Electronic Rights Management in the United Kingdom
A *VALA Travel Scholarship* Study

Amanda Magnussen
Assistant Library Manager
IP Australia Library
amanda.magnussen@ipaustralia.gov.au

Abstract:

In recent years, there have been considerable developments in both international and national laws relating to copyright, as governments struggle to come to terms with developments in technology. Libraries, too, are attempting to find appropriate ways of managing the rights in electronic materials. This paper, based on research visits made to the United Kingdom in 2001, explores some of the electronic rights management systems and solutions being developed in British libraries.

Introduction

In 1996, the World Intellectual Property Organisation (WIPO) adopted the *WIPO Copyright Treaty* (WCT), after almost 2 years of negotiation (Kemper, 1997). This treaty set basic standards for the protection of copyright on the Internet and other digital media. In Australia, the WCT was given effect by the *Copyright Amendment (Digital Agenda) Act 2000*, which came into to effect on 4 March 2001. Similar legislation is being enacted in countries around the world, as governments attempt to bring their intellectual property laws up to date with technological developments. At the same time, libraries worldwide are attempting to find the best ways to manage the profusion of electronic resources now available to them, including the management of intellectual property rights.

In many respects, the protection of intellectual property rights in electronic materials has really only been seriously considered in the last ten or so years. This has been concurrent with the increasing availability of materials in electronic formats, which has, in turn, been largely triggered by the exponential growth of the Internet and the World Wide Web, and the simultaneous increase in the electronic availability of content.

Inherent in the electronic protection of rights is the development of systems that can facilitate their management. Trippe considered that "digital rights management....may be the most significant new piece of the content management puzzle....[as it] ensures that people with 'rights' to the material get to use it appropriately, and that people without rights don't". Unfortunately, Trippe also noted one of the major problems with this area, in that "....you won't find an overwhelming amount of information about it out there" (Trippe, 2001: 26).

Because of the relative newness of this field, the terminology used has not yet settled into a standard language. *Electronic rights management (ERM)* can also be know as *electronic copyright management (ECM)* or *digital rights management (DRM)*, while the systems used to control the rights in electronic materials may be called *electronic rights management systems (ERMS)*, *electronic copyright management systems (ECMS)* or *digital rights management systems (DRMS)*. For the purposes of this study, these terms have been used interchangeably.

Electronic rights management can also be difficult to define, as there are a number of different sectors involved (ie. libraries, suppliers and vendors, legal experts, system developers, etc.), with terminology being defined differently by each one. The narrowest definitions focus solely on the technical aspects of rights management. One such definition is offered by *whatis.com*, which defines digital rights management as "....a type of server software developed to ensure secure distribution....of paid content over the Web. DRM technologies are being developed as a means of protection against the online piracy of commercially marketed material...." (Whatis.com, 2000). A number of companies are active in developing these kinds of solutions, which are aimed very much at an Internet-enabled e-commerce market, and towards the needs of content providers. Indeed, Pack stated that "DRM solutions promise to protect profits, create new approaches to information management, and produce new marketing opportunities" (Pack, 2001: 22).

Unfortunately, these types of solutions are not practical in a library context, as libraries normally deal with a wide range of content, not just commercial materials, which is usually delivered through a variety of mechanisms, not just the Internet. Nor do these solutions

accommodate concepts such as fair dealing, which are so important to libraries. For library purposes, a more practical and comprehensive definition is offered Iannella, who stated that:

> "Previously, Digital Rights Management (DRM) focused on security and encryption as a means of solving the issue of unauthorised copying, that is, lock the content and limit its distribution to only those who pay. This was the first-generation of DRM, and it represented a substantial narrowing of the real and broader capabilities of DRM. The second-generation of DRM covers the description, identification, trading, protection, monitoring and tracking of all forms of rights usages over both tangible and intangible assets, including management of rights holder relationships. Additionally, it is important to note that DRM is the 'digital management of rights' and not the 'management of digital rights'. That is, DRM manages *all* rights, not only the rights applicable to permissions over digital content." (Iannella, 2001)

One of the major issues associated with the implementation of such a rights management system is the sheer complexity involved. Davis considered that a rights management system must be able to handle the complex relationships between rights, works and parties. For this to happen in a meaningful way, systems must, at minimum, incorporate: searching at the work level, standard metadata tagging, license creation, rights management information, usage reporting and financial transaction processing (Davis, 2001). Beyond this, libraries must also have systems that can to handle the various copyright exceptions, as well as maintaining certainty of access for their users.

Aim, Scope and Methodology of Study

The aim of this study was to explore the range of electronic rights management solutions that may be available to Australian libraries, by the examining the solutions developed by some of the electronic library projects undertaken by libraries in the United Kingdom in recent years. From this, it was hoped that Australian librarians would be able to gain a better understanding of the types of electronic rights management tools that might be available to them.

In a 1996 paper written for the UK Joint Information Systems Committee's (JISC) Electronic Libraries (eLib) Programme, Tuck noted that there are many projects devoted to the study of one aspect or another of electronic copyright or, more generally, of electronic Intellectual Property Rights (IPR). He further noted that there is a vast – and increasing – array of proposed 'solutions' (Tuck, 1996: Chapter 5.1).

When carrying out background research for this study, it became apparent from the literature on the topic that there is, as yet, no single solution for the management of intellectual property rights in electronic resources. Over 100 different projects relating to aspects of electronic copyright were identified as part of this preliminary research, with most being based in the European Union. Many were funded by JISC through the eLib Programme, or by the various research programs funded by the European Commission, and as suggested by Tuck, the projects had quite different approaches, both in terms of the types of materials covered, as well as the solutions proposed.

