

FIFTH SESSION OF TRACK 1

Issues for libraries, publishers and subscription agents posed by the development of an electronic 'short loan' collection of high demand journal articles in a university library

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ABSTRACT

Topics addressed by this paper are: changing role of publishers and subscription agents; changing role of libraries and others involved in the information dissemination process; economic/financial questions;

Project ACORN (Access to Course Readings via Networks) began in August 1996 as one of a new strand of electronic short loan projects funded by the JISC (Joint Information Systems Committee) via the eLib (electronic Libraries) Programme. Project ACORN's distinguishing features are firstly the involvement of Swets & Zeitlinger (the international periodicals subscription agency) in the project consortium, and secondly the project's sole focus on journal articles. The overall aim of the project is to develop a transferable model of the whole process of making high-demand short loan journal articles available electronically, and in particular to focus on the role of a third party agent in gaining copyright clearance and providing digital copies to libraries.

Introduction

Digitising high-demand materials in order to increase their access to students is currently very much a library-initiated activity, and one which needs careful presentation and explanation to publishers. There are a number of Electronic Libraries (eLib) projects working in this area, and some university libraries in the UK have independently undertaken to develop electronic collections, for example the universities of Leeds, Derby, Wolverhampton and York.

To ensure access to large numbers of students, librarians normally place a photocopy of high-demand articles in their short loan collections. If the article is in a journal held by the library, this is very straightforward under the terms of the CLA (Copyright Licensing Agency) license. If the library does not subscribe to the journal, then a cleared copy can be obtained from the British Library. This service now charges the cost of the inter-library loan (about £5.00) together with a fee to be paid to the publisher. These fees currently range from £4.20 for pre-1990 material up to £10.00 for most other articles. There are about 600 journal titles for which publishers have asked for a fee in excess of £10.00. It must be noted that, apart from the cleared copy fee paid to the British Library, short loan services currently generate no income for publishers.

Context

Changes within higher education in the United Kingdom are leading libraries to explore electronic solutions in order to increase access to materials. Between 1988/9 and 1992/3 there was a 57% increase in student numbers, from 517,000 to 811,000 students. Projections to the year 2000 suggest that there will have been a 20% increase in full-time students and an 80% increase in part-time students over a 20-year period.¹ Part-time students often require special provision, such as structured course packs, self-study guides, and out-of-hours access to study materials. Electronic access to study materials from home could make a major contribution to increasing their access to key material.

Modularisation of courses in higher education has led not only to an increase in choice and flexibility, but has also focused demand for access to key materials into a much shorter time-span, putting additional pressure on libraries. This situation has been exacerbated by reductions in funding per student. In a recent report on higher education spending in OECD countries, Williams² indicates that the UK is lagging behind most other developed countries in spending per student, both in terms of amount and relative to Gross Domestic Product.

This has led to a situation in which librarians are struggling to meet increased demand, without a corresponding increase in funding. However, funding to enable higher education institutions to explore the potential of information technology has been made available through a number of initiatives. The Computers in Teaching Initiative (CTI)³ and the Teaching and Learning Technology Programme (TLTP)⁴ are two such examples, focusing on the use of information technology in teaching and learning, whilst the more recent Electronic Libraries Programme (eLib)⁵ has in addition explored more widely the issue of electronic access to information.

The environment of scholarly publishing is similarly in a state of flux. Publishers are faced with the uncertainties of the new electronic marketplace, and the need to invest in new electronic products where the returns on their investment are not yet clear. Electronic developments pose a potential threat to their traditional sources of income, and they need to assess the increasing array of intermediary services offered by both established organisations and a number of newcomers, to determine their benefits and drawbacks.

Copyright issues are a major preoccupation and publishers are viewing electronic copying as a potential new "primary" market. They are therefore unwilling to license these rights to a body such as the Copyright Licensing Agency (CLA)⁶ as they currently do for paper copying. Their concerns include document security, charging, and ensuring copyright compliance. The rights of authors, who may have signed these over before the advent of electronic dissemination, provide a further complication.

