commons to the polemic published in the June issue of the INDICARE Monitor, a tour d'horizon through European consumer protection laws in the light of digital products, and an outline of the recommendations by the Norwegian Board of Technology (NBT) on DRM to the Norwegian Parliament. Further we have included two market analyses, one on DRM in the eBook area, the other dealing with the podcasting scene. In addition there are two more technical contributions, one presenting the European FP6 project TIRAMISU and the other giving a detailed report about the second international ODRL workshop held this month in Lisbon.

Keywords: editorial – INDICARE

About this issue

Licenses, laws, and policy making
The issue starts with a cautious reply by intellectual property attorney *Mia Garlick*, General Counsel of Creative Commons Corporation, to the polemic "Creative Humbug" by *Peter Benjamin Tódt* (Tódt 2005), legal counsel at the Hungarian musical collecting society ARTISJUS. Mia's rebuttal of Tódt's attacks is very detailed as she substantiates her arguments with the latest facts and figures about Creative Commons and examples where Creative Commons has already been beneficial. In spite of all differences, she underlines that both, Creative Commons and collecting societies like ARTISJUS, are "working towards the same goals and representing, potentially, the very same individuals". I hope that this peace offer is not the end of debate about CC. A question which puzzles me for instance is if there is a path from CC licenses over encoding these licenses in rights expression languages (cf. ODRL 2005; cf. Guth et al. in this issue) to the enforcement of theses licenses by technical measures.

Legal ICT consultant *Martien Schaub* provides a breakdown of consumer protection laws in the light of digital products (which may come with DRM protection). Her tour d'horizon though European law touches upon six directives: Directive 85/374/EEC (liability for defective products), Directive 93/13/EEC (unfair terms in consumer contracts), Directive 97/7/EC (protection of consumers in respect of distance contracts), Directive1999/44/EC (sale of consumer goods and associated guarantees), Directive 2000/31/EC (e-commerce directive), and Directive 2005/29/EC (unfair business-to-consumer commercial practices). The legal provisions turn out to be fuzzy because what is lawful depends to a large extent on assumed reasonable *consumer expectations,* and by nature these vary with technical changes, learning processes, and differ between application fields. For example, some DRM controlled music offers might be accepted in the mobile environment, but be rejected in a PC environment or home entertainment domain. The best instrument to protect the consumer, she concludes, "appears to be the information duties of the seller. In case of lacking, inadequate or false information about the product, a consumer may successfully base a claim on breach of contract or unfair practices".

Christine Hafskjold who works for the Norwegian Board of Technology (NBT) reports about the results of a project on DRM which was intended to inform the Norwegian Parliament and policy makers in the process of amending the Norwegian Copyright Act. Meanwhile the act has passed (June 4th). The final act is in line with the recommendations given by NBT. The amendment is considered consumer friendly, underlining the right to make private copies and even allowing to circumvent technical protection measures in order to copy music from CDs to MP3-players. In the INDICARE Monitor of last month *Thomas Rieber-Mohn* (2005), University of Oslo, wrote specifically about the implementation of the EUCD Article 6 in Nor-

way. The two articles complement one another perfectly.

DRM in podcasting and eBooks
Nicole Dufft, from INDICARE partner Berlecon Research, draws attention to Podcasting, an amateur movement - to use the expression of *Dan Hunter* -, which is so successful that commercialization appears to be inevitable. Copyright and consequently DRM however is an issue. Nicole can imagine commercial, DRM-protected podcasts where DRM limits, for example, the number of plays and prevents the extraction of individual songs. The prime problem of such commercial offerings to be accepted by consumers will be the lacking interoperability of DRM solutions.

Philipp Bohn, Berlecon Research, takes a look at recent eBook developments, classifying first the devices able to run eBook software and to display eBook content, before he comes to widely diffused reader software, namely Adobe Acrobat, Microsoft Reader, eReader and Mobipocket. He is not convinced of the success of eBooks as long as interoperability matters are not solved, but he argues that in principle there are business models making DRM protected eBooks acceptable for consumers, e.g. he can imagine a demand in the educational environment for "term lease" or "course-packs" if they go together with price reductions. Who is likely to reads this article may also want to re-read *Karen Coyle's* (2005) article dealing with library lending of e-books in the USA.

Technical matters
The object of project TIRAMISU (The Innovative Rights and Access Management Inter-platform Solution) is, according to its website, "to unleash the full potential of digital media, addressing the complete consumption chain − media creation, delivery and consumption, while removing the Digital Rights Management (DRM) barriers. TIRAMISU is an FP6 project sponsored by the European Commission. Consortium partners are Optibase, ARTTIC, Imperial College of London, Orange, NagraVision, Industrial Technology Research Institute ITRI (Taiwan), University of Ljubljana, Ecole Nationale Supérieure des

Télécommunications ENST, France Telecom, and Fraunhofer-Gesellschaft.

What makes TIRAMISU particularly interesting for INDICARE is its claim to render unobtrusive DRM components. So we asked the project team to explain their approach and to reflect about barriers to success. In a few words: they target the "home domain" (authorized domain), support super-distribution, try to achieve increased security by the application of smartcards, and base their developments on open standards such as MPEG-21.

Those who are less interested in technology are encouraged to read at least the final section headed "Is TIRAMISU the next hot technology?" in which success factors, i.e. conditions to be accepted as a worldwide open international standard, are discussed.

Finally INDICARE informs you about the ODRL Workshop which took place in Lisbon in July. More precisely, the three program chairs of the workshop, *Susanne Guth*, *Renato Iannella*, and *Carlos Serrão*, give you their briefing.

Although the event focused on ODRL developments, many relevant topics of the general DRM debate were addressed. The need for interoperability and standardization clearly stimulates convergence and co-operation. The use of rights expression languages for identity management links them to Trusted Computing as the specification profile of ODRL for CC indicates co-operation with the commons oriented movement. In between are attempts to make rights expression languages "bi-directional" or to otherwise attach negotiations of rights to the exchange of assets. Pushed by the Open Mobile Alliance (OMA), convergence of DRM solutions from mobile over PCs to broadcast is on the agenda requiring co-operation to be successful.

Co-operation is without doubt on the agenda of the European Union striving to build ERA, the European Research Area. One instrument is the organisation of co-ordination meetings bringing together different 6th-Framework-Program (FP6) projects and activities. In the area of "Networked Audio Visual Systems

and Home Platforms" (NAVSHP), four different co-ordination groups have been established, one of them, CG1, is dealing with Digital Rights Management. It brings together members of six FP6 projects (Medianet, Enthrone, Tiramisu, Danae, Avista, and Visnet), FP5 project ELIN and the European Broadcasting Union. Together they work, chaired by *Leonardo Chiariglione,* on a "DRM Requirements Report that expresses the common view of NAVSHP on DRM and the requirements for future DRM technologies, systems and toolkits in the European audio-visual sector". This work is highly interesting for INDICARE, and hopefully for you. It will also be of interest to compare these requirements with the work in progress of the Digital Media Project aiming at "Recommended Actions" to be presented to governments and regulators (cf. Jeges 2005).

Bottom line

As always the INDICARE Monitor aims to stimulate debate and provoke online-comments through the articles provided. By the way, for the first time the leading authors of these articles are in their majority women.

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About the author: Knud Böhle is researcher at the Institute for Technology Assessment and Systems Analysis (ITAS) at Research Centre Karlsruhe since 1986. Between October 2000 and April 2002 he was visiting scientist at the European Commission's Joint Research Centre in Seville (IPTS). He is specialised in Technology Assessment and Foresight of ICT and has led various projects. Currently he is the editor of the INDICARE Monitor. Contact: + 49 7247 822989, knud.boehle@itas.fzk.de

Creative Humbug?

Bah the humbug, let's get creative!

By: Mia Garlick, Creative Commons, San Francisco, USA

Abstract: Creative Commons has been criticized recently, in particular by legal counsel for the Hungarian collecting society ARTISJUS in a recent article in INDICARE, for being unforthcoming about its purpose and misrepresenting both its mission and licenses. Creative Commons welcomes the debate about copyright issues and Creative Commons' role in working to facilitate the interests of creators and users of copyrighted works. This article seeks to clarify some misunderstandings and misrepresentations about what Creative Commons is about and about the Creative Commons' licenses.

Keywords: opinion – artists, collecting societies, Creative Commons, copyright law

Introduction

Far from being humbug, Creative Commons (cf. sources) is a non-profit organization that has offices in San Francisco, London & Berlin and project leads around the world. Since 2002, Creative Commons has made available, for free, a range of licenses and tools for creators to make their works more readily available on terms that clearly signal what others may do with their works. In addition, Creative Commons' technology enables the development of search engines, similar to the Creative Commons-specific search engine now included as part of Yahoo!'s advanced search (cf. sources), that permits users to search for, and find, Creative Commons-licensed content according to its license terms.

With over 17 million linkbacks to Creative Commons licenses – or 1 out of every 530 webpages (based on Yahoo!'s index) now licensed under a Creative Commons license; with the Creative Commons licensed "ported" to 21 different jurisdictions and another 12 jurisdictions actively in the process of porting, Creative Commons is an established presence that clearly speaks to the needs and desires of many people who create copyright protected works.

On 24 June 2005, Dr. Péter Benjamin Tóth published an article that appeared in the INDICARE Monitor entitled "Creative Humbug" (2005). In it, Dr. Tóth expressed his discomfort with the "fishy smell" that surrounds Creative Commons. Dr. Tóth is, among other things, legal counsel for the Hungarian musical collecting society ARTISJUS.

Creative Commons appreciates the comments and concerns expressed by Dr. Tóth and welcomes this opportunity to clear the air, so to speak, and to dispel any concern of Dr. Tóth's, his colleagues or of any INDICARE readers that Creative Commons engages in a "whispering campaign" or a campaign of suggestions.

Creative Commons & ARTISJUS work toward similar goals

In his article, Dr. Tóth sets up an apparent opposition between the Creative Commons licensing model and collective management systems. Any such opposition is non-existent, or at least should be. Creative Commons and collective management organizations work towards similar goals – namely, representation of artists' interests and education about copyright issues.

It is useful to have the comments of Dr. Tóth given his position as legal counsel for ARTISJUS and given the role of ARTISJUS as a representative of Hungarian author's rights in musical and literary works as well as the rights of foreign rightsholders of public performance, mechanical reproduction and similar rights.

Creative Commons also works to serve the interests and needs of creators. Creative Commons is an enabler for creators to license their works and publish them more readily, for example, using our ccPublisher

tool (cf. sources). Perhaps for similar reasons, ARTISJUS implemented an "arrangement under which members can provide royalty-free access to their works through personal homepages or a free online storage space made available by ARTISJUS" (cf. sources).

Given ARTISJUS is working towards the same goals and representing, potentially, the very same individuals as those who are likely to be Creative Commons license adopters, its comments assist Creative Commons and the general public in more fully understanding creators' concerns and, thus, enable Creative Commons to better serve those concerns and enable the general public to respect these concerns.

One of Creative Commons' objectives is to raise awareness of copyright issues, and in particular, how they affect individual artists and creators, as well as users. By opening up this discussion, both Dr. Tóth, ARTISJUS and Creative Commons can continue to educate creators and the general public about copyright law and, hopefully thereby, promote the dual purposes of copyright law, as expressed in the Hungarian Copyright Law: to "create and maintain an equilibrium between the interests of authors and other rightsholders, as well as users and the public at large, taking into account the requirements of education, culture, scientific research and free access to information." (Hungarian Copyright Law (Act No. LXXVI. of 1999 on Copyright)).

Creative Commons' mission is clear & built on the flexibility inherent in copyright law but lacking in practice

Creative Commons' mission is clearly expressed on its home page as follows:

> "Creative Commons offers a flexible range of protections and freedoms for authors and artists. We have built *upon* the 'all rights reserved' of traditional copyright to create a voluntary 'some rights reserved' copyright. We're a nonprofit. All of our tools are free." (emphasis added)

As is clear from this statement, Creative Commons is based on the existing system of copyright. Creative Commons' approach of "some rights reserved" rather than being in opposition to the copyright law *per se*, is an alternative to two manifestations of copyright law in everyday life: (i) the default "all rights reserved" position that attaches to a copyrightable work the minute it is made, often without the creator's knowledge; (ii) the status quo "all rights reserved" model that serves as the standard business model for most copyright-based industries to date.

The minute you take the picture, hit the "save" button on your computer, record your song, or code your website, you are creating a copyright-protected work. Many people are unaware of this when they create copyright protected works as part of their daily lives or as part of their creative activity. Consequently, they do nothing about this, even if it does not accord with their preferences as to how others may use their work, and, thus, the default level of copyright protection that attaches to their work is "all rights reserved"– in other words, they, as the copyright owner, enjoy exclusive rights to control who may copy, adapt, distribute, transmit over the Internet, publish etc. (subject to some limited exceptions) their work by operation of copyright law, immediately upon having created a work that satisfies copyright law's requirements.