In most instances, the identified initiatives were not intending to deal solely with electronic rights management. Rather, they were looking to find better ways of delivering resources to users, through the development or adoption of electronic systems. However, many recognised

at the outset that such electronic systems would demand that some kind of rights management component be put in place. For others, it became apparent as their project progressed that a way would have to be found to manage electronic rights.

The majority of the electronic rights management projects identified were based in the European Union. Because of time and funding considerations, the few identified projects based in North America were excluded from the scope of the study. Of the projects based in the European Union, most had multiple participants across several countries. Again, projects with no UK-based participants were excluded from the scope of this study, due to time and funding, as well as language, considerations. Of the European projects and initiatives originally identified, approximately 50 were either wholly carried out in the UK, or had UK-based partners. Representatives from these initiatives were approached to see whether they would be willing to participate in the proposed study (see *Appendix A* for complete list).

Of the projects approached, there were a number that declined to participate, either because they did not feel that they could contribute anything relevant, or because they did not have time available to participate. A significant number of projects expressed a willingness to participate, but were not interviewed, because they advised that they had been unable to come to grips with the copyright problem. In most cases, these projects used either materials in which their institutions owned the rights, or materials that were in the public domain, thus avoiding the need for rights management controls.

UK Rights Management Initiatives

With the generous support of VALA, I was able to travel to the UK in March/April 2001 to conduct a series of interviews with representatives from the various rights management initiatives that had agreed to contribute. *Appendix B* lists the initiatives that were included in the study, and gives a brief summary of their aims and objectives. A series of loosely structured interviews was conducted, with interviewees being asked about:

- The drivers behind their initiative;
- The types of materials and formats that were available through their system;
- The types of systems that were in place;
- The legal basis of each system;
- How the rights in the materials were being managed;
- The impact of the initiatives for both libraries and users;
- Costs;
- The lessons learned, and;
- Intended future developments.

Reasons for Initiatives

Libraries had a variety of reasons for being involved the various initiatives. Most of the developments studied occurred in the context of an externally funded project with multiple partners. For some, the projects gave them a chance to explore issues and possibilities in the electronic environment. Some were involved because the project funding permitted them to explore issues for which there would otherwise have been neither funding nor time. In these situations, the driver was more that there has been a general trend towards electronic materials and digitisation as the "Internet" culture has developed, and people have thought it

prudent to be moving in this direction. In these situations, there was often no key issue that an e-copyright solution could solve.

For others, it was an opportunity to try to develop a (better) electronic alternative for an existing hard copy service, or to further develop and improve existing electronic services. The few initiatives that were not project-based were almost always developed to try an address a perceived need for either new or improved systems and/or processes.

Types of Materials and Formats Covered

The different systems delivered a wide variety of materials, from music, audio and video to maps to journals articles and book chapters. The kinds of resources used depended very much on the context and environment in which the project was operating. However, most were dealing with digitised hard-copy journal articles and/or book chapters in different disciplines. The vast majority of the initiatives studied were based in higher education institutions, so materials were usually scholarly in nature.

Very few projects had any dealing with so-called 'born digital' materials, with three major reasons being given for this. A number of the projects began during the early and mid-1990s, prior to the Internet explosion, when born digital materials were rare or non-existent. Similarly, numerous publishers were involved in or associated with the different initiatives, and although there was an expectation that they would be able to supply materials electronically from their back files, many projects found that materials were either not available in any electronic form, or the electronic files were not in a format that allowed them to be reused in that fashion. For the later projects, where born digital materials may have been readily available, participants found that either the conditions of use these materials were so restrictive that it was not feasible, even impossible, to incorporate them, or that the licensing fees requested were so expensive as to render them ineligible.

With current initiatives, there was an oft-expressed intention that the developed systems should be able to handle all types of materials, whether digitised or born digital, dependent on agreements being reached with rightsowners. Participants from completed projects often felt that the work done with limited materials in the project context was inherently scalable. Indeed, many of the projects were explicitly developed to be both scalable and transferable into other environments, and for other materials.

Types of Systems Developed

Again, the exact nature of the developed systems tended to vary somewhat, depending on the environment on which they were developed. Most projects were intending to develop some kind of system solution, which in some fashion, encompassed rights management. For a few, that development failed, for both technical and non-technical reasons.

Several interviewees noted that project funding was exhausted before systems could be completely developed. Sometimes this was because there had been greater technical problems than had been foreseen. For others, it was because the nature of the project changed part way through, or because a need for an additional system aspect was recognised once the project had commenced. Interviewees in this situation often expressed disappointment that this had been the case, as they had felt that the project developments had shown some promise.

Others felt that what their projects had accomplished was something of a 'red herring', and that other, later, initiatives had taken better approaches, or had had better alternatives available to them through rapid technological developments. A few interviewees noted that their projects had initially intended to develop some kind of system, but because of the widely differing views of the participants, turned into consensus-building exercises, as the parties sought solutions that were acceptable to all.

On the other hand, some projects were never intended to develop any kind of system – their brief was to produce specifications, standards and/or models, which would be available for other developers to incorporate into their products. There were also similar situations for some of the system development projects, inasmuch as the solutions were only ever intended to be experimental, with the resulting demonstration systems and documentation being made available as open source documents, in much the same way as the non-system initiatives.

An interesting trend did become apparent in the system development projects. The projects that began prior to the Internet explosion were generally attempting to develop some kind of (usually proprietary) software solution. Projects that were underway when the World Wide Web became widely used tended to abandon their earlier approaches and adopt some sort of Web-based delivery mechanism. For those projects that were completed prior to the introduction of the Web, interviewees felt that the models developed were interesting, but had been rather overtaken by technological developments, and as such, were no longer greatly relevant. Later initiatives, almost without exception, developed some sort of browser-based solution.