The Electronic Libraries Programme is also effecting change through the development of experimental services. Several of its projects, particularly in the on-demand publishing and electronic short loan strands, have led to a considerable increase in requests from libraries for permission to make electronic copies of published documents. This is adding to the pressure on publishers to make decisions and develop policies on electrocopying.

Established intermediary agents' income is still almost entirely from their traditional services, but, in order to maintain their market share of both libraries and publishers, they are similarly investing in new electronic services. However, they face competition from a number of new players who are entering the electronic arena. The development of value-added services, offering clear benefits to their clients, is crucial to their future success.

Electronic 'short loan' - Project ACORN's⁷ experience

Librarians are pursuing the development of electronic access to full-text readings because this has the potential to meet some of the increased demand. Multi-user access, multiple access points, and twenty-four hour access are some of the perceived benefits. A drawback is the need to find the resources to explore and develop new services, whilst still maintaining the traditional ones.

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- the involvement of Swets & Zeitlinger⁸ (the international periodicals subscription agency) in the project consortium
- the project's sole focus on journal articles.

The overall aim of the project is:-

to develop a transferable model of the process of making short loan journal articles available electronically, with particular focus on the role of a third party agent in copyright clearance and providing digital copies.

It is important to highlight that the project is working solely with journal articles as this has been a key factor in its success rate in gaining copyright clearance for electronic copies. Universities' subscriptions to journals are determined by research rather than teaching requirements, so electronic 'short loan' articles for undergraduates pose no threat to publishers' income from current subscriptions.

Identifying key high-demand articles

The timely identification of high-demand articles poses problems for libraries. Project ACORN is working with the reading lists of three academic departments who were approached in September 1996 for their reading lists for modules beginning in February 1997. Two of the three departments responded well, while one department, despite repeated encouragement, only managed to produce reading lists for five modules.

A survey of academic staff in the three departments revealed that 54% of staff prepared or updated their reading lists immediately before the start of the course, whilst a further 6% updated them about a month before the start of the course. Reasons given included the need for highly topical material to be included and the tendency to produce lists on a weekly basis.

Some 10% of respondents indicated that they did not generally send their reading lists to the library while a further 3 % acknowledged that they did not always send their lists to the library. Reasons given included lack of time, not remembering, and lack of awareness of an easy (electronic) mechanism for sending lists to the library.

It appears that modularisation has affected the frequency and regularity with which reading lists are produced. A number of lecturers organise their reading lists on particular themes and link them to a specific lecture, which means that they may be producing several reading lists during a course, and may give them out to students on a week-by-week basis.

This approach poses difficulties for a traditional short loan collection, but sufficient lead-in times are even more important in developing an electronic collection. A substantial amount of time is needed firstly to gain copyright clearance and then to make an electronic copy of the article. Each of these two processes can be complex and time-consuming for the library. The survey has identified the need for much closer liaison between academic and library staff in order to increase mutual understanding of the constraints within which each are working, and the time-scales required for identification and provision of electronic materials. In addition, more information is needed on the rate of change of items on reading lists from year to year. Preliminary information from Project ACORN has indicated that about 60% of material remains on the lists from year to year, unless there is a change of lecturer and a substantial course revision, but further investigation and information is needed in this area.

Copyright Clearance

The need to contact a large number of publishers, both in the UK and overseas, for permissions has entailed careful management. Project ACORN has developed a relational database called CLEAR (Copyright Licensed Electronic Access to Readings), using Microsoft Access, to manage and track progress with permissions. The database enables article and publisher information to be recorded, together with information on permissions, payments and article usage data. Details of the modules and tutors for which articles have been requested are also included, and it is planned to extend the database to enable tracking of the process of reading list receipt.

Some 316 high-demand articles from 84 publishers were identified from the reading lists of the three departments at Loughborough University with which the project has been working - Geography, Human Sciences and Information and Library Studies. These articles are recommended reading for 24 second semester modules, in the academic year 1996/7. The date spread of the articles is from 1955 to 1996, the average number of pages is 16 per article and the numbers of articles requested per publisher ranges from 1 at the lowest to 37 as the highest .

