

# Implementing E-journal Access: Two Perspectives from Scotland

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## Abstract

We present a comparative description of how two Scottish academic libraries provide electronic journal services. These libraries shared the perception that the diversity of the proliferating electronic journal scene created confusion in the eyes of the would-be e-journal user. This in turn gave rise to a separate attempt in each institution to create a unified common interface for the local e-journal portfolio. Points of similarity and difference between the two separate systems are noted. Some thoughts for the future of the e-journal format are provided, based on these libraries' experience in common of mounting their own local services.

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## Introduction

### The changing nature of the e-journal

Recently there have been significant advances in the field of electronic journal provision in the United Kingdom. This period of advance has seen the format mature from what may be described as a somewhat experimental or exploratory status towards a new position as a valuable practical tool for the dissemination of core academic research information.

Perhaps the most important feature of this progression has been a change in the understanding of what constitutes an electronic journal. Whereas previously the term has been applied to a serial publication that exists purely in an electronic form, many examples now exist of respected hard copy journals which have been launched in parallel electronic versions. The status and recognition enjoyed by the hard copy journal have thus been transferred to the publication in its new format. This conversion of established printed journals into parallel electronic versions has been an

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important factor in the process by which the e-journal has gained respect and acceptability in the eyes of the mainstream academic journal user.

### **Agents for change**

Such developments could not have taken place in the UK without the efforts of the Higher Education Funding Councils. These bodies have provided the impetus for the creation of a collaborative environment which has enabled publishers to enter into site licence agreements with the broad mass of Higher Education institutions, via the Funding Councils. Moreover, the interest by the UK National Higher Education administration in electronic serial publishing has coincided with the emergence of certain key information technologies, essential to the mass provision of electronic journals. Whereas previously there have been attempts to promote electronic journal services in which a narrowly proprietorial technical system has been central to the delivery of the service, these newer technologies have been free of such restraints. For example, OCLC's prototype online journal system software GUIDON [implemented at Glasgow University Library in 1992 to give access to the Online Journal of Current Clinical Trials, but now superseded by OCLC's web system] was an instance of one such project where the task of licensing the technology needed to provide the service inhibited a wide reception of the product. By contrast, the free availability within the Higher Education community of widely distributed World Wide Web software such as Netscape [or similar WWW browsers] and viewer applications such as Adobe Acrobat has been an essential factor in the higher uptake of recent e-journal services - for example, the UK Higher Education site licence initiative and NISS's EBSCO Masterfile.

### **The role of the Library**

All of the factors alluded to thus far - an improvement in the intrinsic quality of the type of e-journal on offer, high levels of effective, national-level administrative support, significant advances in the technological platform over which e-journals are distributed - have been positive steps forward in which academic libraries have acted as passive beneficiaries deriving advantages from external agents of change. However, libraries cannot maintain a purely passive role in the face of such developments, if they are to gain maximum benefits from these initiatives. Indeed, it is now clear that there are a variety of complex and challenging problems facing any library that wishes to create a viable electronic journal service. It would be worthwhile sketching out these problems before describing the solutions evolved by the two university libraries whose practical attempts to make effective e-journal provision are the subject matter of this article.

### **Dealing with diversity**

One paramount difficulty is that electronic journals present themselves as a fragmented and confusing landscape to the user. Whereas the hard copy journal user can rely on the familiar tool of a unified local library holdings catalogue with title and subject access, the would-be user of electronic journals confronts a situation where

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many electronic journals are offered as disparate networked services from a variety of publishers.

The easiest way for a library to offer e-journal services in such a fragmented situation is to offer a number of direct electronic links over a local network to the named services of the publishers whose serials can be accessed by right of local institutional subscription. Such a service is of limited value. No library would arrange a serials collection with the publisher as the main ordering principle. It is fair to argue, therefore, that a successful electronic journal service should be at least as easy to use as a hard copy journal service - that is, there should be title and subject access to a journal collection listed integrally in the library's main catalogue- but that in addition, each title/subject record should be *hyperlinked* directly to the e-journal provider's server, or preferably to the contents pages of the individual e-journal itself. Without such ease of access, many of the unique benefits of purely electronic publication, such as desk top access via a computer workstation, count for little.