System security was another interesting area. As previously noted, the majority of projects studied were based in higher education institutions. Although some of the early projects developed their own user authentication systems, these proved to have very high overheads in terms of both administration and maintenance by library staff. For this reason, many of the projects turned to their institution's normal user authentication systems, which were usually fed through student administration databases. Similarly, the Athens Service has been available in recent years, and a number of interviewees noted that for external resources (ie. resources hosted on an external provider's systems) they were 'outsourcing' user authentication to Athens.

For the more commercially oriented projects, there were also systems associated with fee charging. There were relatively few projects of this nature, and the solutions developed tended to be somewhat crude. The main reason for this was that e-commerce and micropayment systems have only really been feasible in the last few years, and many of the projects concerned were running prior to this. The sorts of options that tended to be considered here were smartcards and other similar systems. Overall, there was a feeling that perhaps content providers had become less obsessed with security, and more concerned with revenue generation, although this did depend to an extent on the type of media concerned.

Legal Basis of Systems

In almost every instance, contracts and licensing arrangements provided the legal framework through which the various systems operated. None of the working systems had any operational provision for access to materials under fair dealing. Several interviewees did feel that their systems could cope with fair dealing usage, but their projects were set up in such a way that all materials were licensed for the duration of the project. The British Library's

Digital Library System is one major exception to this trend, as BL is attempting to accommodate all types of usage, whether licensed or through one of the copyright exceptions.

One interviewee explained that the heavy reliance on licensing is partially because of the way that copyright law is framed in the UK. Under the UK Copyright Acts, there is no right of fair dealing, as such. Rather, fair dealing is a defence that may be used if an infringement occurs. Similarly, interviewees noted that publishers tended to be very concerned about the security of their materials in the online environment, and the license conditions were therefore quite strict (particularly for the early initiatives).

However, many of the participants noted that the recently passed European Union *Directive on Copyright and Related Rights in the Information Society* (EUR-Lex, 2001) could have a profound impact on this situation, and on the framing of electronic rights management systems generally. Under the Directive, there is a new criminal offence for deliberately bypassing or damaging an electronic rights management system. However, it is not an offence to bypass the rights management system if that system prevents users from exercising their rights under the Directive (including fair dealing). Rights management system providers have been given a limited time from the passing of the Directive to develop systems that can recognise and allow bona fide use.

So this may mean that rights management systems begin to cater for legitimate free usage exceptions, such as fair dealing. At the same time, the Directive contains the presumption that copyright law is overridden by contract, so it may be that content providers will simply use contractual provisions to circumvent this requirement. Almost all those that raised this issue felt that there was a need to wait, and see what transpires over the next 18 months as the Directive is passed into the national laws of the European Union Member States.

How Rights are Managed

In virtually every case, the rights management systems developed were basically license management systems. Here, resources were pre-cleared with rightsowners, and a license fee paid, usually on a "per page, per user" basis. The materials were then licensed for unlimited usage by the specific group of users, for a specified time period (usually a year). The systems were therefore concerned with tracking what permissions had been granted, for whom, and for what period of time.

The majority of the initiatives began by clearing the rights with individual publishers themselves. However, this proved to be an extremely expensive and time-consuming process. It was not uncommon for interviewees to state that materials usually took an average of 6-10 weeks to be cleared, with some taking much longer. One participant also noted that each individual item needed to be 'chased' an average of 6 times. With later projects, much of this work was outsourced to HERON, as this had the advantage of having clearances negotiated on a consortial basis, as well as transferring the administrative and technical burden out of libraries. The copyright clearance issue had a profound impact on some projects, as they had finite life spans. Delays in clearing materials meant that project development was delayed, and some cases, radically altered, to bypass this problem.

At the time of this study, there were no "transactional" systems in which people ordered or accessed individual items and then paid for them. Nor were there systems that tracked individual item usages and rendered accounts to users, although many had the potential to

become such systems if required. All were able to generate various kinds of management and usage statistics, although some provided more detailed information than others.

For several people, the "murky" state of European and British copyright laws was a major hindering factor in rights management, as most EU countries had not yet updated their copyright laws to reflect the 1996 *WIPO Copyright Treaty*. Nor were they confident that the new EU Directive would improve the legal situation, as it contains a series of optional provisions and exceptions that the Member States can to choose to adopt or not. Although it was intended to harmonise European copyright laws, there was a feeling that the Directive could actually worsen the situation, as different countries adopt the optional provisions to different extents, or not at all. This could mean that copyright laws are even less harmonised than they are at present, which makes the development of standardised rights management systems difficult, particularly where multi-institution, multinational virtual library access is envisaged.

Costs and Charging

The issue of costs and charging was a problematic one. As noted above, the rights management systems studied tended not to be transactional (ie. pay-per-view). Nor was there usually any other form of oncharging to end-users. The reasons for this were mainly political and cultural. Most initiatives were based in higher education institutions, where the issue of user fees and charges is very sensitive. Most interviewees indicated that there would extreme resistance to any move for additional charges for library services, as students and student representative bodies consider that the fees that students already pay are quite high enough. There is a basic expectation that all services should be funded from the fees already paid.

For libraries, much of the cost incurred fell on them in the form of administrative overheads. In project situations, the project funding almost always covered the costs, which were incurred as both library staff time and materials costs. Indeed, where project funding could not cover costs, some institutions chose to redirect or restrict the project concerned. Similarly, when project funding was completely spent, then often the projects were ended at that point.

Where initiatives were developing 'live' services, or when institutions decided to continue project work from their own resources, there were always difficult funding decisions to be made. Several interviewees noted that there were (and sometimes continue to be) questions from either library management or the parent institution about the affordability and viability of these services.