The following two tables show the types and nationalities of publishers approached for permissions.

Type of Publisher	Number
Commercial	50
Learned and Professional Society	26
University Press	8

Table 1 Type of Publisher

Country of Publisher	Number
UK	41
USA	33
Germany	3
Holland	3
Canada	2
South Africa	1

Table 2 Country of Publisher

Publishers responded as follows:-

Contacted	Agreement	Refusal	Undecided
84	58	9	17
100%	69%	11%	20%

Table 3 Publishers' Reactions

The number of positive responses to participation in Project ACORN is very pleasing, as is the small number of refusals, while the high number of publishers who are undecided is disappointing. The following table shows the numbers of articles for which permission was received, denied, not yet decided, or where no response was received.

Requested	Received	Denied	Undecided
316	237	45	34
100%	75%	15%	10%

Table 4 Article Permissions

In terms of publisher type, learned and professional society publishers have responded most positively to date.

Type of Publisher	Number of Publishers Participating	Numbers of Publishers Approached
Commercial	27	50
Learned and Professional Society	25	26
University press	6	8

Table 5 - Permissions received by publisher type

The time scale for acquiring electronic permissions is illustrated in Figure 1 below.

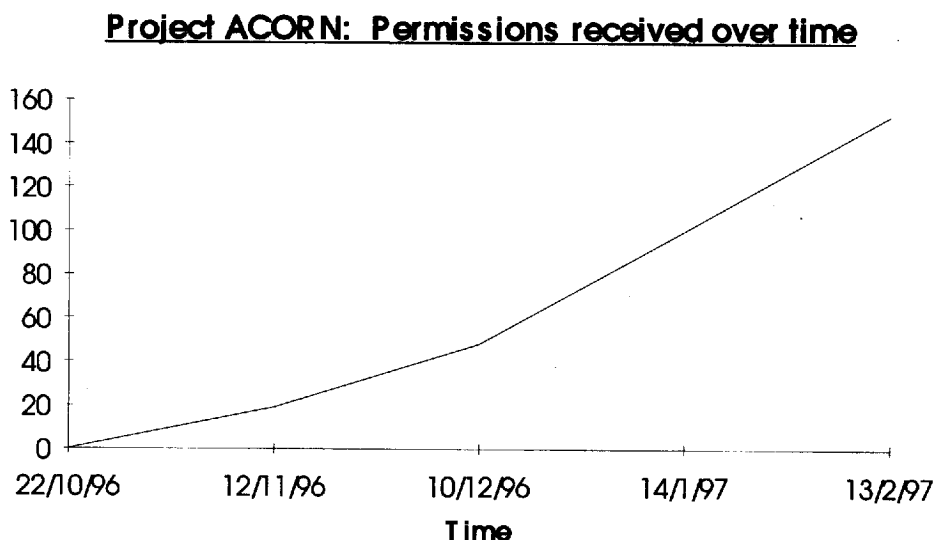


Figure 1 Permissions Received Over Time

Initial letters to publishers were dispatched on 22 October, 1996, and responses were very slow in coming. The project used a number of methods of chasing, including letter, telephone, email and fax, and this led to a steady increase in responses. The rate of response clearly underlines the need for advance planning and identification of articles on the part of libraries. Permissions were still being received in April 1997 six months after the initial request. However, if some of these delays are due to a lack of policy on electrocopying, then further requests may be handled more speedily in the future. The next phase of the project, which will request articles for the 1997/98 academic year, will be able to test this hypothesis.

Reasons for the high number of permissions received by the project seem to be linked to a number of factors.

- the involvement of Swets & Zeitlinger

This has had a very positive effect in that they are known and trusted by publishers and have been able to discuss issues of concern with them. They also have a detailed knowledge of publisher contacts and were able to alert us to changes in personnel, and the need to re-direct a letter to a different section or person. They also provided us with an initial list of publisher contacts, in electronic form, from their in-house database.

