

E-Reserve as a solution to digital copyright management at Curtin University of Technology

*KAREN TANG, PLANNING, PROJECTS AND RESEARCH LIBRARIAN and
JACKIE HANLON, LENDING AND COLLECTION SERVICES LIBRARIAN*

CURTIN UNIVERSITY OF TECHNOLOGY

ABSTRACT

This paper addresses how Curtin University Library & Information Service successfully adapted its E-Reserve system to accommodate the 2001 amendments to Australian copyright legislation, offering the University a solution to digital copyright management without sacrificing the needs of students, academic staff or the Library itself.

The paper examines how the Library assisted Curtin to keep its copying under the educational provisions of the Copyright Act to a minimum. The Library's role in achieving necessary changes to University copyright policy is discussed and its linking system to course/unit learning management systems described.

The paper considers the legislative requirements for educational electronic copying, including warning notices, authentication and institutional limits, and how these were incorporated into Curtin's E-Reserve. It also covers each of the fields universities are required to report on for the Electronic Use System monitoring scheme 2003-2007. To minimize Library workloads and inconvenience to staff and students, the Library determined only to collect some of this data year-round. Data for other fields would only be collected during a monitoring period. The reasons for this decision and how the data was successfully collected when the University was monitored in 2002-2003 are covered.

Changes to copyright legislation 2001

The introduction of digital amendments to copyright legislation in 2001 removed any ambiguity as to whether it was legal for universities to make electronic copies of book chapters, journal articles etc without the permission of their copyright owner, and to communicate these to students via the internet – e.g. to create “online” or “electronic” Reserve collections in place of, or in addition to, traditional university library photocopy Reserve collections.

However the amended legislation and its associated statutory copyright licence covering copying by educational institutions (the “Part VB licence”) introduced several new requirements in relation to the electronic reproduction and online communication of copyright material by universities, e.g. access restrictions, warning notices, new copying limits, and an electronic use system to monitor the amount of material being copied. [Unless specified otherwise, the term “copied” is used throughout this paper to encompass both reproduction and communication. “Copyright” material refers to material for which the University does not own the copyright.]

While universities considered these new requirements too restrictive, many copyright owners considered them too liberal. The atmosphere was tense and there were real fears of litigation for non-compliance with the new legislation.

In copyright workshops held during February 2001, the Australian Vice-Chancellors' Committee (AVCC) recommended that Universities take steps to ensure central control of their electronic copying: to minimize the risk of non-compliance and to avoid an “explosion” in the amount of copying being done under the Part VB licence.

University responses varied. Some opted for a central registration system, with all electronic copies being registered with their University's legal services department. Some set up digital repositories, e.g. a "course materials database", with a presence for each unit/course offered by the University in which could be lodged not only copyright "readings" but lecture notes and PowerPoints, past exam papers, etc. Others adopted a central scanning service and associated repository, with a teaching support unit allocated sole responsibility for scanning copyright teaching materials and loading these onto a central server, for linking to by the library and/or academic staff using electronic learning management systems (WebCT, Blackboard, etc).

At Curtin University, the Library offered to develop its fledgling E-Reserve as the University's digital copyright management solution.

Curtin's choice of E-Reserve for its digital copyright management solution

Curtin Library had already commenced development of its E-Reserve in 2000 with a view to it ultimately replacing the Library's large Reserve collection of photocopied articles, chapters and other unit/course reading material. It had seen E-Reserve as part of its commitment to providing its clients with simultaneous, 24x7, online access to scholarly information. It was keen to ensure that the Library retained its role within the University as the principal provider of scholarly information. It believed that by providing digital readings through the Library's catalogues (both its main catalogue and its Reserve sub-collection catalogue), rather than "locking them up" in individual learning management units, awareness of, and access to, digital resources would be improved across the University.

When the requirements of the new legislation and Part VB licence were announced late in 2000, the Library initially reviewed them for their potential impact on E-Reserve. It quickly became apparent that there was one rule with which it would simply never be able to comply in the existing Curtin context, i.e. the requirement that if a University wishes to make available on-line a reasonable portion of a work (other than an article contained in a periodical publication) it can only do so if no other part of the same work continues to be made available at the same time.