Some libraries were bearing total costs themselves by reorganising the way that funding was allocated to library materials and services. Others were sharing costs with the participating departments in the organisation either by charging specifically requested materials to their funding allocations, or by charging after an allocated amount of funding was exhausted. In neither case were such decisions 'easy'. Although libraries never directly charged end-users, if departments decided to redirect some element of their costs to users, it was their choice to do so.

Several interviewees felt that, in future, there may be a need to move toward more transactional payment models. Participants gave several reasons for this. First, the cost of licensing and making digital materials available is expensive, and libraries and their parent institutions are unlikely to be able to continue to sustain the cost without radically

reorganising (and perhaps reducing) services. Likewise, many publishers are moving toward providing end-users with unmediated access to electronic materials, and charging directly for this service on a 'pay-per-view' basis. Libraries are therefore excluded from the 'loop'.

Others considered moves to transactional charging unlikely. They felt that it was not helpful for libraries to adopt, or indeed accept, pay-per-view models, even though content providers often favour such models. The reasons for this varied: for some, the (apparently) higher costs associated with pay-per-view made it appear highly undesirable from both financial and collections management perspectives; others were concerned that all materials could end up being "locked away" in rights management systems, with only to those who can afford to pay having access, thus widening the digital divide.

Impact of Initiatives on Libraries and Users

The impact of the various initiatives tended to be dependent upon their size and scope. As a general rule, the larger national and multi-national projects had the greatest impact on both libraries and their user community, as they had the greatest reach and the most resources.

The main impact of the various projects on the information community was largely that it opened people's eyes to possibilities in the area of electronic rights management, to which they had previously been blind. Very few rated their projects as unqualified successes, and a few considered that, in terms of their original objectives, they had failed. One interviewee stated that the project participants had their own reasons and agendas for becoming involved, and they still had them at the end of the projects, albeit slightly modified.

Despite this, all interviewees felt that the projects been successful in raising awareness of the issues and the sorts of developments that were possible, which was certainly one objective of the overall eLib Programme. There was a general sentiment that, while the various initiatives had perhaps not changed the world, they had certainly enabled people to think about the issues, and to experiment with possible solutions.

Many interviewees felt that it was difficult to judge the impact of the various developments on users, because the projects generally had quite limited deployments. However, most considered that they had had very good takeup by their user community, even though it was often only a few percent of their total potential user population. They also noted that takeup had been slower than expected, perhaps because of the lack of critical mass of available materials. User feedback tended to be quite positive, particularly for the later initiatives, where copyright restrictions had eased somewhat and more materials were available.

Due to licensing limitations, many of the earlier initiatives could only make materials available on specific computers in specific locations, which hampered both uptake and usefulness. These restrictions were either less stringent or not imposed on later projects, which tended to make them more successful. Remote (ie. off-site) access was only available for a few projects, but many participants did note that it was a possibility for their systems. Most interviewees felt that, if permitted by rightsowners, this kind of 'anywhere, anytime' access full-text to materials have a profound impact, and be highly advantageous, for users.

Lessons Learned

As with impact, the lessons learned were quite varied, and depended very much on the individual circumstances of the initiative concerned. However, there were a number of lessons that were common.

There was a general finding that users were not interested in having to use a host of different systems in order to get the information they require: they want to be able to get everything they need from one place. So integration of the various library systems (including rights management) is very important. Along with this is a need for a critical mass of materials to be available. If users cannot easily obtain a majority of the materials that they require from a single system, then they may not bother using it at all. Against this is a need for libraries to manage user expectations. Many users think that because something is digital, then it must be quick and easy, and the projects usually found that neither of these things were true.

Many projects also came to realisation that 'the answer to the machine is not necessarily in the machine': rather, what is important is getting the actual workflows and processes right. Once these are correct, then the technology develops more naturally. Likewise, although the processes involved in rights management are complex, systems need to be kept as simple as possible, as the more complex the system is, the more rigid and less useable it becomes. As far as possible, rights management also needs to be automated. Given the sheer volume of electronic material already available, and the number of potential users, systems that require large amounts of human intervention are likely to collapse under the load.

Participants in all the initiatives recognised that there is a need to at least begin engaging with the issues, and to start thinking and learning. If libraries wait to see what others are doing, while doing nothing themselves, then the gap that they need to bridge is enormous. The feeling was that it is better to start small and incrementally, and if developments fail, then there is room to manoeuvre and to change, adapt and rethink, without the failure becoming a total catastrophe.

One of the biggest lessons learned was that electronic rights management requires collaboration and communication. One of the best outcomes from the projects was the fact that the stakeholders were talking to and working with each other, and as a result, they have gained a much better appreciation of each other's concerns and needs. It became clear to everyone involved in these initiatives that it is not really possible to stand alone, as the issues involved in electronic rights management affect all stakeholders alike, whether library or supplier or user.

Intended Future Developments

Responses to questions about intended future system developments were enlightening. In the case of the various system projects, the project funding would come to end, and quite often, so would development on the system. Of the people interviewed, only a small number were actually rolling out live systems, based on their project work. Of these, some were continuing work on their original project system, others were taking the developments made and incorporating them into other systems, such as their library management systems. A few more were still working with their experimental models, either as ongoing small projects, or in limited implementations. In some cases, interviewees indicated that their project had

reached a natural conclusion, and their results and code were available for commercial producers to pick up. A few others had more-or-less working systems that were just "sitting".

A very common statement was that a particular project had ended, but several later projects were based on the work done during that initial project. Interviewees from the projects developing models and standards found that other developers, frequently commercial, picked up the project work and incorporated it into their own products.

Some interviewees felt that the real legacy from the various projects was the learning and thinking that they generated. Demonstration systems were designed and built, along with models and specifications, and while they were not perfect, they got the various stakeholders to start considering the issues involved in electronic provision of resources, including rights management.