An example that illustrates this issue is the moblogging that occurred during the recent, horrific attacks on London. Several people, who were in the tube tunnels during and immediately following the attacks, including a person called *Adam Stacey*, took photos, using their mobile phones, of the scene before their eyes. (cf. O'Neill 2005, Alfie's Discotastic Moblog) The minute those pictures were taken, the default "all rights reserved" level of copyright protection applied. However, in the case of Adam Stacey, he sent the image to his friend *Alfie Dennen* and told Alfie that the image was too important, that it had to get out there. Consequently, the image was posted to Alfie's Discotastic Moblog under a Creative Commons Attribution License. The Creative Commons Attribution License enables anyone to copy, redistribute and adapt the work provided attribution is given to the author. Because of this license, the image quickly appeared on Sky, Associ-

ated Press and other news services and Adam, previously, just a "citizen journalist" became a nighttime news reporter.

Adam and Alfie were sufficiently aware of copyright laws to modify their initial "all rights reserved" position to a "some rights reserved" position. Creative Commons licenses gave them the ready tools to do this, without having to take the time & expense to consult a lawyer (by which time the newsworthiness of the image may have dissipated). No doubt, most other people who use their mobile camera phone are not as aware as Adam & Alfie about the copyright implications of taking a photo and/or similarly do not have access to a lawyer to draft up more reasonable license terms; consequently, without more, their creative works will be subject to the maximum copyright protection possible under applicable laws. Anyone who then comes across these works must either: assume they are subject to "all rights reserved" protection and cannot incorporate it into their website, documentary or book without first taking the time to track down the owner and asking for permission; or, if they are unaware of copyright laws, and do so, they become an unwitting infringer. This is the situation even if the creator would have been happy for them to use the work in this way.

The other way in which "all rights reserved" has become the default and standard copyright position is through established industry business models. In the recording and publishing industries, for example, record labels and publishing companies frequently take either a transfer of copyright ownership or an exclusive license of all rights from the individual creator. These companies in turn then make the music or books available – as you can see if you check out the imprint page of the books on your bookshelf or the CDs in your CD rack—with the statement "© 2005. All rights reserved."

Creative Commons licensing is different to this model. In the first place, under the Creative Commons licensing model, copyright ownership can stay with the creator. In the second place, the copyright notice that is conveyed to the public states "some rights reserved" and the Commons Deed (the human-readable code) sets out the key terms of which rights are reserved and which rights are not.

Thus, Dr. Tóth's initial observation that "the 'some rights reserved' concept is therefore not an alternative to, but rather the very nature of classical copyright" is, in some limited respects, accurate; the Creative Commons licensing model works *because it is based on copyright* and thus, obviously the copyright system enables authors to license some of their rights and not others. The problem is that under default copyright rules or a general silence about the copyright status of a work and established business models, the practical application of copyright laws has trended away from flexibility, in favor of "all rights reserved." This is the issue that Creative Commons seeks to address by educating people about copyright issues – for creators by enabling them to make a choice that suits their preferences and clearly signalling what use others may or may not make of their works; for users by causing people to stop, look & think when they see a Creative Commons "some rights reserved" button as to which rights are reserved and which are not.

Creative Commons license adoption

Although Creative Commons started only three years ago, currently according to the Yahoo! Creative Commons-specific search engine, as noted above, there are over 17 million linkbacks to Creative Commons licenses and these linkbacks are spread throughout the world. In addition, as also noted above, to date, Creative Commons licenses have been "ported" (that is linguistically and legally translated suitable to a particular jurisdiction) in 21 jurisdictions around the world including such countries as Japan, Finland, South Africa, Brazil, Spain, Australia, Canada and South Korea.

Against this background, Dr. Tóth states that "[l]et there be no mistake: the CC licenses may be adapted to many jurisdictions, but they are not adopted *in* any jurisdiction…The state is not in a position to adapt and enforce the use of these uniform licenses." (emphasis in original)

This argument seems to be confused and is, thus, not a valid criticism. Two points may clarify the confusion. Firstly, Creative Commons is not representing, and neither does *The Register* article cited by Dr. Tóth in connection with his assertion (cf. Emert 2005), that a state has adapted or enforced a Creative Commons license. The adaptation work is carried out by Creative Commons project leads in each jurisdiction. For example, in Hungary, *Balázs Bodó* of the BUTE Center for Media Research and Education, *Attila Kelènyi* of Kiskapu Publishing, Dr. *Ágnes Dudás* from the FSF.hu Foundation for Promoting and Localizing Free Software in Hungary and Dr. *Anikó Gyenge* from the Legal Center for Infocommunication Issues at the Hungarian Academy of Sciences are carrying out this adaptation work. By way of further example, in Germany (the country cited in *The Register* article), Creative Commons worked with Professor Dr. *Thomas Dreier*, *Ellen Euler*, and *Oliver Meyer* at The Insitute for Information Law at the University of Karlsruhe and Institut für Rechtsfragen der Freien und Open Source Software (ifrOSS) to adapt the licenses for Germany.

Secondly, contrary to Dr. Tóth's assertion, Creative Commons licenses *have been adopted* by individual creators in numerous jurisdictions around the world. For example, recent statistics indicate that over 440,000 licenses have been adopted in Germany. In Spain, over 785,100 licenses have been adopted. In total, as noted above, 17 million licenses have been adopted and applied to online works.

Creative Commons is in talks with around 70 countries around the world and thus, we and our international Commons community are working to continue expanding global license adoption in each country that "ports" Creative Commons licenses.

Understanding the Commons Deed & the Legal Code

Creative Commons licenses are expressed in three different formats: the Legal Code (lawyer-readable), the Commons Deed (human-readable) and metadata (machine readable). The Commons Deed – being designed for the general public to read & understand – merely summarizes the key components of the Legal Code to render them effective for the average, legally untrained user; it clearly explains what, essentially, a user can and cannot do with the work.

Dr. Tóth is correct that much of what is in the Legal Code is not in the Commons Deed (or the metadata) and no doubt, all legally untrained people who use the Creative Commons licenses and/or works licensed under a Creative Commons license are thankful for this. For example, neither the "Warranties, Representations & Disclaimer" clause, nor the "Limitation on Liability" clause, nor the "Severability" clause nor the "No Waiver" clause are included in the Commons Deed or the metadata. These clauses – whilst necessary to construct a legal document – do & arguably should (for the sanity of the general public) remain the preserve of lawyers and the courts to argue about and interpret. When I buy a hair-dryer or park at the parking station, I am told that there are terms, have the opportunity to review them at my leisure, and am told the key terms. Similarly, the Creative Commons Commons Deed links through to the Legal Code and people have the opportunity to review the finer points of the legal drafting, if they chose, or to simply read the key terms as expressed in the Commons Deed.

The point of Creative Commons' three different expressions of its licenses is to facilitate greater use of copyrighted works, educate people about respect for copyright and how to comply with copyright laws and the Creative Commons licenses. The purpose of the licenses is not to educate every person to appreciate the finer points of legal contract drafting.

One unfortunate obfuscation made in Dr. Tóth's article is his assertion that

> "CC licenses are even more extortionary than an exclusive 'buy-out' contract from a global media company, where the author at least gets some money, and according to the legal regulations can revoke the license in some circumstances. To bring another example, a collecting society is obligated to give the possibility to its authors to 'take back' their

rights if they are not content with the workings of the society."

Here, Dr. Tóth makes an inaccurate comparison between the Creative Commons licensing model and the model of many European collecting societies and so-called "global media company[ies]". The Creative Commons licensing model applies to an individual work at the creator's option. It does not apply to all present and future works of the creator. Many European collecting societies require creators to *transfer ownership* (not even just license) of certain righs in each and every one of their present and future works to the society. Moreover, many established content companies often require ownership of or exclusive rights in present work as well as ownership of or, at least options in, future works created by an artist. Creative Commons licenses are designed to enable the artist to retain ownership of their work and make decisions about how they want to license that particular work. Applying a Creative Commons license to one work does not require application of a Creative Commons license to any other work. In this way, therefore, it is possible for a creator to experiment with the Creative Commons licensing model. One clear example of this was the WIRED CD: Rip. Sample. Mash. Share. which contained tracks from 16 different artists including the *Beastie Boys*, *Chuck D*, *Gilberto Gil*, *Thievery Corporation*, *Zap Mama* and *David Byrne* all released under one of the Creative Commons Sampling licenses. (cf. sources) By releasing one track under a Creative Commons license, these artists did not thereby become bound to release any of their previous or future tracks under a Creative Commons license.

Moreover, applying a Creative Commons license to a particular work does not "lock down" that particular work to Creative Commons licensing exclusive of any other form of licensing with respect to that work. Creative Commons licenses are "non-exclusive"; thus, an artist can enter into different licenses, including revenue-generating licenses, in relation to a Creative Commons licensed work.

The history of Creative Commons license adoption to date demonstrates that there are three main ways in which an artist can earn income in connection with Creative Commons licenses.

Firstly, Creative Commons licenses can be applied to a work in a particular format to encourage awareness of the work and, thus, sales of the work in a different format. One example of this occurs in the publishing industry when authors and/or publishers release a book online under a Creative Commons license whilst selling hardcopies of the book.

One notable example is (unsurprisingly) Creative Commons' Chairman & CEO *Lawrence Lessig* who released his book "Free Culture" under a Creative Commons Attribution-NonCommercial license. (cf. sources) The book is now in its third print run.

Another example is *Kembrew McLeod*'s book "Freedom of Expression®", which was also released online in PDF format under a Creative Commons Attribution license and sold in hardcopy format. (cf. sources) By making it freely available online, Kembrew's book was able to circulate well beyond its hardcopy distribution in the United States and Japan, receiving responses and conference speaking invitations from people who shared research interests in various European, Asian, and African countries. In addition, the publicity surrounding his online Creative Commons release of the book generated hardcopy sales through Amazon.com.

A further example in the publishing arena is the open access law publishing program, recently launched as part of Creative Commons' Science Commons publishing project. (cf. sources) The publishing model adopted by the program and signed on to by, to date, 23 prominent US, English & Canadian law journals, enables the author to: retain their copyright in their paper and grant the publisher a limited-term, exclusive license for commercial publication whilst also making the paper available to the public under a, for example, Creative Commons Attribution-NonCommercial-NoDerivatives license. In this way, the commercial publishing model of the journals is not disturbed but authors and the general public from the greater availability of the author's writings.

In the music world, Magnatune is an innovative Internet record label that started in 2002. (cf. sources) Magnatune releases streams and downloads of its artists under a Creative Commons Attribution-NonCommercial ShareAlike license but sells their albums on CDs.

Secondly, a Creative Commons license can be applied to a work to signal to the general public the terms on which they may use the work and then interested parties may enter into a commercial side-deal in relation to the work. By reason of the Creative Commons' metadata and Creative Commons-specific search engines such as that now incorporated in Yahoo!'s search engine, Creative Commons licensed work can be more readily located by persons interested in making commercial uses of their work.

Thus, by licensing content within the Creative Commons network, access to a person's creativity can be substantially increased. Business 2.0, for example, reported on the story of a Slovakian artist who used Creative Commons licenses to make his music available. That then translated into two commercial contracts with U.S. companies to use his music in their projects (cf. Raskin 2004).

Thirdly, Creative Commons licensed works can advertise a creator's talents and secure them a commercial arrangement for different or future works. One such example is that of "*MinusKelvin*", a physics and calculus teacher by day, a composer by night. (cf. MinusKelvin 2005) He makes tracks available to podcasters using Creative Commons licenses and recently joined the ccMixter site. ccMixter is a site created by Creative Commons that enables people to post their music to the site under Creative Commons licenses that permit remixing. People can then remix the tracks and upload their remixes. Runoff Records, Inc. signed MinusKelvin after discovering him on ccMixter. Together with another ccMixter musician, *Pat Chilla*, MinusKelvin will now be doing the music for the next three seasons of America's Next Top Model.

Thus, Dr. Tóth asks "[w]hy should anyone invest in works that are already widely available for free?" The response to that question,

as the above examples illustrate, is that the reasons are multiple. Digital technologies make it easier, cheaper & quicker than in the analogue world for individual consumers to become a producer of high-quality material; so professional, indeed, that there have been reports of photograph printing services refusing to print personal photos of members of the general public for fear that they are the work of professional photographers and even, in some instances refusing to release people's personal happy snaps back to them without a signed copyright release. (cf. Seltzer 2005) Just as digital technologies make us all professional creators, so too do they enable people to advertise their works and/or their talent, share their creativity more easily and more readily, and clearly signal to members of the pubic that they welcome the use and reuse of their work.

Enforceability of Creative Commons licenses

Finally, license enforcement – a topic close to many lawyers' hearts! Dr. Tóth queries the practical enforceability of the Creative Commons licenses and suggests that the issue of enforcement is somehow more difficult under the Creative Commons licensing model, than under a collecting society or "all rights reserved" model.