Curtin is a large, diverse University, with a culture of de-centralisation which, by 2001 had started enthusiastically to embrace online teaching and learning. Across the University there was a wide diversity of arrangements for the delivery of this online teaching, including several commercial learning management systems (WebCT, Blackboard and Lotus Learning Space) and some home-grown systems, with a plethora of servers in use. Academic staff had been free to use whichever platform best suited their purpose, with no central control, and little control even from the Divisional/School/Department level.

In this environment, there was simply no way for anyone intending to communicate a chapter online to establish whether anyone else in the University was already communicating online that or another chapter from the same work. A central system for registering electronic copies and online communications was mooted in some quarters of the University as a solution. The Library feared this had the potential to be more of a hindrance than a help to its E-Reserve operations. It also considered there was little chance of persuading academic staff to register their copies. Registration would be seen as adding yet more work to the significant workload involved in creating an online unit/course, for no perceived benefit. The Library believed however that academics might be persuaded to lodge the chapters, articles, etc they wanted their students to use in a central repository, if it would save them the time and resources involved in scanning, uploading and maintaining these documents themselves, and if their students would be able to access the material directly from their online unit/course. A central copyright-compliant E-Reserve repository, accessible from the Library's catalogue or via links from online units/courses, seemed to offer a workable solution for everyone.

The Library also saw that by offering E-Reserve as a copyright-compliant digital repository for the University, it could demonstrate its professional expertise in a modern form of electronic scholarly communication, a key component of the Library's Strategic Plan.

With the support of the Deputy Vice-Chancellor (Teaching & Learning), a paper was put to the University's senior executive (Planning and Management Committee) proposing that the University support the acceleration of the development of the Library's E-Reserve system and that it require that material for which the University did not own the copyright be removed from Departmental, School and Divisional websites and placed instead within E-Reserve. The paper also pointed out the following potential benefits of the Library accelerating its development of E-Reserve:

- The Library's demonstrated expertise in electronic authentication, online inventory systems and counting the number and origin of "hits" on online documents could be utilized
- The Library could use its knowledge of scholarly publishing to find alternatives to Part VB copies if these were required (e.g. because maximum copying limits for a work had been reached) or where this were desirable (e.g. where it would be more cost-efficient to subscribe to an electronic version of an in-demand book or journal, or to get the copyright owner's permission to digitise material, rather than relying on Part VB copying).
- The expertise of Library staff in the development and presentation of information to academics could be utilized to provide appropriate publications and briefings on the copyright issues and requirements that must be taken into account in developing online units/courses.

The proposal was adopted and subsequently incorporated into the University's revised copyright procedures. Seed funding was made available to the Library which enabled it to accelerate the growth of E-Reserve. Some recurrent funding was made available to enable the Library to absorb the cost of scanning material rather than on-charging this to Departments – academics only need supply the Library with a photocopy of material they require on E-Reserve, the Library would do the rest. Staff were alerted to the changes through notices, email and departmental visits.

The Library's confidence that it could deliver an efficient, compliant copyright solution was subsequently put to the test when, late in 2002, Curtin's E-Reserve was selected for monitoring by AC Nielsen under the Electronic Use System foreshadowed in the amended copyright legislation.

Curtin's E-Reserve ethos

Curtin Library has a strong ethos of quality client service. The Library had thus resolved at an early stage of its E-Reserve project to make the process of placing items in E-Reserve as simple as possible from the academics' point of view and the process of accessing the items as simple as possible for the student. It was this philosophy which had underpinned the Library's decision to develop an E-Reserve integrated within the Library system and catalogue, rather than kept separate in a stand-alone E-Reserve/course materials system. It was felt this approach would avoid academics and students having to familiarise themselves with yet another electronic service and learn yet another search interface. Consistent with this "one stop shop" approach, it had also been decided not just to place new material into E-Reserve but to retrospectively convert and incorporate the photocopies in the Library's existing hard-copy Reserve collection. E-Reserve would include both scanned documents (PDF), and links to articles in the scholarly databases to which the Library subscribed. Material for which the University owned the copyright as well as other material would be included.