There was a general feeling among many of the participants that there is a need for the library technology industry and content providers to take up the running with electronic rights management systems, and that in many respects, libraries could (and perhaps should) find themselves "cut out of the loop". Further, libraries, and indeed the whole publishing industry, are extremely small fish in a pond that incorporates the multimedia, music and film industries. Rights management solutions are likely to be driven by commercial interests, and libraries may have relatively little influence on their development.

Conclusions

In many respects, participants felt that electronic rights management has reached something of a plateau, inasmuch as many of the issues and problems have been identified, and various technological solutions considered. People felt that in many cases, information providers are now less concerned with security systems than they are with revenue generation. Providers have come to the realisation that security systems are not the whole answer to the rights management problem, and they are now looking towards a complex mix of solutions, which range all the way from technology to payment structures.

Although rights management solutions may be driven by the needs of commerce, there was a feeling that libraries still need to be involved in the process. Some felt that the need would only be transitional, while the information community moves from paper-based information delivery models to more electronically oriented ones. However, for others, the view was that libraries should continue to play their part in the rights management process, because they are already a trusted third party between user and provider. All in all, a 'watch this space' mentality was very much in evidence, as librarians and others wait to see how the European legal situation develops, and how content providers and system developers respond.

As stated in the introduction, it was hoped that this study would assist Australian librarians to gain a better understanding of the types of electronic rights management tools available to them, by looking at the British experience. While there was much very interesting experimentation taking place in this area in UK libraries, there were no completely developed systems already in place, which can be selected off-the-shelf.

Given present uncertainties about legal and other developments, it is somewhat difficult to say exactly what this means for Australian libraries in 2002. However, there are still lessons that Australian librarians can learn from the British experience. Although there are no fully

developed systems in British libraries that other libraries can simply start using, there are certainly pointers that can be used to show the way for other developments.

There are small-scale, open-source applications, as well as standards and specifications which libraries may be able to adapt to their needs. Similarly, library system developers are beginning to integrate some of the features and functions that have been developed through the various projects, which libraries can actively seek when purchasing new systems or upgrading existing ones. Commercial developers are also starting to make various rights management products available, and while these seem to be mainly aimed at an (Internet) e-commerce marketplace, where one-off pay-per-view transactions are the norm, these may also fit some library needs.

While libraries need to be aware of ongoing technological developments in the rights management area, they also need to be conscious of the fact that the technology is just part of the solution, not the whole solution. Perhaps most important of all, successful rights management demands collaboration: collaboration between libraries, but also collaboration between libraries and their clients, content producers, system developers, and others involved in the rights management game. Only then can the best rights management outcomes be reached.

Appendix A: Projects Approached to Participate in the Study

[Note: Projects included in this study are indicated in **bold**; interviewees are shown in parentheses.]

- *AGORA* **(University of East Anglia)**
- *ANGEL* **(London School of Economics)**
- *British Library Digital Libraries Programme* **(British Library)**
- *BUILDER* **(University of Birmingham)**
- *CANDLE* **(South Bank University)**
- *CANTATE* (University of Bradford)
- *CEDARS* (University of Leeds)
- *CITED* **(British Library)**
- *COBRA+* (British Library)
- *COPICAT* **(British Library)**
- *COPINET* **(British Library)**
- *CopySmart* **(British Library)**
- *DECOMATE / DECOMATE II* **(London School of Economics)**
- *Documents Direct* (University of Leeds)
- *ECUP+* (The Library Association)
- *Edbank Project* (Open University)
- *EFRIS* **(PIRA International)**
- *E-Journals and Learned Societies* (Queen's University)
- *ELISE II* (De Montfort University)
- *ELJ* (University of Warwick)
- *eOn* (University of Northumbria)
- *EPRESS* (University of Surrey)
- *ERCOMS* **(Loughborough University*)**
- *ERIMS* **(Templeton College, University of Oxford)**
- *EURILIA* (University of Limerick)
- *Guidelines on Policy Approaches to IPR in HEIs Project* **(University of Strathclyde)**
- *HeadLine* **(London School of Economics)**
- *HELIX* (De Montfort University)
- *HERON / SCOPE* **(University of Stirling)**
- *IMPRIMATUR* (Authors Licensing and Collecting Society)
- *<indecs>* **(<indecs> Framework Ltd)**
- *InfoBike* (University of Bath)
- *Inside* **(British Library Document Supply Centre)**
- *LIBERATION* (University of Nottingham)
- *MIDRIB* (St George's Hospital Medical School)
- *MUSE* (International Federation of the Phonographic Industry)
- *NESLI* (University of Manchester)
- *NewsAgent for Libraries* (South Bank University)
- *PATRON* **(University of Surrey)**
- *Project ACORN/CLEAR* **(Loughborough University)**
- *Project Phoenix* (South Bank University)
- *ResIDe* **(University of the West of England)**
- *RIDDLE* (Longman Cartermill)
- *SEDODEL* **(British Library)**
- *SuperJournal Project* **(Information Design and Management Broom)**

- *TECUP* **(London Borough of Croydon Library)**
- *VAN EYCK* (Vasari Ltd.)
- *VERDI* (Multimedia Copyright Clearance Ireland)

* De Montfort University was lead partner for the ERCOMS project, but key project participants had moved to other institutions at the time of this study. Interviewee was based at Loughborough University.

Appendix B: Projects and Initiatives Studied

- **AGORA**

AGORA aimed to develop an open-source standard for distributed, mixed-media information management, as well as a framework for end-user-oriented services and a scalable infrastructure. The project built on the earlier work of the earlier eLib EDDIS and MODELS projects. The object of the project was not to develop a "product", but to develop a standard that could be used and adapted by any producer, whether commercial or otherwise, in creating hybrid library systems. The main foci for the project were discovery of resources, interaction with services, control of access, selection and acquisition of resources, and organisation of resources for access. AGORA was funded by the eLib Programme, and ran from January 1998 to December 2000 (UK Office for Library and Information Networking, 2000).