- the sole focus on journal articles posed no threat to publishers' income
- the project's emphasis on working in partnership with publishers through a Heads of Agreement approach
- undertaking to provide information back to publishers on usage and users' behaviour

This may have helped persuade publishers to experiment with electronic copies in a relatively safe environment in order to gain useful information and insights

- the time-limited nature of the project seems to have provided reassurance that permissions granted were for a set period only.

Reasons given for refusing permission were often that the publisher had no policy on electronic copying. This may also be one of the reasons for the numbers of undecided publishers. The time and costs of repeated chasing of publishers can be considerable, and therefore represent a significant cost to libraries. The average number of days to obtain a permission is currently 66.5 and the average number of chases per publisher is 2.5, although some have been chased up to seven times. Of those publishers supplying permissions, only 17 responded without chasing, while 35 needed to be followed up..

The majority of publishers participating in the project signed the Heads of Agreement we provided, mostly without amendment. A small number provided us with a copyright statement to appear on the first page of the document, and a small number asked us to approach authors for secondary permissions, or did this themselves.

Requests for Payment

The majority of publishers agreed to participate in the project without making a charge for their articles, whilst a small number (six in all) asked for payment. The range and types of payments requested clearly indicate the lack of consensus among publishers on what constitutes a reasonable charge for this type of service. Payments requested were as follows:-

- 20c per page printed
- \$1 per article printed
- \$25 per page to mount the article
- 2.5p (4c) per page printed
- 5p (8c) per page with advance payment for 10 printed articles and 5p (8c) per page for printing in excess of this.
- £5.00 (\$8) per page to mount the articles for a period of 2 years

Needless to say, the project was not able to agree to all of the above requests for payment. Interestingly, in two cases where charges were requested for articles written by staff working at Loughborough University, these were waived when this was indicated to the publisher.

ACORN's Technical Approach

Digitisation

The project has opted to scan the documents into Portable Document Format (PDF), which is becoming accepted as a standard, and is a format commonly chosen by publishers for their own electronic products. A major advantage is that the Adobe Acrobat reader needed to view the articles is commonly found on campus networks and can be freely downloaded from the World Wide Web.

The process of digitisation has proved problematic for a number of reasons. Firstly, it is important to work from a good, clean copy of the document when scanning. Swets & Zeitlinger, as a project partner, are undertaking the digitisation of articles. Thirty percent of the articles identified as high-demand were in their back sets department, thus providing ready access to a good 'clean' copy. However, the need to scan from bound issues and volumes required the purchase of a book scanner to compensate for curvature in the text.

Copies of articles not held by Swets were provided from Loughborough University's stock, but the quality of the original copies was often very poor as they had been extensively used by students. We therefore had to acquire an inter-library loan copy of several articles from the British Library, as these were of better quality than our own. Where it was possible to make a reasonable photocopy from our own stock, greater care and attention was needed than for normal photocopying, making this a lengthier process. The electronic versions of the texts have also needed very careful proof-reading for errors. In particular, the accurate scanning of tables, diagrams and formulae has proved difficult, and error correction has been a time-consuming process. To date, it has taken at least 30 minutes per article page to achieve a good electronic copy.

The project opted for text rather than image files as the former are smaller and perform better across the network. Image files are considerably larger and can take much longer to print out. However, the drawback, as seen above, is in the time required to produce accurate text files.

Accessing the electronic documents

The articles are held on a local SUN unix-based server within a relational database management system, in this case Sybase. They are accessible from the TalisWeb OPAC and the library's Web pages, and are retrieved using Netscape. Common Gateway Interface scripts link the documents to Netscape and the Acrobat reader. The advantage of this approach is that the software used is widely available, thus making the model potentially portable to other sites. This will be tested later in the project at Leicester University library.

Document Security

A number of security features have been put in place in order to reassure publishers that their electronic copies are secure from unauthorised use or onward transmission.