The Library had also resolved at the outset that E-Reserve had to be affordable from the Library's viewpoint. While it might initially be expensive to set up, in time it should not add significant extra costs to the Library's operational budget.

The Library was determined that the requirements of the digital copyright amendments would have to be accommodated within this framework, with as little cost and inconvenience to academic staff, students and the Library as possible.

Legislative requirements for copyright compliance

Authentication

The Part VB licence requires that a University take all reasonable steps to ensure that material communicated online in reliance on the licence can be received or accessed ONLY by people entitled to receive or access it, e.g. staff and students of the University or of another University with a remuneration notice in place. Copyright works communicated online in reliance on Part VB must NOT be available for access by the general public.

In devising an authentication system for E-Reserve, the Library was keen to ensure that any user of its OPAC – Curtin or non-Curtin – would continue to be able to ascertain that the Library held a particular item. They should only need to authenticate themselves if they wished to access the document.

While currently there is no legislative requirement to restrict access to an E-Reserve document to staff or students of a particular unit or course, the Library was keen to ensure this could be provided in future should the legislation change.

In developing an authentication system for E-Reserve, the Library was able to draw upon and adapt the authentication system it had already developed for its licensed scholarly databases. These too generally required access to be restricted to authenticated Curtin staff and students.

The solution adopted uses a verification page which appears when the user clicks on a link to an E-Reserve document from its record in the OPAC. The user enters their unique Library barcode and PIN number which is verified against the Library system before being checked against a 'resources' table. This table allows or restricts access to particular Library resources according to the individual's 'borrower status'. For E-Reserve, access is permitted to any person considered to be a Curtin student or staff member. For other users, access is denied and an explanatory message broadcast.

Warning notices

The Part VB licence also requires that a prescribed warning notice MUST appear either before or at the same time as copyright material being communicated online appears on the screen.

In accommodating this requirement, the Library was concerned to ensure that (a) problems should not arise in future if the wording of the prescribed notice were to change and (b) only documents being communicated under the Part VB licence should bear the notice. For reasons outlined below, it was considered inappropriate and undesirable if the warning notice appeared in connection with material communicated under other provisions, e.g. Curtin-copyright material, material from licensed scholarly databases, material communicated with the permission of the copyright owner.

To accommodate (a), the Library devised a system whereby the warning notice is not included when E-Reserve documents are scanned or downloaded. Instead a "pop-up" notice is used. To accommodate (b) two distinct ranges of barcode numbers are used when processing documents for E-Reserve. Those copied under the Part VB licence are always allocated a barcode prefixed DC 60, while those copied under other provisions are allocated a barcode prefixed DC 65. These barcodes, including their prefixes, are included in the url link from the OPAC record to the E-Reserve document. When clients click on the OPAC link to an E-Reserve document (i.e. irrespective of DC number) they are challenged to authenticate themselves in the first instance. If access is permitted, the program then checks the DC to determine whether the prefix is DC 60 or DC 65. If DC 60 is detected, the prescribed warning notice will display; if a DC 65 number is detected, it does not.

Deeming

While material which is communicated online in reliance on the Part VB licence can remain online indefinitely, there is deemed to be a fresh reproduction and a fresh communication at the end of each 12 month period that the material remains available online. Universities are thus required to keep track of when material is first communicated online so that its subsequent "anniversary date" can be computed.

The Library addressed this requirement by creating a special MARC tag within E-Reserve catalogue records labelled EUC, in which the 'Date of Communication' for the document is recorded. This date is input by Library staff using the system date format 'yyyymmdd' as one of the final procedures in creating an E-Reserve catalogue record and the live link from the catalogue record to the E-Reserve document. Workflows were developed to ensure that the input of the EUC tag and the creation of a live link to an E-Reserve document occur at the very end of cataloguing and document processing - so the EUC accurately reflects the date the document was first available for online communication to clients.

Copying limits

As noted above, the 2001 digital copyright amendments introduced for the first time institution-wide limits in relation to communicating material such as book chapters. A book chapter could only be communicated online under the Part VB licence if no other chapter from that book was already being communicated online by the University. Policing of this rule only became feasible once the Library had persuaded the University to adopt E-Reserve as the sole permitted repository of Part VB material. Thereafter, to establish whether a new book chapter could be added to E-Reserve, the Library only had to check its own records.