This contention is without merit. The issue of knowing when a person has violated a license term applies equally in relation to a Creative Commons licensed work as much as it does to a work licensed under any other model. Once you sell a book or allow someone to download a track from a site, how do you know that they will use it consistent with the license terms and/or any technological restrictions? This is a challenge that all creators and organizations that assist them - such as Creative Commons and ARTISJUS – face. If artists and the organizations that assist them work together we can attempt to solve this problem by teaching people more about copyright law and why & how to respect.

In addition, Dr. Tóth claims that because the generic license originated in the United States, the local licenses adapted to the jurisdictions of Germany, France, Spain, Japan etc. will not be sufficiently tailored to the lo-

cal laws of those jurisdictions. Somehow, because CC-HQ has final approval over the final draft of the jurisdiction-specific licenses, the licenses will be invalid under local laws. Leaving to one side the obvious factual point of distinction, namely, that the actual location of the office that engages in final review of the licenses is in Berlin, Germany, Dr. Tóth is clearly insufficiently familiar with our license finalization process.

Everything about Creative Commons involves community involvement and community feedback. This is nowhere more apparent than in the international community, especially given the expertise that exists within the international Creative Commons-minded community. The license "porting" process involves our local project lead preparing the first draft of the license, linguistically and legally adapted for the specific jurisdiction, this draft is then circulated on an e-mail discussion list of interested participants in that jurisdiction. These list participants debate the various aspects of the license, in particular as it pertains to their jurisdiction. These comments are then incorporated into a further draft, which is again submitted for community review. A final draft is then prepared and CC-HQ's Berlin office confirms license interoperability and otherwise assists with drafting issues that may have arisen on the country discussion list. The role of CC-HQ's Berlin office is simply one of assistance and facilitation. At all times, substantive review and amendment of the licenses to comport to local legal requirements is undertaken by experts in that jurisdiction.

No doubt, the Creative Commons license will one day be tested in a court of law, similar to the recent case before a Munich court involving the GNU-GPL license (cf. Shankland) and, when that situation occurs, we will all observe the enforceability of the license for the particular dispute in question. Until this day, however, and most likely even after this day, there is no basis upon which to claim that Creative Commons licenses are unenforceable. Every member of our community is working to ensure that they are locally enforceable in anticipation of when a court date is set, and also, that the licenses properly represent and respond to the needs of artists.

For Dr. Tóth to imply that because Creative Commons does not provide legal advice and enforcement assistance, Creative Commons "simply shrug[s] their shoulders" when it comes to helping people enforce their rights, flies in the face of reality. We receive countless queries and requests for assistance and, to the extent we are able to locate a suitable volunteer legal service in the inquirer's jurisdiction, we direct them to that service. Indeed, to the extent that ARTISJUS provides pro bono legal assistance to artists, Creative Commons looks forward to working with ARTISJUS in this regard.

Bottom line

Creative Commons welcomes the debate and feedback about our licenses. Creative Commons constantly strives to develop licenses and tools that are adapted to and serve the needs of creators and users of copyright works. Because the Creative Commons licensing model is different to the established business models and the default "all rights reserved" copyright model that has existed in practice historically, Creative Commons often engenders debate, concern and, sometime, confusion as to what Creative Commons does and how its licenses and tools operate. Thus, Creative Commons appreciates the opportunity to try to clarify these issues but, more importantly, the opportunity to generate discussion of these issues. Particularly, in the case of ARTISJUS and its fellow collecting societies, a common ground exists on which to explore these issues because all organizations serve similar interest groups.

Ultimately, however, such discussion serves an incredibly useful purpose of holding up the mirror and enabling us all to consider and opine on how we can all work towards making copyright law better fulfil its objectives.

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About the author: Mia Garlick is the General Counsel of Creative Commons Corporation. Before joining Creative Commons, Mia worked for several years in private practice as an intellectual property attorney in Sydney, Australia, and Silicon Valley, US. She can be contacted via e-mail at: mia@creativecommons.org.

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A breakdown of consumer protection law in the light of digital products

By: Martien Schaub, Mitopics, Gouda, Netherlands

Abstract: Consumers using digital content will often find themselves confronted with DRM. Some consumers have attempted, with little success, to argue that these measures interfere with their "right to a private copy", referring to the exception made with regard to this in copyright law (Helberger 2004). Another area of law that can be drawn into this is consumer law. Consumer law contains several legal instruments that protect the consumer who is considered to be the weaker party in relation to a commercial party.

Introduction

In the first INDICARE Monitor of this year R. Grimm (2005) remarked: "virtual goods are made for purchase and usage". When using digital products, consumers will find that some uses are not possible as a result of DRM. DRMs are used to protect the interests of the distributors and artists; however at some level this will interfere with the interests of the consumer who expects that he can make certain uses of the content he obtained. This contribution discusses several legal instruments that might come to the aid of the consumer in relation to the consumption of digital goods (for an overview of European consumer protection law see De Witte 2004).

Preliminary question: are digital products goods or services?

In law it is important to establish if you are dealing with either goods or services, because in some cases there are different rules for the one and the other. The definition of "good" generally relates to physical appearance of something, while service provision concerns the performance of some sort of act other than the delivery of a good.

Digital content consists of bits and bites that are normally connected to a physical carrier such as a CD or a hard drive. If digital content is connected to a carrier, selling it can be characterised as the selling of a good, because a tangible changes hands. A digital delivery (for example via internet) merely consists of the transfer of bits and bytes. In that case, it becomes problematic to characterise such a delivery as the delivery of a good. In the past this topic has been addressed in relation to electricity (HR 23-3-1921) and computer data (Hof Arnhem, 27-10-1983). In case law these have been considered to be equal to a good, which can be stolen. However, this conclusion was drawn in relation to criminal proceedings. These solutions however cannot simply be transposed to private law issues.

In the discussion concerning the legal distinction between goods and services it is important that the context and the purpose of the rules of law are taken into account. In the context of consumer law, it seems unfair to treat a song differently, depending on the manner it is formatted or delivered. If consumer rights are dependent on the manner of distribution, this opens the possibility for distributors to choose the manner that favours their position. For practical purposes, it can therefore be preferable to consider the delivery of a digital product to be equal to the delivery of a good. Reference can be made to the analogy with sale of books and CDs, which are generally considered to be sale of goods, regardless of the fact that what is actually sold is copyrighted material. The discussion of rights and duties below will assume that the rules of sale of goods can apply to the selling of digital content, either because the product can be qualified as a good or, if this fails, by analogy.

Contract law

Non-compliance

In general, contract law requires that the seller should perform in conformity with the contract. English law in this respect requires that the goods supplied should be of satisfactory quality and specifies that this requirement is met if the sold good is as fit for the purpose for which goods of that kind are commonly bought or as it is reasonable to expect having regard to any description applied to them, the price (if relevant) and all other relevant circumstances. An exception applies when the buyer's attention was specifically drawn to the "defects".

Dutch law requires that a seller should deliver in conformity with the contract and specifies that this is the case if the good has the characteristics which are necessary for a normal use to be made of it and whose presence he did not have to doubt, as well as all the characteristics which are necessary for a special use which has been mentioned in the contract (for a comparison of Dutch law, English law and French law on this topic see Girot 2001).

A similar rule has been laid down in the European directive on sale of consumer goods (Directive 1999/44/EC). This directive states that goods are presumed to be in conformity with the contract:

► if they correspond to the description given by the seller or to a sample or model shown to the consumer,

► if the goods are suitable for the special use indicated in the contract,

► if they are fit for the purposes for which goods of the same type are normally used,

► if they show the quality and performance which are normal in goods of the same type and which the consumer can reasonably expect, given the nature of the goods and taking into account any public statements by the seller the producer or his representative.

Relevant factors to determine if there is breach of contract (either in England or in the Netherlands) can be the nature of the product sold, the knowledge the seller has about the intended use, price, the state of the market and reasonable expectations of the consumer.

Applying the legal norms to digital content equipped with DRM-techniques entails that it has to be established what can be considered "normal use" of digital content, what digital content is "commonly" bought for and what is reasonable to expect.

Unfair contract terms

Basing a claim on breach of contract is rendered difficult if the use of the DRM-techniques is accompanied by (pre-contractual) warnings by the supplier. In that case the consumer has fewer possibilities to argue that expectations were not met. However, this does not affect the possibility to base a claim on unfair contract terms. In this context one can think of the Unfair Contract Terms Act in England, and the rules regarding general terms in Dutch law, which include a black list of terms that are considered to be unreasonably onerous and a grey list of terms which are suspected to be unreasonably onerous. In both countries it is up to judges to further determine in the context of each particular case if certain terms are unfair or unreasonably onerous.

On European level there is the unfair contract terms directive (Directive 93/13/EEC) harmonising the laws of the member states with regard to this issue. According to this directive terms are unfair if, contrary to the requirement of good faith, they cause a significant imbalance in parties' rights and obligations arising under the contract, unless the terms were individually negotiated.

Relevant in the assessment is the nature of the goods or services, and all other circumstances. Circumstances could be the price and the reasonable expectations of the buyer. Again, reasonable expectations turn up, as well as good faith and circumstances of the case. How does this translate to the supply of digital content with DRM? Opinions of what is "reasonable" can vary.

Unfair commercial practices

Related to the rules concerning contract law are the rules concerning unfair commercial practices. The laws of the member states will be harmonised on this point after the imple-

mentation of the recently adopted directive on unfair commercial practices (Directive 2005/29/EC). The directive protects the consumers' economic interests against unfair practices that take place before, during or after a commercial transaction. The directive does not prescribe what is considered to be "fair", but instead indicates which practices are considered to be unfair:

► if it is contrary to the requirements of professional diligence,

► if it materially distorts or is likely to materially distort the economic behaviour with regard to the product of the average consumer whom it reaches or to whom it is addressed.

Professional diligence is defined as the standard of special skill and care which a trader may reasonably be expected to exercise towards consumers, commensurate with honest market practice and/or the general principle of good faith in the trader's field of activity. An important factor in the determination if a certain practice is unfair is the amount and type of information that is provided to the consumer.

These open norms such as "good faith" and "reasonable expectations" make for flexible legal norms that can be applied to numerous situations. The downside is that little legal certainty is offered and the decision will depend on circumstances of the case.

Defective products

The European directive on product liability protects against material damages afflicted to persons (death and personal injury) and damage to property (Directive 85/374/EEC). Apart from the protection measures that are so aggressive that they will harm the consumers' computer, the DRM-techniques will commonly not cause material or personal damage.

According to the directive a product is defective if it does not provide the safety, which a person is entitled to expect, taking all circumstances into account, including:

► the presentation of the product;

► the use to which it could reasonably be expected that the product would be put;

► the time when the product was put into circulation.

Although many consumers may currently expect that some sort of DRM is connected to digital content, it is less likely that they will expect that such measures will cause damage, such as harm the hard-drive of a PC. Even if this is clearly communicated towards the consumer that damage might occur, it can be argued that a DRM-techniques should not harm the consumers' computer. Although probably effective in protecting intellectual property rights, it can be argued that this does not pass the proportionality test: the punishment is far too grave in relation to the "crime" committed.

Besides the specific regime concerning defective products, consumers may rely on general liability rules such as tort of negligence in England or *onrechtmatige daad* in the Netherlands. Roughly speaking, general liability rules require that adequate duty of care is observed concerning the interests of others.

Transparency

In the previous paragraphs several references can be found to the presentation of the product, information provision and pre-contractual warnings. This relates to transparency: information with regard to the product and the contract terms is relevant in the determination of the lawfulness of the distribution of the product. The law also contains several explicit information duties that need to be fulfilled by the seller. The distant selling directive (Directive 97/7/EC) imposes pre-contractual and post contractual information duties which include amongst others the obligation to communicate the main characteristics of the goods or the services (note that no distinction is made between goods and services). Furthermore the e-commerce directive (Directive 2000/31/EC) requires that the price is clearly indicated and that the contract terms and general terms are presented in such a manner that they can be stored and reproduced.

These information requirements can assure that consumers know what they can expect, and prevent that consumers are disappointed

or misled. However this cannot remedy the situation where the suppliers of digital content make use of contract terms unfavourable to the consumer, they merely oblige the suppliers to communicate these terms clearly to the consumer (compare Guibault and Helberger 2005).

Bottom line

Above discussed rules show that consumer expectations play a crucial role in the determination if a certain product or a contract relating to it is lawful. Related to this is the generally accepted practice in a certain domain. As the domain of digital content delivery is relatively new, it is hard to determine what is generally accepted in the domain and what consumers may or may not expect. The fact that a diversity of digital products combined with different manners of distribution are becoming available complicates the issue.

What an average consumer can expect today when he buys digital content is a right to use the content, which is subjected to more or fewer limitations. Whether these limitations are legitimate cannot be determined solely with the legal standards offered by consumer law. These legal standards contain open norms, which do not provide for a conclusive answer. The best instrument that is offered to the consumer appears to be the information duties of the seller. In case of lacking, inadequate or false information about the product, a consumer may successfully base a claim on breach of contract or unfair practices.