- the articles are only accessible from machines on Loughborough University's campus
- access is restricted by ID and password to students registered on the particular module for which the reading has been recommended
- certain features within the Adobe reader have been disabled - users cannot 'cut' or 'paste' from the documents, nor download an electronic copy
- a copyright statement has been added to the footer of each page, both for on-screen and printed copies, and the user's ID appears on any print-outs

Economic Issues

Potential Market Size

The market size for this type of 'short loan' electrocopying is difficult to gauge without more detailed knowledge of the contents of university short loan collections. Project ACORN has identified 317 articles across three departments, covering 24 modules in one semester. In all there are 24 departments at Loughborough University, each offering about 50 modules. However, some subject areas, such as engineering, do not make heavy use of reading lists whilst others, such as social sciences, have very substantial lists.

The numbers of articles in short loan collections can run into the thousands, but it is likely that the time and costs involved in providing electronic access will mean that a smaller, more targeted subset of articles will be identified for this type of approach. There are about 190 individual institutions of higher education in the UK, most of which are likely to have some type of short loan function. Taking into account universities world-wide then the market size could be considered significant.

Costs for libraries

The costs to libraries of establishing electronic collections include:

- time spent on liaison with academic staff
- time and costs of obtaining permissions
- student training in the use of electronic documents
- provision of an appropriate IT infrastructure for document access
- technical support for managing the electronic system
- digitisation of articles
- usage logging
- publishers' charges

Offering a traditional short loan service has many costs elements, including:

- identifying items for short loan from reading lists
- acquiring inter-library loans if required
- processing items for short loan
- issuing and returning short loan items
- reshelving items
- removing and re-processing items no longer needed

If the collection is open-access, then staff time is also needed for :-

- tidying the collection
- searching for missing items
- replacing damaged or missing items

Project ACORN is currently gathering information on these costs in order to compare the electronic and traditional services. The costs of the traditional service are clearly significant taking all the elements into account. If charges for an electronic service need to be passed on to users, libraries may feel obliged to continue offering this traditional free service in addition to the electronic one, thus increasing their costs overall.

Publishers' Charges

If publishers charge a rate for electronic copies beyond the reach of most library budgets, and beyond the means of students, then, in effect, there is no market for this type of activity. In order to set a fair price which the market can bear, a number of elements need to be taken into account. For example:-

- did the library subscribe to or purchase the original paper copy?
- is digitisation required?
- does the author work in the institution?
- for how long is the article needed?
- how many students are on the course?
- how much can the library and its users afford to pay?

The overall cost to the library of providing an electronic copy compared with a paper copy will need to be assessed.

Conclusion

There have been a number of attempts to bring about a consensus among publishers on their approach to handling requests for high-demand materials. The European Copyright Users' Platform (ECUP)⁹ has developed a number of Heads of Agreements for use in different circumstances. More recently the Joint Information Systems Committee of the Higher Education Funding Councils has established a working group with the Publishers Association. It appears that a lengthy standard license agreement will emerge, containing a very wide range

of clauses from which publishers will be able to select those they wish to apply in their particular circumstances. This may go some way to smoothing the process of obtaining permissions, but still leaves outstanding the issue of charges.

The role of an intermediary in this process could still be attractive for libraries, as the contacts and experience they bring will probably provide a speedier and more efficient approach to clearance. Project ACORN will be able to provide some evidence in this area when it has requested permissions for the next academic year and can judge the benefit of prior knowledge and contacts.

Finally, and most importantly, we need to know how students react to electronic readings, whether they use them or not, and whether they see real benefits in being able to access this type of service. Once this information has been gathered and analysed then libraries and publishers can together explore a realistic pricing structure which can provide benefits to each.

References

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- 4 <http://www.port.ac.uk/adc/tltplist.htm>
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- 6 <http://www.cla.co.uk/www/internet.html>
- 7 <http://acorn.lboro.ac.uk/>
- 8 <http://www.swets.nl/>
- 9 <http://www.kaapeli.fi/~eblida/ecup/>

Paula Kingston is currently managing an Electronic Libraries project (ACORN - Access to Course Readings via Networks), at Loughborough University. The aim of the project is to set up an electronic short loan collection of journal articles. She has worked previously as Education Librarian at Swansea University Library, and as a Programme Manager at the National Council for Educational Technology where she was responsible for managing the information service and a number of information-related projects. She is particularly interested in the impact of information technology on student learning, and the institutional and management issues raised by electronic library developments.