In the two institutions concerned, Glasgow and Strathclyde University Libraries, both came independently of each other to adopt this approach to e-journal access in 1996. And in each case, the decision was made to promote an improved e-journal service using the local WWW pages in conjunction with the existing online catalogue. At neither institution at this time was there available an integrated *webpac* system, which could unify the catalogue function of the OPAC with the hypertext network functions of WWW services. Rather than await the development of such a finished system, it was felt that a workable e-journal service with the UK pilot site licence initiative journals at its core could be introduced using existing information systems, and that the need for this service was such that any further delay would have been undesirable.

## Glasgow University Library

### Aims of e-journal service

At Glasgow University Library, a web-based model for access to e-journal titles was developed which had the following features:

- It was not to be publisher driven but rather title driven - that is, a direct link from an A-Z 'hotlinked' title list of serials to a pseudo-catalogue record and then to the 'title page' of the individual e-journal would be provided. The user's need to master publisher-specific access protocols would be rendered as minimal as possible.
- Two different routes of access were offered: alphabetical title access and broad subject access.
- Catalogue records which directed the user to the separate Library web service were added to the OPAC with a view to enhanced use in the longer term (e.g. by having direct hotlinks added via the 856 MARC field to the URL of a fulltext electronic journal, and/or as part of the *webpac* implementation). Where a catalogue record existed beforehand, this was modified to show that additional electronic access was possible via separate Library WWW pages.

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Additionally, the service aimed to achieve the following more general goals:

- The service would provide a platform for further discussions with publishers
- It attempted to remove barriers to access by emphasising local support, rather than remote support direct from the service provider.
- It would provide a showcase for promotion of e-journals across campus

### **Launch of e-journal service**

Thus, in Spring 1996 a suite of web pages listing each of the new e-journal titles from the site licence publishers was launched at Glasgow University Library. This replaced the simple handful of links to publishers' own home pages. The majority of the titles in the e-journal collection were full text journals, and the majority of these from established publishers - as remains the case to date. At the outset, however, this helped establish the credibility of the service and made initial promotion easier.

To promote the new service further, and emphasise the Library's role as a major provider of electronic journal services, an 'electronic journals party' was held in April 1996 for academic staff, with some two hundred journal titles then available via the Library's web pages. This was held in the Library building, rather than in a separate University venue, which again underlined the central role of the Library as a campus-wide electronic service provider, and was attended by over 200 members of staff. The usage of the e-journal service subsequent to this very successful launch event at Glasgow was impressively high - in the period July 1996 to March 1997 the number of downloads logged for the Academic Press e-journal service totalled 1,480 documents. This was the highest level of use in the United Kingdom - about 250 more downloads than King's College London, with Imperial College London, Oxford, and Cambridge universities completing the top five. This testifies to the need for energetic promotional work to underpin the introduction of such an unfamiliar service.

Glasgow has attempted to monitor users' reactions to e-journals by mounting a small survey in April 1997 of those who had attended the 'e-journals party' twelve months before. Among the findings were that few problems in accessing e-journals were reported; that e-journals were preferred to paper for accessibility, but that paper journals were still the more popular format 'overall'; that 'ease of access' was the most frequently cited advantage of e-journals, while problems with reading from the screen, and concerns with the lack of 'portability' were often quoted as disadvantages; and finally that a large minority of this group still did not use e-journals, indicating once more the importance of marketing this new service.

### **Features of the service**

To overcome problems such as the innate unfamiliarity of the medium, and to emphasise the need for an electronic service to offer all the advantages (as far as possible) of a parallel print-based service, the e-journal web pages utilised the same subject headings as those used in the shelf arrangement of Glasgow University Library's hardcopy serials. That is, they represented broad subject terms that

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coincided with the institutional interests of Glasgow University departments and faculties. No search form facility was made available for the e-journal web page e-journal records, although their parallel availability via the online catalogue meant that all data in these records were searchable there.

Figure 1. Glasgow University Library e-journal subject list

A model catalogue record for an e-journal was devised as an html template to order the provision of information about each journal title and to provide structured, consistent points of access to the journal itself. The template provides information about the electronic availability of the title, the format through which the full contents can be accessed ( e.g. html, PostScript or Adobe Acrobat pdf), the availability (if any) of the traditional hard copy journal at Glasgow University Library and a point of contact for further information or any additional passwords.

Figure 2. Glasgow University Library e-journal catalogue record

### **Library support for e-journal users**

Another noteworthy aspect of the back-up given to the Glasgow University Library e-journal service has been the support for library users in obtaining and installing reader software.