- **ANGEL**

ANGEL stands for *Authenticated Networked Guided Environment for Learning*. The main goal of the ANGEL project is develop a Web-based, personalised portal through which higher education students can find and use information resources, and which teaching staff can use to direct resources towards students, and monitor and manage the learning experiences of individuals. It is intended that ANGEL will be implemented as a pilot service in each of its five university partners, although it is not intended to create a continuing national-scale service. However, the ANGEL software and supporting documentation are intended to be useable on a continuing basis within the partner institutions, as well as being freely available to other JISC-supported institutions. ANGEL is funded by the Joint Information Systems Committee's DNER Development Programme, and is scheduled to run from September 2000 to February 2003 (South Bank University, 2001).

- **Athens Service**

Athens is an access management system, which is used to authenticate and authorise users of online services and resources. Athens began in mid-1995, and is currently used by over 350 sites in the UK. There are two major national Athens services in operation: one for the UK tertiary education community and another for the health sector.

Athens was originally developed by National Information Services and Systems (NISS) in 1994, whilst it was a part of the University of Bath. EduServ (formerly the NISS Centre) is now the sole owner of the Athens technology. As at February 2001, Athens had over 1 million users, mainly in the education sector.

EduServ considers it feasible for users outside the UK to make use of the Athens service and technology. However, EduServ needs to analyse the individual requirements of each country, to identify the most appropriate form of installation for that regime (EduServ, 2001).

- **British Library Digital Library Programme**

The British Library's Digital Library Programme is a high priority initiative that is intended to collect digital materials and develop digital library services, so that Library users can access new forms of publications and benefit from the new means of information access that are available through digital technologies. Underpinning this program is the need for suitable

IT infrastructure, known as the Digital Library System (DLS). In September 2000, the Library contracted IBM UK to build the DLS.

It is intended that the DLS will enable the Library to: store, preserve and provide access to digital materials, regardless of origin; support the collection of digital materials for remote document supply services; support increased access to digital materials within the Library's Reading Rooms, and; support the digitisation of significant parts of the Library's historical collections to underpin the UK Government's People's Network and National Grid for Learning initiatives. Work on the system is scheduled to be completed by May 2002 (British Library. Digital Library Programme, 2000a; 2000b)

- **BUILDER**

BUILDER stands for *Birmingham University Integrated Library Development and Electronic Resource*. BUILDER aimed to develop a working hybrid library, which would seamlessly integrate access to a wide range of information resources, printed and electronic, local and remote, using a Web-based interface. It also intended that the hybrid library should be developed in a way that would be scalable and universally applicable. BUILDER was funded by the eLib Programme, and ran from January 1998 to December 2000 (University of Birmingham, 1999). At the conclusion of the eLib-funded project, the University decided to turn BUILDER into a mainstream library service, serving all parts of the University. In March 2001, University of Birmingham Information Services had a project underway to allow the mainstreaming to occur.

- **CANDLE**

CANDLE stands for *Controlled Access to Network Digital Libraries in Europe*. The CANDLE project intended to develop links between the services offered by digital libraries and electronic publishers, and to demonstrate how a digital library management system (CaseLibrary), developed as part of another European Commission project, could facilitate controlled service to users. CANDLE aimed to develop and test a number of economic delivery models, and evaluate them in a range of environments, to produce software that would be useful across many library sectors. The specific objectives of CANDLE were to adapt and expand the CaseLibrary system to accommodate the distribution of electronic documents between digital libraries and electronic publishers, and to test and validate the system in 6 large digital libraries in at least 4 European Union countries. CANDLE was funded by the European Commission's Telematics for Libraries Programme, and ran from February 1998 to August 2000 (South Bank University, 2000).

- **CITED**

CITED stands for *Copyright in Transmitted Electronic Documents*. The CITED project considered the need for the information industry to safeguard copyright in digital materials, in order to find ways of overcoming the reluctance of copyright holders to make works available in electronic form, based on the rapidity and accuracy of copying, and the high susceptibility to piracy. CITED considered both user and rightsowner needs for software, data and databases, electronic publishing, video/TV, and audio recording. Solutions were intended to be transportable across national boundaries, and to be applicable for all national legislative regimes. CITED was funded by the European Commission's ESPRIT Programme, and ran from December 1990 to December 1992 (European Commission. ESPRIT Programme, 1993a)

- **COPEARMS**

COPEARMS stands for *Coordinating Project for Electronic Authors' Rights Management Systems*. The COPEARMS project aimed to develop and implement an interoperable electronic copyright management system (ECMS), by building on the experiences of the CITED project. A related objective was to cooperate with other European Commission projects, especially IMPRIMATUR, to standardise processes, so that interoperability among different rights management systems was possible. COPEARMS was funded by the European Commission's ESPRIT Programme, and ran from November 1995 to November 1998 (International Federation of Library Associations and Institutions, 1998).

- **COPICAT**

COPICAT stands for *Copyright Ownership Protection in Computer-Assisted Training*. COPICAT aimed to produce a generic model of an electronic copyright protection system. Based on work done by the CITED and EAST projects, COPICAT created an educational copyright protection model. The project was focussed on the education sector, as this was considered to represent a "worst case" area, in which most, if not all, copyright protection issues arose. COPICAT was funded by the European Commission's ESPRIT Programme, and ran from December 1993 to March 1996 (European Commission. ESPRIT Programme, 1993b).