Although the information duties cannot remedy that sellers use unfavourable terms, clear information allows the consumers (or consumer organisations) to determine their positions and possibly take action concerning the acceptability of the digital products and the terms under which they are marketed. Tools to do so are handed to these players by the law.

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About the author: Martien Schaub studied law in Nijmegen and wrote her Phd thesis at the faculty of technology and Management at the University of Twente. Currently, she is a legal ICT consultant. Contact: m.schaub@mitopics.nl.

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What Norwegian politicians should know about DRM

By: Christine Hafskjold, The Norwegian Board of Technology, Oslo, Norway

Abstract: The Norwegian Parliament has recently passed important amendments to the Norwegian Copyright Act. The process to this point has been long, and there have been many side-tracks, particularly related to the technologies affected by the act – such as Music CDs, copy protection and MP3 players. To help clear up some of the technical issues, The Norwegian Board of Technology published a newsletter on technological measures and DRM.

Keywords: policy analysis – consumer rights, copyright law, EUCD, fair use, technical protection measures - Norway

Norway's approach to the Infosoc directive

In February 2005, the Ministry of Culture and Church Affairs submitted its White Paper on amendments to the Norwegian Copyright Act. The media immediately picked up on the section dealing with the circumvention of technological measures and named the proposal "the MP3 Act". Media coverage circled round a narrow selection of topics:

► **Every 14-year old in the country will become a criminal!** (Because they will want to copy their CDs to their iPods.)

► **Meet the politicians who own an MP3 player and hear what they feel about the proposal!** (Because their opinion is more informed than that of the other politicians?)

► **We have surveyed the parliament and this is the MP/MP3-player ratio of the different parties!** (Parties where no MPs have MP3 players shouldn't get to vote on this matter at all?)

Need for information

The Norwegian Board of Technology (NBT) is an independent body for technology assessment established by the Norwegian Government in 1999, following an initiative by the Norwegian Parliament (Stortinget). The Board had already scheduled a project on DRM for the autumn of 2005. However, from the media coverage, and the open hearing held on the proposition, it was clear that more information was needed on technological measures and DRM.

Aided by experts in law and cryptology, The NBT set out to give the Members of Parliament some balanced information on what DRM is and how it can come to affect how we deal with digital content in the future. The hope was that by providing balanced and easily understandable information on this matter, the politicians would also get a chance to focus on the other important aspects of the proposition: How to ensure that intellectual property rights are not violated in the digital age.

This resulted in a four page newsletter called *Technological measures – DRM*. The newsletter addresses the challenges digital technology means for intellectual property, focusing on music and film in particular, as the confusion in regard to this seemed to be the biggest. Also copying and distribution of this type of content has become cheap and easy - and in large groups of the population – widely acceptable.

Why is DRM relevant to this?

The obvious benefit of DRM is the possibility of charging a different price for digital content depending on the need of the customer. The customer can choose to download a film for watching once, or she can choose to buy a piece of music to store and copy to any format she wants. Most people today have no problem accepting that when you *rent* a DVD, you only buy a limited right to view it. You cannot copy it for private use or sell it to someone else – that would require you to *buy* the DVD. Transferring this concept to music, films and books in digital form is the challenge.

Much of the focus so far has been on copy protection on CDs and DVDs, and the fact

that the new law will prohibit the circumvention of such measures. Copy protection can be seen as a primitive form of DRM, restricting the right to copy a CD. The problem is that the consumers don't see it this way – it looks like a regular CD and costs the same, so why are the rights limited? To make matters worse, quite a few of these CDs don't play in all types of CD-players, and making a copy can in most cases solve this problem. This led the Ministry to add an exception to the rule: You may circumvent a technological measure to be able to play your music on "relevant playback equipment". In the proposal from the Ministry, MP3 players were not considered relevant equipment for playing CDs, hence all the fuss in the media.

As "everybody" predicts that traditional copy protection will be replaced by DRM (or something similar) in the future, how DRM works and how it affects the protection of digital property rights is an extremely relevant issue when dealing with circumvention of technological measures. Limiting focus to the copy protection schemes we see today is clearly not sufficient.

Challenges with DRM

Limiting "fair use"?
In the proposal from the Ministry, circumventing technological measures is not legal when a contract for the use of the intellectual property has been made between the consumer and the property owner, and the property is purchased over the internet. As a DRM-system will contain such a contract, the deployment of DRM systems will mean that the regulation of consumer rights in this area is transferred from the authorities to the property rights owners: If no service that allows copying a piece of music or a film for private use exists, then the right to "fair use" will effectively disappear. In the newsletter to the Norwegian Parliament NBT recommends that the politicians watch the development closely, and take the appropriate measures to revise the law, should consumer rights be restricted as a result of this.

Hardware problems
Many consumers are concerned about DRM-systems that are linked to a specific hardware, and only allow the content to be

played/read on this. Systems of this kind have made consumption of legally bought content difficult after a disc crash or after replacing an old PC. It's assumed that this type of problems will cause consumer reactions, and that alternative solutions will emerge.

Privacy issues
Privacy is an area where DRM has caused reason for concern. Several systems require the user to identify her self to access digital content. In this way, the supplier of the DRM system can get access to the user's media habits and in theory use this for promotion or in pricing. The NBT is of the opinion that it should still be possible to consume media content anonymously in the future.

Proprietary formats
Several DRM systems are in use today. The best known and most used are connected to Apple's iTunes and Microsoft's Windows Media Player. Both of these use proprietary formats that stop music or film from being played on a player of the consumer's choice. Some services in Norway today require that you have a specific media player to download content, i.e. Microsoft Windows Media Player.

If this type of connection between content and player becomes the norm, it can contribute to limiting the competition in the market for media players (hardware and software). It is recommended that The Norwegian Competition Authority should monitor developments closely.

From a consumer perspective, it's important to get global, open standards in place, to ensure that all media players can read the digital rights information and relate to this. The choice of media player will then be entirely up to the consumers. The authorities can stimulate this by demanding open standards in public services that use DRM.

When is circumvention of technological measures OK?
The cracking of technological measures to expose security issues has been much discussed. It's not unusual that research institutes and others identify security issues in software and then publish their findings. After the Digital Millennium Copyright Act

passed in the US, research institutes have expressed a reluctance to publish findings out of fear of prosecution. The EUCD has suggested that the protection of technical measures should not restrict the possibility to do research on cryptology, so as not to run into the same problem.

Proprietary DRM systems pose a problem for the developers of open source software (OSS). In order for this type of software to be able to read proprietary formats (like Microsoft Word), they must "reverse engineer" the format to find out how to read and present it. The proposal to protect technical protection systems means that doing the same thing to a DRM format will be illegal.

The purpose of circumvention in this case is not to get access to the content for free, but to get access to the rights information in order to treat the content in the same way as the intended media player would.

The NBT sees the OSS environment as an important competition corrective in a market dominated by big software development companies. It's therefore important that legislation in this area doesn't limit OSS developers' opportunity to deliver competitive solutions. Stimulating the development and use of open standards can be one way to go in this matter; another can be to open for an exception in the legislation similar to that of cryptology.

Bottom line

The Standing Committee on Family, Cultural Affairs and Government Administration gave its recommendations to Parliament on May 30th, and the act passed on June 4th. The consumer perspective got a broad place in the debate, and the outcome can also be perceived as consumer friendly, as it leaves an opening for circumventing technical measures to copy music from CDs to MP3-players (for private use). This means that the committee goes a lot further than the Ministry, that clearly stated that MP3 players should not be considered "relevant playback equipment". The committee explicitly states that the right to make private copies ("fair use") shall exist also in the future. It also states that DRM-systems will be important to uphold intellectual property rights in the future, but that such systems should not violate privacy or consumer rights. It also states that shifts in the competition in the market for playback equipment should be watched and handled by The Norwegian Competition Authority. Even though the committee's recommendations regarding privacy, consumer rights and competition are general, and it's unclear how they will be upheld, it's gratifying that these issues were in fact addressed. Only the future can show how it all will work in practice.

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About the author: Christine Hafskjold works as a project manager with The Norwegian Board of Technology. Her main focus is projects related to ICTs, such as *Software policy*, *ICTs and privacy*, and *eGovernment*. Previous to her engagement with the NBT, Hafskjold has 10 years experience in IT consulting, both as a Project Manager and Systems Architect.

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Podcasting-profit-possibilities. Will DRM invade the scene?

By: Nicole Dufft, Berlecon Research, Berlin Germany

Abstract: Podcasting is one of the latest hypes in media publishing. Podcasts were originally produced and published for free by private radio aficionados. But with the growing popularity of this new media format, podcasts are increasingly becoming of interest to commercial media companies. A number of yet unresolved copyright and licensing issues are, however, limiting the potential of this digital format. This article takes a look at these issues, at potential business models and at the possible future role of DRM.

Keywords: market analysis – business models, DRMS, licenses, podcasting, radio

Introduction

"On-demand" is a concept that is now also available for radio: Podcasts are radio programs in digital audio format (MP3, AAC) that can be downloaded from the Internet and synchronised with any MP3 player (not only with Apple's iPod as the name would suggest). They are distributed via the Internet exclusively, in contrast to traditional broadcasts. What makes this new concept of radio programs very appealing is that podcasts can be subscribed to over RSS-feeds (Rich Site Syndication, an XML-based summary of a webpage). This means that each new radio show is automatically downloaded to the PC and synchronized with the portable player and can be consumed whenever and wherever you want.

The production of a podcast is almost as easy as subscribing to it and requires not much more than a PC and a microphone. Many podcasts are, therefore, produced by amateur broadcasters and cover everything one can imagine from weekly reviews of books or movies, over daily English lessons, to morning and evening prayers ("Praystation Portable", "Godcast"). Podcasts are the audio equivalent to weblogs and are – as weblogs – a tool for narrowcasting as opposed to broadcasting (narrowcasting is the use of media to reach a specific audience).

The popularity of podcasts has lately been boosted by Apple's new iTunes version 4.9, which now supports podcasts. (While there are also videocasts, they are not the focus of this article.)

First steps from niche to mainstream?

A growing number of public and private broadcasters, e.g. BBC, Disney or Newsweek, as well as a variety of companies are experimenting with the new medium. So far, most podcasts are freely available on the Internet and do not contain commercials or advertisements. This could change, however, with the growing popularity of podcasts. The research company Forrester expects that by 2010 12.3 million US households will listen to podcasts (Forrester Research 2005).

Apple's support of podcasts in its latest version of the iTunes software can be regarded as a first step from niche to mainstream. Within the first two days after release, iTunes-clients subscribed to more than one million podcasts. iTunes allows customers to search for podcasts in a directory of more than 3,000 shows and to easily subscribe and synchronize them.

Copyright licensing schemes need to catch up with podcasting technology

The main factor that is currently limiting the potential uptake of podcasting is copyright. Most podcasts are limited to talk-radio today, because copyright legislation and existing licensing schemes do not appropriately cover music podcasts. "Indeed, copyright law has yet to catch up with the technology of podcasting" (Didden 2005).

The problem is that a music podcast does not only involve the public performance and broadcast of musical works, it also involves the playing and possibly the reproduction of a sound recording, since podcasts are downloads and single songs could be ex-

tracted from them. While public performances of works are handled by the performance rights organisations like GEMA in Germany, PRS in the UK or SACEM in France, artists or their labels have the right over sound recordings. Playing music in a podcast, therefore, requires the approval of a collecting society as well as of the artist or its label. However, neither the collecting societies, nor the major record labels have developed common licensing schemes for podcasting yet.

While in the US, the collecting societies ASCAP and BMI have claimed the rights to performance royalties arising from podcasts, the German GEMA, for example has no concept for podcasting until now (Sixtus 2005).

Some artists and small record labels explicitly allow the use of their works in a podcast. Creative Commons (CC) offers an audio license that covers the use of musical works in non-commercial podcasts. The open music record label Magnatune, for example, licenses albums with a CC license for podcasts. Customers that want to buy the music can pick the price, starting at $5 (Buckman 2005).

Podcasts that feature music without the approval of artists or labels risk being sued by the music industry. So far, podcasting hasn't been popular enough to interest lawyers but this could well change soon.

New Business models for podcasts?

Copyright issues might become especially relevant if podcasting moves from home-made, not-for-profit, to commercial. With podcasting gaining so much popularity, we can expect that podcasts will be commercialized. Possibilities to make profit with podcasting are podcasts as a marketing tool, sponsoring and advertisements, or paid subscriptions.

One of the first companies that wants to help podcasters make money is BoKu Communications, founded by one of the inventors of podcasting, Adam Curry. BoKu produces successful podcasts and sees itself as a leader in commercializing the podcast movement through marketing, advertising, commerce and other vehicles. BoKu claims that "Pod-

casting is the ultimate narrowcast environment. Podcast listeners are early adopters. Podcast producers are early influencers." which makes podcasts an ideal tool for marketers. Podcast listeners represent an attractive demographic of early adopters that are young and technically savvy (Rubel 2004) and podcasts often target a very narrowly defined interest group.