To enable this checking to be done efficiently and accurately however, the Library had to ensure a higher standard of cataloguing was used for E-Reserve materials, compared with the brief records hitherto created for Reserve photocopies. The latter had recorded only the author and title of the chapter being included in the Reserve photocopy collection – details of the book from which the chapter was taken were not recorded in a systematic manner.

A new 524 MARC tag was developed, recording the 'preferred citation' for the book in the format: Surname, First name [space] (ed.) Full title of book [space] Year of publication [space] Chapter number and Pages. (For example: Bruce, Bonnie (ed.) Style tips for the modern woman 1999 ch.2 pp15-35)

New processing instructions were introduced requiring staff processing new book chapters for E-Reserve to undertake a keyword search of the catalogue to discover whether any material from the book was already being communicated via E-Reserve. The standardised format of the 524 field lead to a high degree of accuracy in retrieval. (Where material from the same book is already being communicated via E-Reserve, Library staff negotiate between the respective staff members to determine if both chapters are required simultaneously. If they are, the Part VB licence must not be relied upon. The Library takes the lead in seeking acceptable alternative arrangements, e.g. sourcing similar material elsewhere, seeking copying permission from the copyright owner.)

The introduction of the new 524 tag not only facilitated legislative compliance, but assisted Library clients with their searching and enabled them to cite more accurately in essays, assignments etc the material they had used from E-Reserve.

Requirements of the "Electronic Use System"

While an "Electronic Use System" (EUS) was foreshadowed in the digital copyright amendments, agreement between the Copyright Agency Limited (CAL) and the AVCC on the data to be collected under the EUS was not reached until May 2002. The agreed EUS required Universities to report the

following fields for each document electronically copied or communicated for the first time during a specified three-month monitoring period:

Centre code
Department name
Date material first re-produced
Date material first communicated
Anniversary date of communication (12months from date first made available)
Copied for (internal students, external students, staff, other)
For a Coursepack?
Type of Count: Paginated, Word, Non-Text
Amount Copied or Communicated (in pages or words)
Number of copies
Online intended audience: specific or general
Audience Numbers
Material Type: newspaper or other
Title of Publication, eg book, journal, newspaper
Date of Publication
Title of [individual] work eg chapter, article
Author name(s)
Publisher name
ISBN/ISSN
Incidental artistic work included?
Reference Number
Other Comments

Documents "deemed" to have been communicated for the first time during the monitoring period (by virtue of reaching their anniversary date during the monitoring period) must also be reported.

Data must be presented in the form of a spreadsheet, with separate rows for items reproduced versus those communicated, and for each different "audience".

When details of the EUS were first announced, the Library reviewed whether it would be able to provide what was required of it when its turn to be monitored inevitably came. It determined that much of the specified data was already being captured or could be easily determined when required. For example, *Author Name(s)*, *Title of [Individual] Work*, *Title of Publication* and *Date of Publication* were routinely included in the bibliographic records created by Library staff for all E-Reserve material. All E-Reserve documents were, of necessity, allocated a unique Library system number which could serve as the EUS *Reference Number*. Since the Library avoided duplicating E-Reserve items, *Number of Copies* would always be 1, and since the Library was not involved in the creation of coursepacks, *Coursepacks?* would always be No. The *Date Material First Communicated* was routinely recorded in the EUC field discussed above and the *Anniversary Date of Communication* could be computed readily from the *Date Material First Communicated*.

By contrast, the Library considered that some of the fields which would be required for reporting purposes during an EUS were not required for the smooth operation of the E-Reserve system, i.e.:

- *Date Material First Re-produced*:
This was automatically captured by the E-Reserve server which stored the date a PDF file containing a scanned image of the item was created. However it was not captured in a document's bibliographic record – to achieve this would have required special programming or manual input, neither of which was seen as warranted.
- *Type of Count and Amount Copied* :
While, for the purposes of creating a bibliographic record of acceptable quality, it was necessary to capture the range of pages covered by an E-Reserve item (e.g. pp 10 – 15), calculating the number of pages or the number of words, served no staff, student or Library purpose and would be time consuming to compute. Calculating the number of words for electronic material was considered out

of the question!