- **CopySmart**

The CopySmart project intended to develop a rights management solution based on smartcards. Based on the model developed in the CITED project, CopySmart was intended to be a universal tool for electronic commerce on CD-ROMs or on Internet. The project worked on the basis of securing the application, rather than the PC on which it resided. Because security and payment functions were contained in a smartcard, it could be easily be adapted to national legislative requirements and payment methods. CopySmart was funded by the European Commission's ESPRIT Programme, and ran from December 1995 to February 1998 (European Commission. ESPRIT Programme, 1995).

- **DECOMATE / DECOMATE II**

DECOMATE stands for *Delivery of Copyright Material to End-Users*. The original DECOMATE project aimed to provide end-users with electronic access to copyright materials. Three university libraries in three different countries received part of their journal holdings directly from the publisher, in electronic form. Software was then developed to link bibliographic records to the electronic full-text articles, and to allow the user to either view documents or have hard copies delivered. The software allowed end-users to access documents both within the libraries, and at their own desks. The system also included a user-authorisation module and a usage monitoring and reporting module DECOMATE was funded by the European Commission's Telematics for Libraries Programme, and ran from January 1995 to February 1997 (British Library of Political and Economic Science, 1997).

The title of DECOMATE II was *Developing the European Digital Library for Economics*. DECOMATE II built on the experiences of DECOMATE. It aimed to enhance DECOMATE's features by adding access to services from libraries throughout Europe via a uniform interface. It also incorporated integrated current awareness services, development of an information broker module with advanced searching and sorting capabilities, and integration of rights management module to allow external users to access commercial

materials, while complying with license conditions. DECOMATE II was jointly funded by Telematics for Libraries and the International Federation of Library Associations, and ran from February 1998 to July 2000 (UAB Library Service, 2001).

- **EFRIS**

EFRIS stands for *Extended Frankfurt Rights Information System*. The Frankfurt Book Fair is a leading rights trading and clearance event. The EFRIS project developed an online service that enabled rightsowners to make their rights information available in a timely manner, and keep this information up to date. This, in turn, facilitated the purchase of publishing rights by interested parties, while enabling owners to retain complete control over their rights. The main objective of EFRIS was to build on the international reputation of the Book Fair, and extend its usefulness for both vendors and purchasers through electronic access and delivery. EFRIS was funded by the European Commission's Info 2000 Programme, and ran from November 1998 to May 2000 (Pira International, 2000).

- **ERCOMS**

ERCOMS stands for *Electronic Reserve Copyright Management System*. The ERCOMS project aimed to develop a general-purpose copyright management system, which would be able to work with different electronic reserve management systems to track usage and accountability, and automatically count the occurrence of "copyright events". Unfortunately, the project encountered difficulties, and no working system could be produced. ERCOMS was funded by the eLib Programme, and ran from April 1996 to December 1997 (International Institute for Electronic Libraries Research, 1998?).

- **ERIMS**

ERIMS stands for *Electronic Readings in Management Studies*. ERIMS intended to provide electronic delivery of course readings, by establishing a database of materials related to management studies. It also intended to create a "corpus" of materials, which was common to, and could be shared by, all UK university management studies departments. ERIMS was funded by the eLib Programme, and ran from January 1997 to July 1998 (Joint Information Systems Committee. Electronic Libraries Programme, 1999).

- **Guidelines on Policy Approaches to IPR in HEIs**

The main issue addressed by this study was how UK higher education institutions (HEIs) dealt with intellectual property rights, and in particular, the rights in electronic and digitised materials. It included both IPR owned or controlled by the HEIs, and IPR owned by third parties, which HEIs used or wished to use. The study identified issues and problems by conducting survey of rights management in UK universities, following this up with a series of institutional visits. From this, practical guidelines were drawn up, which HEIs could reasonably use in implementing rights management policies. The study was funded by the JISC Committee on Awareness, Liaison and Training (CALT). It was carried out by the Centre for Educational Systems at University of Strathclyde, Glasgow, and ran from April 1999 to May 2000 (University of Strathclyde and Joint Information Systems Committee, 1999).

- **HeadLine**

HeadLine stands for ***Hybrid Electronic Access and Delivery in the Library Networked Environment***. The HeadLine project aimed to design and implement a working model of the hybrid library. The project model was user-centred, with the user environment forming a fundamental part of the project design. The main objectives of the project were: to define the next stage in the development of end-user library environments, by going beyond resource discovery to resource access; to establish a working model for consistent access to materials, regardless of physical form, which could be transferred across subject disciplines, and; to implement the model in a real-life environment, using tools and technologies which were widely available to the academic library community. HeadLine was funded by the eLib Programme, and ran from January 1998 to December 2000 (London School of Economics, 2001).

- **HERON/SCOPE**

HERON stands for ***Higher Education Resources On-Demand***. The HERON project has developed into a national service to the UK Higher Education community for copyright clearance, and digitisation and delivery of journal articles and other print materials. It has also developed an archive of digitised materials that can be re-used, subject to copyright permission. HERON also offers members expertise and consortial strength in negotiating clearances with rightsholders. The project built on the work of the previous eLib PHOENIX, SCOPE, and ACORN projects. JISC granted HERON a funding extension through to the end of 2002. At this point, it is hoped that the service will be taken over or absorbed into a commercial service, as current models are not considered financially sustainable.

SCOPE stands for ***Scottish Collaborative On-Demand Publishing Enterprise***. SCOPE was slightly more limited than its successor project. Like HERON, SCOPE developed mechanisms for copyright clearance, digitisation and electronic delivery of materials and a (limited) resource bank of materials. However, it was only active in Scottish universities and there were many extra copyright restrictions, which were lifted from HERON. SCOPE was dealing with what was a radically new area, which content providers were relatively unprepared for, so development of the service was slower than anticipated.

SCOPE and HERON were funded by the eLib Programme. SCOPE ran from 1995 to May 1997, while HERON runs from August 1998 to December 2002 (Pickering, 2001; Joint Information Systems Committee. Electronic Libraries Programme, 1998).