Marketing
Podcasts are already used as a tool for marketing and to improve customer relationship. Large broadcasters such as BBC or ABC news surely have their customers in mind when offering own podcasts. Another example is Virgin Atlantic that offers podcast-travel guides as a customer-relationship-tool. In the US, politicians like *John Edwards* and *Arnold Schwarzenegger* have been using podcasts during election campaigns.

But podcasts can also be used to promote content, especially music. They are a promising way for unknown musicians to gain exposure. The BMI, for example, is offering its own podcast "See it Hear First" to promote newcomer artists. In another case, a Scottish music fan used his podcast to expose the world to tartan rock (BBC News). Podcasts can provide more information about the artist and direct interested listeners to an online music store, where the featured tracks can be purchased. For music labels podcasts could become another viable distribution channel – on the condition that licensing problems can be solved (see below).

Sponsoring / Advertisements
Podcasts can also be used for advertisement by inserting audio spots in the podcasts. This, however, diminishes the attractiveness of podcasts to their users, since commercial-free radio shows are seen as a major advantage of podcasting over traditional broadcasting.

Another possibility is sponsorship, where companies underwrite an entire podcast. Condom manufacturer Durex, for example, became one of the medium's first advertisers paying for product placement on the "Dawn and Drew Show", a very popular podcast where a couple talks about their private sex life. The ads are not typical radio "spots" – Durex is paying the show's producers to talk

about the condoms as part of the show's content.

Paid subscriptions

While so far most podcasts are offered for free, very popular shows and premium content could charge subscription fees in the future. However, one has to keep in mind that few media giants have been able to sell enough subscriptions to their web-based content to be anywhere close to profitable (Knowledge@Wharton 2005).

In addition, when podcasts are offered for money, the question arises, how the illegitimate distribution of these audio files could be prevented – and here the question of copy-protection and DRM comes into play.

DRM-protected podcasts?

DRM and copy-protection could become relevant for podcasting in two respects: First, if a business model for paid podcasts should emerge, the distribution of the audio files needs to be controlled. Second, if podcasts are to feature music, DRM-issues arise. Generally, many labels will most probably reject licensing their music for podcasts if it is not DRM-protected, since single songs could be extracted. And, commercial podcasts cannot use CC-licensed music, since the CC audio license is limited to non-commercial use.

We could imagine commercial, DRM-protected podcasts where DRM limits, for example, the number of plays and prevents the extraction of single songs. This would, on the one hand, make it easier for labels to license their music for podcasts, and on the other hand, not annoy consumers too much, since podcasts are not likely to be played many times and/or on different devices. It is rather the time-shifting feature and the automatic subscription that makes podcasts so attractive.

However, the prime problem of DRM technology today would strike here: lacking interoperability. One factor that makes podcasts so popular is the easy use of the MP3 format that is supported by a large variety of devices. Consumers will hardly accept DRM-protected podcasts that impair user experience – in particular if a parallel universe of free, unprotected podcasts exists.

Bottom line

Podcasting is one more step toward the disintermediation of media and is increasing diversity and customer choice. The format has already shifted from a pure amateur movement to being used as a marketing tool. It is still an open question, though, whether viable business models can be developed for paid podcasts. If podcasts are to incorporate music on a large scale, some use of DRM would be needed to make podcast licensing acceptable to music labels. As long as DRM systems are not interoperable and restrict user experience, however, DRM will be a no-go for podcast fans.

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About the author: Nicole Dufft is a senior analyst at Berlecon Research. She has been analysing a variety of ICT topics ranging from mobile computing and application service providing to DRM. Currently, she works in the field "digital consumer". She is a member of the INDICARE project team.

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eBooks - The stony road to success and the role of DRM

By: Philipp Bohn, Berlecon Research, Berlin, Germany

Abstract: eBooks have already been dragged through their first hype cycle. Then, matters cooled off again. This was primarily due to highly expensive reading devices and a limited range of books on offer. This article takes a look at the technology infrastructure and digital rights in the e-publishing environment and introduces the reader to innovative business models based on DRM, but also concepts that work without protection.

Keywords: market analysis – business models, consumer expectations, eBooks, usage rights

Waiting for a miracle

eBooks may become really popular once affordable devices are introduced to the market and extensive libraries, including all the current bestsellers, are available for download. The introduction of the latest Harry Potter novel serves as a good example for the reservation of publishers and authors towards entering the eBook market (Rowling 2005).

The issue of eBooks has lately re-entered the spotlight of attention with the introduction of Sony's Librié. Since reader hardware made by Franklin, RCA, or Gemstar is no longer being distributed, the Librié is the first newly developed device to have entered the market for years. Its display closely resembles that of a real book. It can hold 10 MB of digital content, and costs ¥41,790 (about 320€ at Amazon Japan) (Lewis 2005).

DRM infrastructure

There is some confusion concerning the term *eBook*. We distinguish eBook content, eBook reader hardware and eBook reader software (cf. figure 1 next page).

If the reading hardware is *dedicated*, it is developed for the convenient consumption of eBooks. Regarding weight and readability, they try to emulate the experience of a real book.

Integrated reading hardware offers the technical capability to process eBooks. But in contrast to dedicated hardware, its use is not limited to reading. Personal Digital Assistants (PDAs), desktop computers, Tablet PCs and laptops can be used for reading eBooks. Mobile phones originally were not developed for reading, but technical advancement of screens, user interfaces, and memory continue to improve the potential of these devices for reading eBooks.

The capability of reading eBooks sometimes is even a *by-product* not intended by the manufacturer. This is for example the case with Nintendo's Game Boy or Apple's iPod. Featuring respectable screens, it is private developers who offer software to convert digital content into formats readable by these devices. The manufacturers do not support this, but do not hinder their development either.
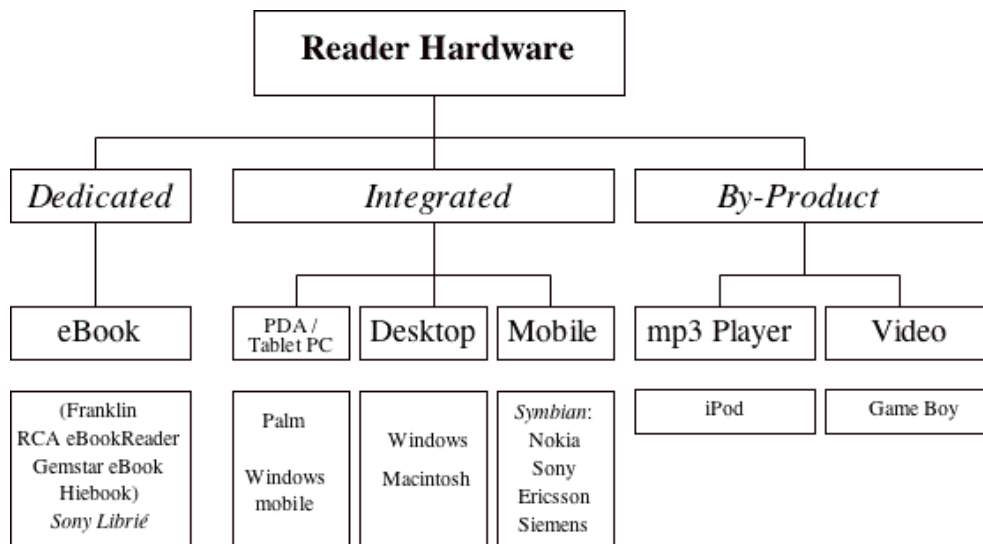
Figure 1: Digital devices capable of displaying eBooks

eBook reading software

Special software is required for reading eBooks. It comes pre-installed on a reading device or can be downloaded from the companies' websites. The basic version usually is free of charge. As each software format is linked to its own file format, there is no interoperability. For example, an eBook purchased in Mobipocket's file format cannot be read with Acrobat Reader (requiring pdf-files). Unfortunately, there is no single commercial reading device or software that can handle all the different file formats.

Acrobat Reader (Macintosh, Windows, Unix, Palm, Pocket PC, Symbian OS): Acrobat Reader's success rests heavily on the wide use of the pdf-format. The pdf-format is still without doubt the format of choice for desktop eBooks in many online bookstores. Nevertheless it is noteworthy that Adobe's Content Server DRM system has been discontinued as of November 2004. It has been replaced by the LiveCycle Policy Server solution. This move indicates that Adobe is abandoning DRM-solutions for publishers, concentrating on the enterprise documents market (Rosenblatt 2005).

eReader (Macintosh, Windows, Windows mobile, Palm): The eBook store of the same name has developed this software primarily to support their own file format. It also works with Palm's document format. In order to activate a commercial eBook, a special code is required. It is generated using the credit card number the customer has given to purchase the book.

Microsoft Reader (Windows, Tablet / Pocket PC): In order to read DRM-protected eBooks, the reading software needs to be activated via Microsoft's website. Using a single account, the consumer can activate up to six devices. There can be activation problems if the customer uses a new device and wants to read books purchased with older versions of the software (Rothman 2003). Quoting a major publishing company's representative, they do not support this software, because "it is not even supported by Microsoft themselves".

Mobipocket (availability: Macintosh, Windows, PalmOS, Psion, Symbian OS): The French company Mobipocket has developed the software primarily for PDAs. Upgrading the free basic software allows the user to define usage rights for non-commercial use. Commercial publishers use Mobipocket's eBookbase to protect and distribute digital content. A wide range of international retailers and platforms supports this software.

Of the major eBook distributors in Germany (Amazon, bol, ciando, libri, pdassi), three support Acrobat Reader, one supports eReader and Mobipocket respectively. In the desktop environment, Acrobat Reader is the common standard, while the decision is still open in the portable environment.

Usage rights and their influence on eBooks' success

Primarily, usage rights that are controlled by the DRM system comprise: Print content, add notes, copy / paste, period of usage, extract or add single pages and authentication of reading hardware and software. Problems arise mostly with the period of usage and authentication. The authentication scheme sometimes requires a code composed partly of the customers´ credit card number. Consumers may feel rather reluctant to accept this policy.

Sony's Librié, which is without doubt technologically very sophisticated, is an example of how great platforms and the advantages of digital content can become almost useless for the consumer through DRM. Apart from featuring a price not suitable for mass marketing, only eBooks protected by Sony's proprietary Open MG DRM technology are available at the dedicated download store. There is a selection of a mere 200 volumes to date.

The files are set to expire after two months upon authentication. So the consumer is forced to read the book within that period of time. Given Librié's price tag, it seems unlikely that consumers will accept this (Lytle 2004). The company has reacted to the format problems, allowing for conversion of pdf-files into the Sony's proprietary BBeB-format (cf. Dynamism.com)

Applying DRM to the consumer's benefit

Once the technical issues described are resolved, existing online retail business models can be enhanced using DRM. And there are business models that can only work with the help of DRM. Also, substantial differences exist based on whether a book is used for entertainment (e.g. novels), education (textbooks, encyclopedias) or orientation (travel guides).

Term-lease: While limited usage rights (e.g. expiry after two months) are hardly tolerable with novels, they can make sense in the educational environment. In case a student needs to buy a book for a course at university, its expiry after a predefined period of time might not be a problem. After all, upon suc-

cessfully passing an exam, the textbook is hardly needed much longer, or becomes outdated. Thus, stricter usage rights along with a reduction in price can be in the mutual interest of both parties.

Course-packs: If the consumer opts for longer use, updates can be delivered digitally upon publication. Also, the customer can buy content chapter-wise, which would be impossible with traditional books. Publishers could sell "course packs" existing of individual chapters, articles and multimedia content (Vaknin 2005).

In Asian countries such as Japan or South Korea, there are providers offering eBooks on a subscription basis: Japanese publisher *Shinchosha* delivers serialized novels daily throughout the workweek to consumers´ mobile phones in chunks of 1,000 to 1,200 characters at a price of about ¥100 (0,75 €) per month. After a short time, they cannot be accessed any more. Yet, due to technically sophisticated screens and longer commutes, this services is starting to become widely accepted (Fitzpatrick 2004).

DRM and the interplay with the operating system

Digital media can also be of great benefit for referential and encyclopedic use. In Germany, the popular *Duden* and *Brockhaus* – the leading multi-volume dictionary and encyclopedia – are available for desktop computers and PDAs.

On the upside, consumers carry with them large amounts of knowledge and easily access them even on mobile devices. Also, there is a steep reduction in price, because of the much lower production cost for reference works of such large volume. It is also easier to access single entries. Volumes can be updated on a regular basis.

But there can be problems concerning the interplay of the DRM and operating systems involved. To give an example concerning the Brockhaus Encyclopedia: If customers update Windows XP using service pack 2, the DRM system is blocked and the program cannot be executed any more, due to downward compatibility problems. In order to fix this problem, Brockhaus offers a lengthy

"how-to" guide. A patch must be downloaded and installed on the computer. While this is still a nuisance to the tech-savvy user, it can be prohibitively disadvantageous for the average customer.