- *Material type, Publisher Name, and ISBN/ISSN*
While, for the purposes of creating a bibliographic record of acceptable quality, the Library always recorded publication date, it had no reason from a staff, student or Library viewpoint to capture *Publisher Name* or to distinguish newspapers from other material types. Furthermore, since most E-Reserve items were supplied to the Library by academics as photocopied articles/chapters, the Library did not have readily to hand the source book/journal to capture ISBN/ISSN. To require it from academics was thought to be unreasonable and unlikely to be reliable. Furthermore the recording of ISBN/ISSN did not appear to serve any staff, student or Library purpose.
- Audience details e.g. *Online Intended Audience, Audience Numbers* and *Department Name*
While the Library did record the University's identifying codes for the units/courses for which materials were on E-Reserve (so that students could search for material on their own unit/course and Library staff could contact relevant staff as necessary), it did not record the official University unit name. Nor did it record or have any need for the Academic Organisation Unit (AOU) Number and AOU Name which, it emerged, were required by the EUS monitors under the heading *Department Name*. E-Reserve material was not restricted to students of a particular unit/course so *Online Intended Audience* could be classified in all instances as "General" (rather than "Specific"). However, with respect to *Audience Numbers*, the Library did not need or record unit enrolment figures and whether the enrolments concerned were internal, or external.
- *Incidental artwork included?*
Whether the document included incidental artwork was of no relevance to staff or students using E-Reserve, or to the Library.

The Library considered that to collect these additional fields all year round would be unduly burdensome to academic and E-Reserve staff. The processing of E-Reserve documents would inevitably be slowed – causing inconvenience to all since E-Reserve materials are often lodged just prior to being required by students. The Library thus elected to collect this information only if/when Curtin was monitored – likely to be for three months, once every five years. It was known that the Library would be given three months notice of being monitored. It was felt that there would probably be enough time between the date of notification and the conclusion of the monitoring period to collect the outstanding data. On balance it was felt this would be cheaper for the Library and more convenient for academic staff and students, than investing the effort required to collect this data year-round.

As it turned out, the Library was amongst the first to be selected for EUS monitoring. The monitoring period assigned was from 23 December 2002 to 16 March 2003, probably the most inconvenient point in the Curtin academic calendar. The University would be closed for the first two weeks of this period and the Library would be required to provide its first survey results to the monitors during January when many staff would traditionally be on leave. Worse, the traditionally extremely busy commencement of semester when many new items are added to the Reserve collection, and demand from students was very high, would fall during the monitoring period. Worse still, the photocopies from the Library's hard-copy Reserve collection which had been retrospectively added to E-Reserve during the previous summer break would reach their anniversary date during the monitoring period.

Despite the unfortunate timing however, the Library was able to provide all the required data to the EUS monitors with an exceptionally low error rate by the relevant due dates. To achieve this required the following:

- Additional fields were temporarily created in the Library's E-Reserve catalogue record template to accommodate the *Date Material First Reproduced, Type of Count, Amount Copied, Material Type* and the bibliographic data for the EUS which the Library had determined was not worth collecting year round, i.e. *Publisher Name* and *ISBN/ISSN*. An additional field was also included for *Incidental Artwork* (default = No).
- For documents added to E-Reserve during the monitoring period, Library staff retrieved the additional information required and input it as the documents were being processed for E-Reserve. An additional

staff member was employed to compensate for this additional workload. (It may have been possible to cope without additional staff if the monitoring period had fallen at a more advantageous time. This was not possible in Jan-March.)