- **Indecs**

Indecs stands for ***Interoperability of Data in E-Commerce Systems***. The Indecs project looked at developing a framework of metadata standards that would support networked commerce in intellectual property. The project partners were a commercially diverse group, which represented all aspects of the content industry, from creators to users. Indecs started from the view that intellectual property is still critically important to innovation, even in a digital environment. Indecs considered that the effective management of intellectual property rights would be impossible without automated processing of transactions, with an essential pre-requisite being appropriate metadata standards for all elements of the rights transaction (ie. the resource, the rights inherent in the resource, and the parties). Another major focus of the project was to describe mechanisms that would allow interoperability of metadata developed in different industries and contexts. Such standards are considered an essential underpinning for the development of successful electronic rights management systems.

Indecs was funded by the European Commission's Info 2000 Programme, and ran from late 1998 to March 2000 (Indecs Framework Ltd., 2001).

- ***Inside***

Inside is the British Library's online current awareness search, order, and delivery service. It provides access to 20,000 journal titles and 100,000 conference proceedings, indexed at article/paper level. It also provides access to information on a further 250,000 journal titles held at the British Library. Currently, articles ordered from *inside* can be delivered by variety of means, including electronic delivery of PDF files, but content providers have had some concerns about the security of materials delivered electronically. In March 2001, the Library began testing a product called FileOpen, which is hoped to address some of these concerns. FileOpen controls usage of electronically delivered materials by only permitting materials to be downloaded and used on a uniquely registered computer. Likewise, materials can only be printed once, then further printing is disabled. The Library had hoped to begin deploying to the live FileOpen service to *inside* in mid-2001 (British Library, 2001).

- **PATRON**

PATRON stands for ***Performing Arts Teaching Resources Online***. The PATRON project intended to improve access to audio, video, scores and notation in the fields of music and dance, by developing a multi-media electronic library system to deliver these resources via broadband to the desktop. The project developed a user interface that combined access to audio, video and images, with a mechanism for linking and annotating related resources. Although the initial project is complete, the system is being further developed in a second stage known as PATRON2. This will integrate the system into the curriculum of the University of Surrey's School of Performing Arts. PATRON was funded by the eLib Programme, and ran from 1996 to 1998 (University of Surrey, 1998).

- **Project ACORN/CLEAR**

ACORN stands for ***Access to Course Readings via Networks***. Project ACORN aimed to develop a model for providing electronic access to journal articles. A feature of the project was its emphasis on using a third party to clear copyright and digitise materials. The major objectives of the project were to: develop a model for copyright clearance and text digitisation; establish procedures for obtaining copyright permissions and making royalty payments; establish procedures for making articles available electronically and seamlessly link them to library catalogues; develop a generic model for the electronic management and delivery of materials, using widely available software tools; monitor user reactions; assess the useability of the electronic texts, and; assess library procedures for managing electronic delivery of materials. The copyright clearance management element of the ACORN project was known as CLEAR. ACORN was funded by the eLib Programme, and ran from August 1996 to June 1998 (Loughborough University, 1998).

- **ResIDe**

ResIDe stands for ***Research, Information and Delivery***. The ResIDe project explored issues relating to the implementation of an electronic reserve collection, containing a variety of resources and material formats. During the first (research) year of the project, the system was tested with students from the Faculty of the Built Environment at the University of the West of England, Bristol. After the initial research phase concluded, the University decided that the service should become a permanent part of the UWE Library Service, and database was

expanded to incorporate the original electronic reserve, a current awareness service and an examination paper database. It likewise expanded to include most of the University's twelve faculties, for use on all eight University campuses. Initially, ResIDe was a stand-alone service, which was entirely separate from other library systems. However, the UWE Library Service purchased a new library management system in 2000, and the ResIDe service is now integrated into that system. ResIDe was funded by the eLib Programme, and ran from 1996 to August 1997 (University of the West of England, 2001).

- **SEDODEL**

SEDODEL stands for *Secure Document Delivery for Blind and Partially Sighted People*. The SEDODEL project aimed to create a secure document delivery system though which blind and visually impaired people could access electronic equivalents of "visual" information. The system was designed to take account of the rights of both copyright owners and users, and to work with the standard access devices used by people with visual impairments. The system comprised a document transformation system, for converting texts from a variety of source formats into HTML 4.0, a document reader system, which allowed users to access and read materials, and an electronic rights management system to handle security and payment issues. SEDODEL was funded by the European Commission's Telematics Applications Programme, and ran from 1998 to March 2000 (Arttic, 2000).

- **SuperJournal**

The SuperJournal project looked at the factors that make electronic journals successful. Its major objectives were to identify the features that deliver value, and to explore the implications of electronic journals with stakeholders. SuperJournal developed an electronic journal application, and made test journals available to university test sites via the World Wide Web. Project participants were asked about their expectations for electronic journals at the beginning of the project. Then, their usage was recorded and analysed for a period of two years. At the conclusion of the project, participants were asked about what they liked and did not like about SuperJournal, and the features they wanted to see in future electronic journals services. SuperJournal was funded by the eLib Programme, and ran from January 1996 to December 1998 (Information Design and Management, 1999).

- **TE©UP**

TECUP aimed to examine a range of practical mechanisms for accessing electronic information, based on the results of the earlier European Commission ECUP project, which looked at user, provider and rightsowner needs. By evaluating different business models in different library contexts, participants hoped to gain a better understanding of the practical requirements for licensing electronic materials. TECUP was a cluster project, which integrated the results and data from several other European Commission electronic library projects. It was funded by the European Commission's Telematics for Libraries Programme, and ran from January 1999 to January 2001 (State and University Library of Lower Saxony, 1999).

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