Existing DRM systems are not suitable for every product

Gate5 offers navigational applications that can be integrated with guides to major German cities. Partners with experience in the publishing of travel literature provide the content. Supported devices are Symbian Series 60 and 80 mobile phones, MS Windows Mobile Smartphones, Pocket PC and the Palm PDA. The company has developed a proprietary DRM system, as existing solutions are not capable of securely delivering products that are bundles of diverging formats like text, video and pictures.

Doing without DRM

Independent publishers such as *Baen Books* rely on mutual trust and the quality of their content rather than active DRM. Baen's books are released without any DRM protection and are often made accessible as free downloads for promotional purposes. Readers buy an actual book in case they liked the free digital version. For independent publishers, wide exposure of their content is a prime promotional tool.

There are also individual works published under a Creative Commons license. Examples are the science-fiction novels by Canadian author Cory Doctorov. While everyone is free to download them from his personal website, they are also on sale at major digital retail outlets and actual bookstores (Cf. Sources). The underlying idea is that the best promotion for a book is itself.

Conclusion

DRM holds opportunities and threats for the popularity of eBooks. There are technical issues to be resolved, e.g. concerning software and operating system updates and downward compatibility. Necessary updates should be more concerted with content providers and developers of DRM technologies.

DRM can hold benefits for both publishers and consumers. There is great promise if it is able to provide flexibility for the various forms of eBooks. Expiry could be set according to customers' needs, resulting in greater demand for more flexible products coming with a lower price. Due to similar experiences in the "real" world (e.g. lending books, subscribing to magazines), consumers are more likely to accept DRM limiting usage rights. Content that could hardly be distributed before – such as serialized novels – may become real business due to digital distribution.

Bottom line

Until basic problems – interoperability, support of different eBook formats and their DRM systems, affordability and choice of eBook reading hardware – are resolved, the breakthrough of eBooks will be further delayed. But there are some business models that would make DRM acceptable for consumers.

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About the author: After having graduated from University of Mannheim (Business Administration), Philipp Bohn has joined Berlecon Research as Junior Analyst. He is a member of the INIDICARE team. Contact: pb@berlecon.de

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TIRAMISU: That's unobtrusive DRM in the home domain

By: Boštjan Marušič, University of Ljubljana, Ljubljana, Slovenia; Philippe de Cuetos, ENST, Paris, France; Laurent Piron, Nagravision, Lausanne, Switzerland; Zvi Lifshitz, Optibase, Herzlia, Israel.

Abstract: Media delivery over heterogeneous networks requires both flexible representation and robust protection of content. This article provides details on the framework for audiovisual content creation, delivery, consumption and protection as conceived within the European Union's IST project TIRAMISU (The Innovative Rights and Access Management Interplatform SolUtion). The proposed framework supports multi-media, multi-channel distribution, consumption on multiple devices in home domains, and allows for super-distribution. The Digital Rights Management (DRM) scheme claims to be unobtrusive.

The context of the TIRAMISU framework

Convergence of digital media distribution channels and content representation formats has the potential to provide significant benefits to content owners and users alike by changing traditional content distribution and consumption patterns. Content that has initially been delivered over digital broadcasts can be further distributed over the Internet or through pervasive peer-to-peer (P2P) networks and consumed on a variety of consumption devices. Content providers are rapidly gaining awareness of the importance of multi-channel delivery of content, by which a potentially larger customer base can be targeted (Lauchlan 2001). At the current stage, content providers address each delivery channel independently of others by preparing content in a way that is specific for that channel. Protection methods that enforce consumption policies are also targeting specific requirements of a distribution channel. Opposed to this approach, multi-channel delivery allows preparing content for some display characteristics and content can be obtained either on, for example an IP network or a removable device. At consumption, if necessary, adaptation of content can be done. While multi-channel delivery has the potential to increase the owner's revenue streams, content owners are becoming increasingly concerned in view of the innumerable possibilities for illegal consumption and distribution, P2P networks being the most highlighted threat.

Integration of DRM technology with alternative distribution channels such as P2P networks may provide the solution for crossing the fine line between embracing functionalities that users want and at the same time maintaining control over Intellectual Property Rights (IPR). A simplified DRM system (Figure 1) relies on media scrambling for protection. The privilege to consume protected content is granted to the end-user by a license, which specifies usage terms and conditions and includes the key(s) needed for content descrambling. The process of transferring scrambling keys between the content scrambling node and the rendering node is denoted by the term *key management*.
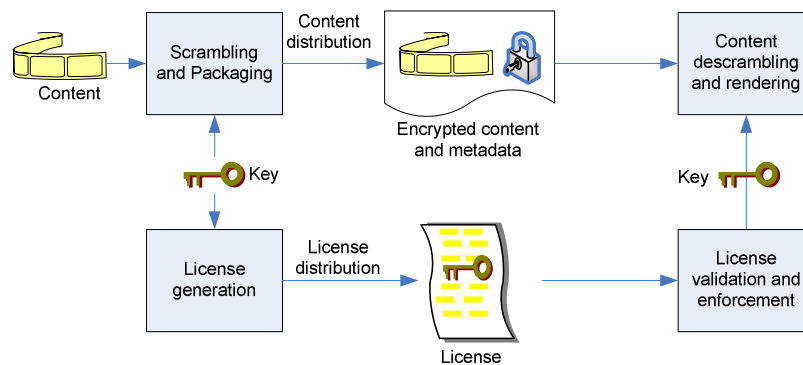
Figure 1: Architecture of a generic DRM system.

Integration of media distribution and DRM is key to implementing content super-distribution. Super-distribution is an online retailing scheme that encourages free and widespread distribution of digital objects that can only be consumed under a restricted set of circumstances. Super-distribution is a distribution scheme where consumers are involved in the process of C2C (consumer to consumer) distribution of content initially acquired through B2C (business to consumer) distribution channels. For IPR protection reasons, content must be super-distributed in scrambled form. This implies the need for a DRM system that provides the means to acquire consumption rights and descrambling keys on one hand and enforcement of those rights on the other.

MPEG-21, which is the last in the series (MPEG-1,-2,-4,-7) of MPEG standards (cf. Burnett et al. 2003; Bormans and Hill 2002; Bormans et al. 2003) defines a normative open framework for interoperable multimedia delivery and consumption that is based on two essential concepts: the definition of a fundamental unit of distribution and transaction (the Digital Item - DI), and the concept of users interacting with DIs. A DI is a structured digital object with resources, unique identification and metadata, where the structure of the DI implies relationships among parts of the DI, i.e. the resources and metadata.

The TIRAMISU approach

The framework proposed by TIRAMISU is based on the MPEG-21 standard for multimedia content delivery and consumption and at the same time it complements it in several

aspects, most notably by fully specifying a Digital Rights Management (DRM) scheme. Central to the described framework is a novel Key Management System (KMS), relying on smartcards, which addresses many issues that previously blocked wider adoption of DRM: obtrusiveness of the DRM technology perceived by the end user, flexibility in license formulation and adequate level of trust as requested by content owners. The TIRAMISU framework intrinsically supports the concept of super-distribution.

The central objective of the TIRAMISU project is to create an environment, in which content providers can deliver content to users over multiple distribution mechanisms to a variety of consumption devices, with confidence that imposed usage policies will be respected. At the same time TIRAMISU balances between insuring proper compensation to Intellectual Property (IP) owners and reasonable user expectations. *TIRAMISU approaches this by motivating content distribution policies that do not imply restrictions on further content proliferation (P2P networks, for example), but stipulate compensation for content consumption only*. TIRAMISU is consequently a super-distribution framework. Such philosophy is based on the conviction that doing so within the context of interoperable DRM systems, content will reach a larger number of potential customers to the benefit of providers and consumers. In this respect the TIRAMISU approach clearly contrasts the philosophy of established content protection policies that rely on copy-protection and forward-lock mechanisms to prevent C2C distribution.

A major requirement to be addressed when dealing with multi-channel delivery is interoperability both in terms of content representation and DRM. Within TIRAMISU this is addressed by relying on open standards (MPEG-4, MPEG-21 and ISMA – International Streaming Media Alliance). Content is abstracted as a Digital Item (DI) and in this form traverses diverse delivery channels and is consumable on a variety of devices. Since convergence to a single set of standards is unlikely, TIRAMISU also explores how bridging between delivery channels and DRM systems can be achieved.

Home domain, networked devices
Central to the TIRAMISU framework is the concept of home domains, in which content may circulate between different devices, e.g. from the living room hi-fi system to the car
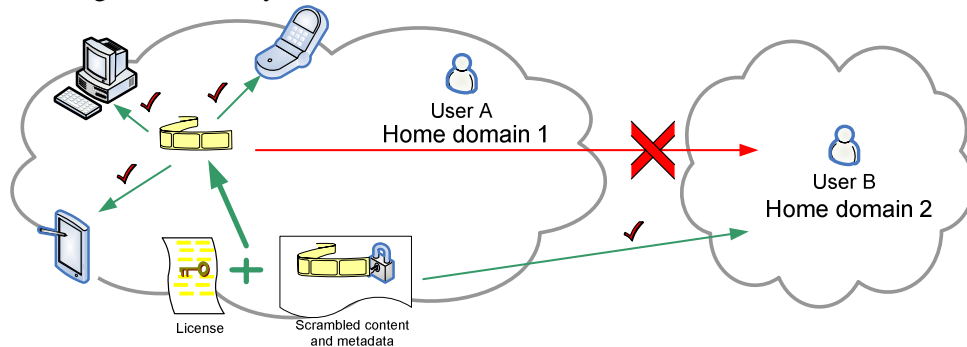
stereo, to the MP3 player. Content usage policy enforcement at the end-user side is left to hardware in form of smartcards. Smartcards also provide the link between the user and the home domain concept. The TIRAMISU user may own several smartcards that are registered to a particular home domain and can be used on any compliant device.

Conceptually the set of devices belonging to a user or a group, for example a family, forms a personal space where content may circulate. This concept implies that content rights purchased for a piece of content are persistent over all devices of the home domain. Eventually, from the content consumption perspective there is no difference whether the user owns one or several devices (Figure 2).

Figure 2: The concept of home domain

Technically the concept of home domain opens several issues due to the fact that rights pertaining to a DI are not bound to a single device or to a single smartcard. Consequently a mechanism for guaranteeing that the same set of rights is persistent on all devices of the home domain is necessary. Additionally, content must be adapted to fit the diverse rendering capabilities of each consumption device.

While smartcards can guarantee that a descrambling key is provided only when a right exists, the device that is using this key is also an important part of the system. Some rules are necessary in order to make this device compliant with TIRAMISU. Depending on its capabilities, these rules can be more or less restrictive. The extreme case is for a device allowing to trans-code content, as in this case it manipulates clear content. The

framework could be extended to include some revocation rules for devices.

TIRAMISU architecture extends beyond other initiatives and their definition of the home domain concept by providing wider support for redistribution of content through super-distribution independent of the distribution channel, where the actual C2C distribution is conceptually distribution of content from one home domain to another.

TIRAMISU framework architecture
Figure 3 provides a block diagram of the TIRAMISU framework architecture with the basic content flows through the system. The TIRAMISU architecture is based on the principles that content in the framework is represented as an MPEG-21 DI. The architecture in Figure 3 identifies the five main entities in the system each with a specific role: the content author, the content owner, the content