- Documents which were due to reach their anniversary date during the monitoring period were identified. Additional staff were employed for a month prior to the commencement of the monitoring period to retrospectively retrieve and input the additional data for these documents. This process was completed prior to the monitoring period getting under way.
- To obtain the audience data required of the EUS, the Library liaised closely with the University's Planning Office. The identifying codes for the units/courses for which materials were added to E-Reserve during the monitoring period were provided electronically to the Planning Office. The Planning Office used its records to provide the relevant AOU Number and Names required for *Department Name*. The Planning Office also supplied the necessary enrolment figures. (The latter was also complicated by the timing of the survey, with EUS data due before the date of 30 March when University enrolment figures are finalized. In the circumstances, the EUS monitors were prepared to accept enrolment data from the previous year.)
- A program was written to extract the required data fields from E-Reserve records, to output it to an Excel spreadsheet and integrate Planning Office audience data. Checking routines were devised to ensure all necessary fields had been completed for each record.
- For "*Incidental Artistic Work*", the Library elected to take a very broad interpretation of this term and leave it to AC Nielsen to determine whether the artwork in an E-Reserve document met the criteria for incidental artwork. Documents were browsed by Library staff to detect whether they contained any artwork. If so, the *Incidental Artistic Work* default was changed to Y (for Yes). At the end of the monitoring period a CD-ROM of documents containing artistic work was compiled by burning to disk documents with a Y in the relevant field – all pages of these were included, not just those containing artwork.)
- It was decided that for serials, no *Publisher Name* would be reported on the grounds that it would be unreasonably difficult to trace who was publishing a particular serial at a particular date.
- *Type of Count* and *Amount Copied* for electronic documents did not prove to be an issue. The Library had decided not to rely on the Part VB copyright statutory licence to reproduce and communicate electronic documents – it had found that e-books and e-journals were always covered by other licences while for web-pages, it was so difficult to interpret the Part VB provisions relating to copying limits that the permission of the copyright owner was always sought.

Compliance with AVCC recommendations in relation to Part VB copying

In addition to attempting to meet the legislative requirements in relation to Part VB copying and the requirements of the Electronic Use System, in building its E-Reserve system the Library also attempted to comply with the additional recommendations of the AVCC regarding copying.

Avoiding an "explosion" in the amount of Part VB copying

As noted above, in its February 2001 copyright workshops the AVCC cautioned Universities about massively increasing the amount of copying they were undertaking under their Part VB licence, for fear that the price of this licence would be significantly raised in future to compensate copyright owners.

The Library took this advice to heart. Within the Curtin E-Reserve system, only a single copy of any document is made. Any E-Reserve unit/course requiring that item links to the same document.

Furthermore, by encouraging the University to have E-Reserve designated as the University's sole repository for material copied under the Part VB licence, the Library ensured that the E-Reserve copy of a document was the sole copy online across the entire University - material was not needlessly

duplicated on multiple online unit/course servers across the University. Developers of online units/courses wishing to link students to a document copied under the Part VB licence submit the document to E-Reserve for scanning, processing and cataloguing. They then create a url link from the reference to the document in their online unit to the Library's E-Reserve server. (To simplify linking, the Library has developed an abbreviated url: <http://eres.lis.curtin.edu.au/cgi-bin/gw?url=dc>. The online unit/course developer simply appends to this the DC number of the relevant E-Reserve document, which is clearly visible in its OPAC record.

If Sociology 100, Management 100 and Psychology 100 all require that students read an electronic copy of a journal article or book chapter, all will link (either directly from E-Reserve or indirectly from their online unit/course) to a single document. Collectively this dramatically reduces the amount of copying the University is undertaking under its Part VB licence.

Differentiation of Part VB copying

Consistent with its recommendation that Universities avoid an "explosion" in Part VB copying, the AVCC encouraged Universities to differentiate the copying they undertake under the Part VB licence from the copying they do under other provisions, e.g. copying with permission of the copyright owner, copying of material for which the University owned the copyright, copying from full-text e-books, e-journals and databases to which the Universities subscribed.

As noted above, Curtin Library's E-Reserve achieves this by using different barcode prefixes for material copied under, versus outside, the Part VB licence.

This differentiation proved valuable when Curtin's E-Reserve was monitored for the EUS as additional data fields did not need to be completed for non Part VB documents.

Conclusion

It would be foolish to claim 100% compliance with copyright requirements as some non-compliant documents will inevitably slip through any system. However Curtin Library is confident that it has achieved a very high degree of compliance.

Most importantly, the digital copyright management solution it offered its University has met the requirements of copyright legislators, the Electronic Use System monitors and the AVCC without sacrificing the needs of the Library, nor the University's staff or students.