distributor, the license distributor and the end-user or content consumer. The content author is the entity that authors the media resources and transfers its IPR over to the content owner. The content owner is responsible for specifying the consumption terms and conditions and selects target distribution mechanisms over which the DI will be distributed. With a particular license termed sharing license, the content owner delegates the process of license distribution to a selected license distributor, which is responsible for issuing domain licenses to end-users. Eventually, the content distributor delivers DI comprising the resource suitable for a target usage environment to the end-user.
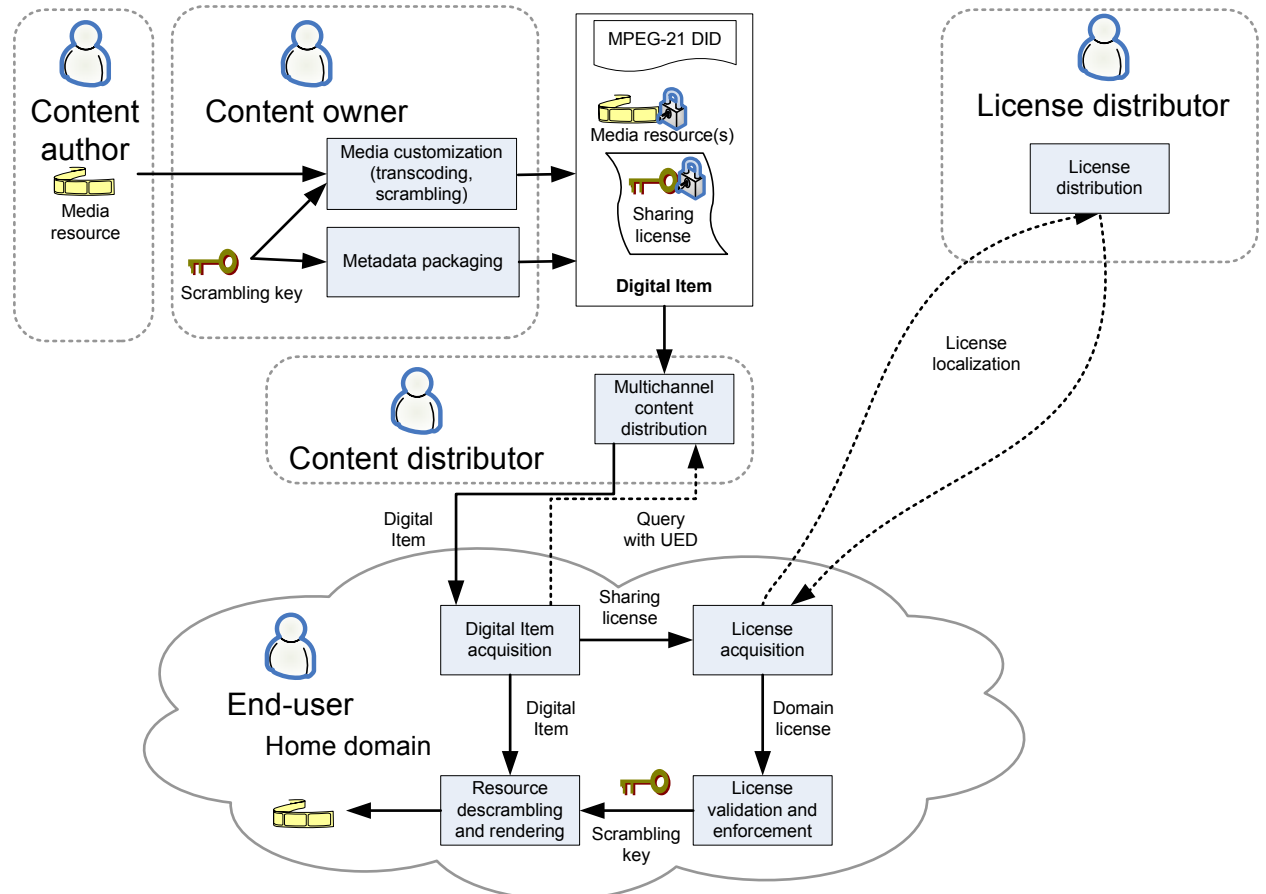

Figure 3: TIRAMISU architecture.

TIRAMISU features and properties

Smartcards and home domain management
A home domain is a group of devices that feature the same set of rights in terms of content consumption. In TIRAMISU the process of license enforcement is delegated to smartcards. All smartcards belonging to a particular home domain share a cryptographic secret that is essential to enforce consumption licenses. Before a smartcard becomes usable in the context of a home domain it must be registered with the home domain manager. All smartcards registered to the same domain and consequently sharing the same cryptographic secret are able to enforce licenses issued to their domain. In other words if a license was bought using one smartcard, the associated DI can be consumed on all other devices with a smartcard belonging to the same home domain.

Super-distribution between home domains
Once the end-user has obtained the domain license, he has the right to consume the associated DI on all devices belonging to his home domain as the smartcards of the home domain can access the descrambling key from the domain license. Additionally, the DI can freely be super-distributed to other home domains, as the descrambling key embedded in the domain license that is issued for a par-

ticular home domain can not be read by a smartcard which does not belong to that domain.

The importance of smartcards
Smartcards represent a secure element in an insecure environment. Smartcards in home domains provide a secure repository for home domain secrets and are the elements that enforce the domain license by validating it before providing the content descrambling key to the rendering device. Compared to software-based solutions, the smartcard being a hardware device is more difficult to compromise and it thus offers an increased level of security.

User anonymity
The TIRAMISU KMS may under certain circumstances guarantee complete end-user anonymity and privacy. Domain licenses are issued to home domains not end-users. The end-user only needs to expose his identity to enable billing related to license acquisition. However, in cases when smartcards also serve as a mechanism for payment (pre-paid smartcards), the end-user anonymity and privacy can be guaranteed.

Is TIRAMISU the next hot technology?

DRM frameworks, such as Windows Media and iTunes, already exist, with a certain degree of success. They have not swept the media world because they are based on proprietary technology that targets closed systems. The success of the TIRAMISU concept depends on its acceptance as a worldwide open international standard. There are several key factors that might accelerate or block such acceptance, namely:

Acceptance by content providers. This is probably the biggest hurdle. The movie industry does not have a good record of adapting to new technology. Back in the 1980s, the movie industry faced a new technology that supposedly threatened its bottom line – the VCR. The threat looked so alarming, that Jack Valenti, the long time head of the Motion Picture Association of America (MPAA), compared the VCR to no less than the Boston Strangler, and the MPAA took the battle against Betamax to the US Supreme Court.

Fortunately for everybody involved, the MPAA lost the battle. The Supreme Court accepted the right of fair-use coping, and ruled against the movie industry. We all know what happened to the VCR: not long after that defeat, the studios discovered that tape rentals were even more of a cash cow than movie tickets. We are probably in the same situation now. The movie industry is already resorting to legal actions against the new technology. Hopefully legal systems will learn the lesson quicker than the industry and will refuse to cooperate with its strategy, leaving it no choice but to embrace technology instead of fighting it.

Acceptance by consumers. Assuming the pervasiveness and ease of illegal file sharing, it initially seems difficult to expect that the consumers, being used to cost-free media consumption, will be motivated to revert to a paying system. However a deeper analysis of the situation reveals that cost is not a major factor. If the cost is right, and the protection measures are unobtrusive, an atmosphere of legal business will be created and most consumers will be happy to be part of it. Just like people are happy to tip for a service or voluntarily deposit the cost of the evening newspaper in the open box.

Acceptance by media distribution industry. The move from B2C to C2C means less business for the Businesses, which are expected to battle such a move. Eventually they will need to accept market reality and adapt their business accordingly. The businesses which display the flexibility to adopt new technologies for inventing new business models based on service aggregation will prevail, just like the emergence of tape rental shops didn't obliterate the movie theatres.

Emergence of a single standard. This is a key factor in accelerating the acceptance of the three market segments referred to above. TIRAMISU tries to show the way by picking from existing standards, but the same concept can be realised with a different set or variations of standards. This will not be regarded as a failure since the importance of the framework is in its concept rather than the implementation details.

Worldwide embrace of smartcard technology. This actually has already happened. Smartcards are already embedded in cellular phones, which are rapidly evolving into integrated media players. Many PCs already shipped equipped with smartcard readers. The ease and cost of incorporating smartcards in every media consumer device is minimal.

Tamperproof technology. One may claim that in order for a DRM system to succeed it has to prove to be tamperproof, and since such a proof has to persist over time, the adoption of the technology must be delayed. However the state of the market demonstrates that immunity of systems to bypassing is not a major issue. Consumption is not a zero-sum game. As with the VCR, legal and profitable business continues to thrive despite fraudulence. In many cases the fraudulence helps the promotion of the profitable business. There is little doubt that unobtrusive DRM can sweep the market.

Bottom line

The end-to-end framework for content creation, delivery and protection as conceived within the IST-TIRAMISU project is independent of the distribution channel. It is based on open standards such as MPEG-21 and ISMA and provides full support for super-distribution. The increased security of the framework is a consequence of the application of smartcards for the manipulation of sensitive data. From the consumer's point of view, the TIRAMISU framework provides several features rendering the DRM system unobtrusive.

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About the authors

Dr. Boštjan Marušič is a full-time researcher at the Laboratory for digital signal processing of the University of Ljubljana. His research interests include wavelet image and video coding, telecommunication systems and networks, Internet. Contact: bostjan.marusic@fe.uni-lj.si

Philippe de Cuetos is a research scientist who is designing and implementing innovative services for multimedia content management. He holds a PhD from ENST and has recently joined Expway. Contact: philippe.de-cuetos@expway.com

Laurent Piron works at Nagravision. His main focus is on mobile television. He has 10 years experience in video compression and conditional access on TV systems. Contact: Laurent.Piron@nagra.com

Zvi Lifshitz is a senior software architect in Optibase. He is a major contributor and the representor of Israel at the ISO's MPEG committee, where he has led the IM1 Software Platform group and now participant in MPEG-21 and MPEG-A workgroups. Contact: zvil@zvil.com

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ODRL Workshop 2005 Report

By Program Chairs: Dr. Susanne Guth, O$_2$ Germany, Munich, Germany and Dr. Renato Iannella, NICTA, Brisbane, Australia and Carlos Serrão, ISCTE and Adetti, Portugal

Abstract: This article is a report by the chairpersons of the second international ODRL Workshop 2005, held in Lisbon, Portugal on 7.-8. July 2005. It highlights topics which presumably will interest INDICARE Monitor readers most. Nevertheless, all keynote talks, invited talks, paper sessions, and the open panel are covered. The last paragraph gives a résumé of the last year's activity and future work of the ODRL initiative.

Keywords: conference report - Creative Commons, identity management, interoperability, mobile DRM, ODRL, Rights Expression Language, software patents, trusted computing

Introduction

Rights expression languages provide a metadata framework for the expression of rights for any kind of digital media content. ODRL, the Open Digital Rights Language, an XML-based rights expression language (REL) is hosted by the *ODRL Initiative*. The Initiative has gained international significance in the field of digital rights management (DRM) over the past years, culminating in ODRL being adopted as an international standard by the Open Mobile Alliance for supporting the process of mobile content distribution and management.

In order to bring together the research and industry communities to share experiences and discuss the future developments of the ODRL language the ODRL Initiative organises workshops. The first International ODRL Workshop was held in Vienna, Austria in April 2004. This year's international ODRL Workshop 2005 took place in Lisbon, Portugal from 7th to 8th of July 2005. The present report highlights topics which presumably will interest INDICARE Monitor readers most. A comprehensive report about the workshop is available at the ODRL website (http://odrl.net/workshop2005/).

Keynote talks

Identity and content rights
Simon Nicholson, Director, Wireless Business Strategy & Development, Sun Microsystems

When *Simon Nicholson*, supporter of the Liberty Alliance (a consortium of 150 members throughout the IT and communications industry) looks years ahead he does not see himself carrying around several devices, such as a phone, a PDA, or a blackberry; nor will he possess several keys, several credit cards, or other identity cards. He will have one tiny device that authenticates him as he moves "through space". It will open his front door, receive all incoming calls and e-mails, grant access to his company's premises and withdraw money from his bank account. Simon Nicholson brings it to the point: In the future, all that matters in identification. Services will be bound to an identity rather than to a specific device, such as an iPod or a mobile phone.

According to Nicholson, the combination of *value*, *trust*, and *privacy* will determine future digital services. Trust is the key driver of the online model and identity management is the key enabler for trust. Identity management requires interoperability but also helps to remove single points of failure. To enable identity management the Liberty Alliance has developed a technical architecture and the Identity Service Interface Specification. Specifications need implementation and testing and that's what is currently on the way with e.g. OMA members.

Where does that all connect to ODRL? First of all, ODRL needs to support the integration of the Liberty identification schemes in the language with regard to meta data and data models. Second, ODRL needs the expressiveness for different levels of privacy to be

"Liberty compliant". For example, content that defines me, such as credit card details and health records need a higher level of protection than maybe contact details on my phone. The two initiatives will keep on working closely together on this topic.

OMA DRM 2.0 status and future work
Jan von der Meer, OMA DRM WG Leader & Philips Electronics

The route from OMA 1.0 to OMA 2.0 was presented in The INDICARE Monitor in August last year (Buhse 2004). The present status was reported at the ODRL Workshop. The Open Mobile Alliance (OMA) currently has about 200 members. Version 1.0 of the OMA standard is targeted at light media and offers lightweight DRM. Currently, over 250 handsets models are on the market with OMA DRM Version 1.0 support. The rights objects that are used for the separate delivery mechanism are expressed in ODRL.

OMA DRM Version 2.0 is a much more comprehensive and complex DRM for premium media. It supports additional concepts, like domains and additional security concepts, such as a public key infrastructure regulated by the independent Content Management License Administrator (CM-LA). The next DRM (interoperability) test fest is to be held in September in Seoul to move the specification forward to "enabler release" status. However, the DRM WG Leader, Jan van der Meer did not reveal any detailed schedule for when OMA DRM Version 2.0 will be approved or if further test fests are planned.

OMA DRM Version 2.0 is not restricted to mobile communications but supports the convergence between the mobile world and PCs. This might explain the positive market forecasts by CoreMedia foreseeing that in 2007, 60 % of the globally protected content will use OMA DRM and that mobile content revenues will have increased to almost US $ 30 billion pa. On the OMA roadmap are DRM extensions for e.g. broadcast (TV), support of removable media (technology that goes beyond domains), and more OMA (desktop) clients for various platforms.

DRM coordination work on IST FP6 NAVSHP projects
Miguel Dias, Adetti President, Portugal

The European Union, aiming at taking European Research and Development a step forward, organises co-ordination meetings among the different 6th-Framework-Program (FP6) R&D areas and projects. In the area of Networked Audio Visual Systems and Home Platforms (NAVSHP), four different co-ordination groups have been established:

► CG1 - Digital Rights Management,

► CG2 - Quality of Service in a Convergent Environment,

► CG3 - In-Home Networks and Platforms and

► CG4 - Content Media Processing.

Delegates from six FP6 Projects (Medianet, Enthrone, Tiramisu, Danae, Avista, and Visnet) enlarged by the FP5 Project ELIN (chaired by *Miguel Dias*) and participation from the European Broadcasting Union have joined efforts in the framework of Coordination Group 1 – CG1 – DRM (chaired by *Leonardo Chiariglione*). They work on a *DRM Requirements Report* that expresses the common view of NAVSHP on DRM and the requirements for future DRM technologies, systems and toolkits in the European audiovisual sector. The authors are planning to submit this report for consideration of other FP6 Priorities, so that it may achieve the status of a DRM Requirements Report for the complete FP6 programme.

Miguel Dias, chairman of the CG1 – DRM presented the coordination group and the current status of the Requirements document which has currently around 100 requirements (subdivided in business and market requirements, technological requirements and socio-economic requirements). He also announced that the group is currently receiving comments from several external sources (Intel, IFPI, MPAA, etc.) and has encouraged the ODRL Initiative to also contribute to the document.

Paper Sessions

Formalising ODRL Semantics using Web Ontologies
Roberto García, Rosa Gil, Isabel Gallego and Jaime Delgado

A new approach to interoperability between ODRL and MPEG-21 REL
Jaime Delgado, Jose Prados, Eva Rodríguez, University Pompeu Fabra

Translation from one rights expression language to another is an important topic. Anecdotal evidence is that CoreMedia has built an OMA plugin (ODRL based) for the Windows Media Player (MPEG REL based) (cf. CoreMedia 2005). The University Pompeu Fabra in Barcelona presented two contributions in this field.

In the first paper the need for a rights expression language ontology was discussed. With such ontologies, representing the generic namespace of rights expression languages, a common base could be created where different languages can be mapped onto and thus translated from one to another. The second contribution showed how a translation can be done from OMA DRM 1.0 and 2.0 ODRL profiles to MPEG REL with the help of XSLT processing.

A Review of the OMA DRM V2 ODRL Profile
Renato Iannella, NICTA, Australia

This paper presented a review of the OMA DRM Version 2.0 profile of the ODRL REL. It looked at the decisions made by the OMA DRM working group and offered alternative solutions. Some of the issues highlighted included the use of the inheritance model (for subscriptions) and the impact on recording the current state of time/count based constraints, and the effect of super-distribution on privacy without the explicit "tracked" requirement in the ODRL agreement. *Renato Iannella* concluded that the lessons learned are important for both the ODRL Initiative and for other groups developing profiles of the ODRL REL. In particular, he noted that OMA and the ODRL Initiative need to formalise their relationship to enable sharing of issues that are directly related to the ODRL profile.

Extending ODRL to Enable Bi-Directional Communication
Alapan Arnab, Andrew Hutchinson, University of Cape Town

The paper discussed an important issue in the field of rights expression languages: how to negotiate rights. The current versions of rights expression languages ODRL, XrML and MPEG REL stress the granting of rights from the rights holder to the user. This might be a reason why current rights expression language initiatives do not include the negotiation of rights.

Alapan Arnab showed a theoretical approach to how the negotiation aspect can be incorporated as part of a rights expression language. He stated that his proposed changes enable the end user to request changes to an offer or proactively request rights for a digital product. However, there has to be a clear distinction between the rights expression itself and the protocol for exchanging and negotiating rights expressions. Do the negotiation elements have to be part of the expression language? Clearly separating the requirements for a negotiation protocol and a REL that enables negotiation would be a valuable topic for future work in this field.

Using ODRL to express rights for different content usage scenarios
Carlos Serrao, Miguel Dias and Jaime Delgado, Adetti/ISCTE, Portugal and University Pompeu Fabra, Spain

Carlos Serrão provided a paper in which several ODRL usage examples are presented, stressing the fact that ODRL represents an opportunity to have rights expression richness, flexibility and at the same time openness. He addressed those characteristics in the ODRL language by providing examples of how ODRL is currently being used in several content usage scenarios, such as music download and streaming, video-surveillance data streaming and storage and remote sensing of JPEG2000 images.

This paper also makes a short reference to the OpenSDRM architecture, an open DRM system that uses ODRL as its rights expression language and providing an interoperable

rights enforcing layer. This layer acts as middleware to enforce the expressed rights over the content, through the provision of the Digital Wallet concept. The module which implements this concept is capable of accessing the rights locally or over the network, interpreting and enforcing them for the requesting content applications.

Embedding ODRL Statements in Dublin Core
Enric Peig and Jaime Delgado, University Pompeu Fabra, Spain

Enric Peig motivated the need for a human readable translation of rights expressions. He investigated the concrete usage of rights expressions within the Dublin Core metadata. He presented what a translation of rights expressions would look like and suggested a proper location for the translation within the Dublin Core metadata. For future work he envisaged a concrete approach to the automatic translation of ODRL rights expressions into a proper (English) sentence without losing important semantics.

Predicting the evolution of digital rights, digital objects and DRM languages
Jonathan Schull, Rochester Institute of Technology, USA

Jonathan Schull shared his long-standing knowledge about the evolution of digital goods, i.e. the virtualisation of the world and his visions for the future. He makes the very striking connection between the virtualisation of money and now, a few years later, the virtualisation of digital goods or information products.

From his experience of the early days of superdistribution and the observation how digital rights management technology has evolved, today he encourages distribution of content and copying of content rather than locking it in with strong security means, such as some of the current DRM technology. This approach keeps customers away from digital goods, Schull stated. He suggests to track superdistribution activities and to reward users who actively redistribute content, a concept that the OMA Version 2.0 specification already offers. He also sees the need to formulate rights that are valid downstream, i.e. rights that apply to the customer's customer. The ODRL Version 2.0 model allows for such downstream rights with the "Next Rights" concept and thus, it seems the technical means are available for a slightly different approach to DRM.

Invited talk

Plans, scope, and objectives of the GeoDRM WG within the Open Geospatial Consortium
Roland Wagner,University of Münster, Germany

The Open Geospatial Consortium (OGC) is a non-profit organisation with 250 members from the US, Europe, and Asia leading the development of standards for geospatial and location based services. The need for rights management in the geospatial sector results from the variety of information that is available for one location, e.g. information on infrastructure, industrial buildings, landscape, natural cover, etc. For future sophisticated location based services this information has to be brought together and at this point DRM is needed. The providers of the different types of geospatial information need a mechanism to protect and preserve their rights when their information is integrated.

The GeoDRM working group is part of the OGC. Its aim is to reuse digital rights technologies and to extend them to geospatial data handling and services. In the long run the group is aiming at integrating geospatial information automatically by interpreting DRM licenses reflecting the conditions of each geospatial information provider. In the development process of its specifications the GeoDRM working group will investigate ODRL as a REL candidate for the GeoDRM Reference Model and to formulate licenses for geospatial data.

Open panel

The impact of DRM Patents on REL Research and Standards
Susanne Guth, o2 Germany, Renato Iannella, NICTA, Australia

The authors of this article presented the view of the ODRL Initiative on the licence claims by MPEG LA with regard to rights expres-

sion languages. An article on this topic has been published in the INDICARE Monitor (Guth and Iannella 2005). It comprises a detailed analysis of the MPEG LA claims and highlights alternative views on the technical claims and prior art in the case of rights expression languages.

The negotiations between MPEG LA and e.g. the GSMA have not been settled yet. The GSM Association still regards the requested fees of 65c US $ per device and 25c US $ per user per year as not acceptable and not applicable for the mobile communications market. The only way to address the MPEG LA claim would be for each single patent to be technically investigated in detail for its applicability. Helpful in this procedure is the gathering of any prior art that is dated before the patent filing. Prior art must not necessarily be a published paper, but can be a citation, a picture, a slide, etc. If the reader knows of any early work in the field of rights expression languages, please write to the ODRL interest list.

Current and future work of the ODRL initiative

In the past year, the ODRL Initiative has established the ODRL International Advisory Board, which includes members from research and industry and guides the ODRL Initiative in long-term strategy and governs the ODRL policies and procedures.

Intensive work on the further development of the ODRL language model is currently being addressed. A comprehensive language requirements document has been published by the ODRL Version 2.0 working group. A first draft of the new Version 2.0 data model (cf. figure 1 page) has been released for discussion. After the final review, several encodings e.g. XML, RDF, are to follow. The ODRL Version 2.0 data model will meet future needs by having the expressiveness for multi-sided contracts comprising rights *and* duties, barters, service level agreements

(SLAs), downstream (next) rights, tickets, reuse of existing, related standards etc., and at the same time being simple and easy to use.

The application areas of ODRL are numerous and so are the various ways it is used. Thus, creating application or domain specific profiles of ODRL is the logical and necessary future step. Three weeks ago, the first official ODRL Profile Specification for encoding the Creative Commons licenses in ODRL was published. The ODRL Initiative looks forward to working with other communities in developing new profiles to capture their requirements for content licensing and sharing. Mechanisms to achieve this are via new joint ODRL Working Groups and more formal liaisons with existing standards and community sectors groups.
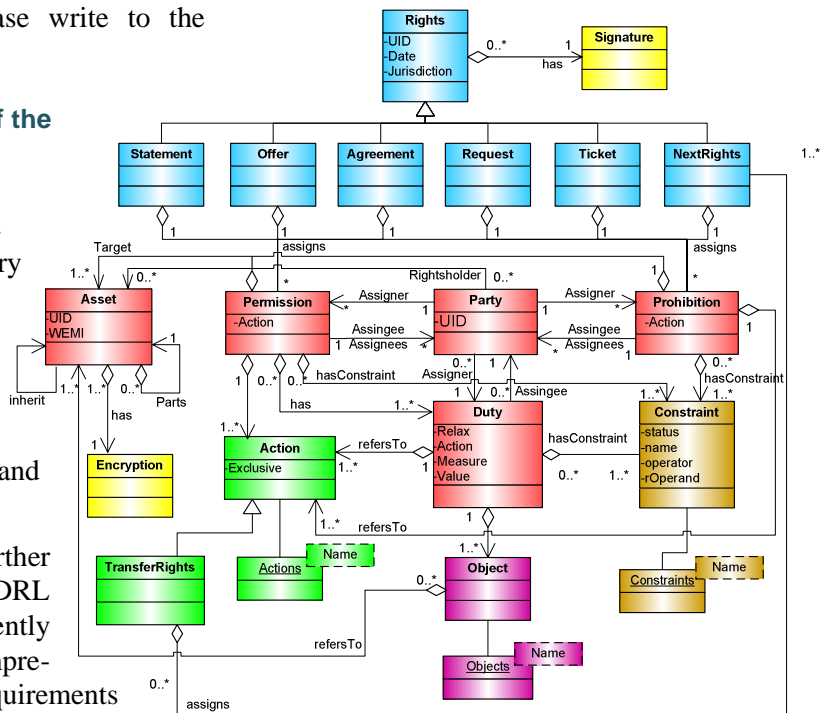
Bottom line

Workshop participation, the contributions, and the given talks illustrate the strong industry and research interest in the field of rights expression languages and DRM implementations. Furthermore, it is has made clear that the application areas of DRM and rights expression languages are not restricted to e.g.

digital music distribution anymore. The main topics of the workshop were interoperability and standardization, as well as integration of related technologies, which will also continue to be the focus of the ODRL Initiative.

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About the authors

Susanne Guth received a diploma degree in Information Systems and a doctoral degree in social and economic sciences.. She wrote her doctoral thesis in the field of contract and rights management for digital goods. Susanne Guth is a private, active member of the ODRL Initiative, leading the development of ODRL Version 2.0 and works as DRM senior specialist for the German mobile network operator O2. Contact: susanne@odrl.net

Renato Iannella is a Program Leader at National ICT Australia (NICTA). Renato has extensive experience in the development and standardisation of Internet, Web, and Mobile technologies and was a former member of the World Wide Web Consortium (W3C) Advisory Board. Renato also is an Adjunct Associate Professor at the University of Queensland, Visiting Associate Professor at the University of Hong Kong. Contact: renato@odrl.net.

Carlos Serrão has two academic degrees (BSc and MSc) from Instituto Superior de Ciências do Trabalho e da Empresa (ISCTE). He is currently a lecturer at ISCTE, teaching subjects related to Information Security, Information Systems Development and Management, and Project Management. Carlos Serrão is currently preparing his PhD in the DRM area. Contact: carlos.serrao@adetti.iscte.pt.

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Contact
Knud Böhle (Editor)
Institute for Technology Assessment and Systems Analysis (ITAS)
Phone: +49 (0)7247/82-2989 (-2501)
Fax : +49 (0)7247/82-4806
E-Mail: knud.boehle@itas.fzk.de