Very soon after the initial Glasgow University e-journal service implementation, steps were taken to ensure that Acrobat was available in the local software archive. It was felt critical to provide both documentation on what Acrobat is, links to further information about it and instructions for its installation for use with Netscape, the most common browser on campus. This has been a very important part of the successful take up of electronic journals at Glasgow University, and was an example of the e-journal service's commitment to local support rather than abandoning this ground to remote national sources of user help.[\(1\)](#)

### **Password access versus ease of access**

In the year since the Glasgow e-journal service was implemented, a number of e-journal publishers have made a dramatic shift from password to IP control. This shift is to be commended and encouraged if e-journals are to increase their impact, and greatly advanced Glasgow's policy of providing, as far as possible, instantly available fulltext direct from the bibliographic record. However, until a radically simplified, and above all *unified*, form of user authentication for all campus networked services

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is achieved, a transparent and painless movement from a catalogue record or web page to a fulltext electronic resource will not be possible.[\(2\)](#)

## **Strathclyde University Library**

### **Strathclyde University Library web service**

The introduction of a web-based e-journal service at Strathclyde University Library took place in 1996 against a background of similar thinking to Glasgow's with many features in common. A skeleton general Library web service had been in operation at Strathclyde for some time prior to this, but it was felt important to upgrade the entire web service to a higher level ready for the new academic year 1996-1997. The Summer of 1996 was thus an ideal time to develop new networked services.

### **Web access versus catalogue access**

One suitable enhancement for the new academic session was improved web-based access to pilot site licence e-journals. However, one important feature of the Dynix Horizon system at the University of Strathclyde is its Z39.50-derived ability to link fulltext networked electronic resources directly into the online public access catalogue. It provided the facility in 1996 to catalogue e-journals, adding a URL into the 958 field of the MARC catalogue record, whereby the catalogue user could then move straight to the e-journal itself once appropriate password permissions had been given.

It seemed, therefore, that many of the goals of the approach sketched out above (title and subject access to e-journals without consideration of which publisher gave web-based access to the e-journal) could be achieved simply by activating the 958 field in journal title catalogue records in the Horizon online catalogue. This library catalogue-based approach offered a tempting single-access route to e-journals - there was no need to provide a web-based fulltext facility for articles in parallel with a split-off set of 'dead' library catalogue e-journal records which pointed to the web service but which could not access it.

### **Remote access versus inhouse access**

However, without a working *webpac* facility, it was clear that this unified library-catalogue based approach would have limited success. Hyperlinked library catalogue records would be very effective for users accessing the library catalogue within the Library building, but remote access to these catalogue records, in the absence of a *webpac*, was only possible by installing the Horizon catalogue client software on the pc of the remote user. Whereas by the Summer of 1996 many users had Netscape browsers installed on their pcs, which was the ideal access tool for a *webpac*, the number of campus-wide users with the Horizon client installed was very small. To base a remote access e-journal service on a specific piece of proprietorial software was thus, to some extent, to ignore the lessons of the previously mentioned GUIDON implementation at Glasgow University Library.

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In the short term it was clear that remote access to a web-based e-journal service would provide a valuable enhancement to information services campus-wide at the University of Strathclyde, while access within the University Library itself could be better achieved by hotlinking the catalogue record directly to the URL of an electronic journal service.

### **Features of e-journal service**

The electronic journal service web pages were introduced gradually during the academic session 1996-1997, with the core of the service, the entries for pilot site licence initiative journal titles, being introduced incrementally, one publisher at a time. The nature of the service has been determined by the platform on which Strathclyde University Library offers its web services, that is, the Netpublisher package, a web-publishing tool provided by Ameritech, the suppliers of the Strathclyde University Library Dynix Horizon system.

The e-journal pages are structured around an A to Z title listing of e-journal titles, with each title 'catalogued' via an html template record. There is no separate *subject* listing of e-journal titles, although subject headings are added to each e-journal page, that is, as at Glasgow, broad subject terms that coincide with the institutional interests of University departments and faculties. No fixed set of subject-ordered pages is needed because the Netpublisher package offers a ready-made search form facility, accessible on each page of the publication via a graphic banner and text footer, which operates within the entire set of Library web pages. Using this search facility one can create lists out of any searchable field on the e-journal catalogue template, or any other item which is catalogued using this Netpublisher catalogue template. The e-journal pages can be searched distinctly from all the other pages in the publication by limiting a search with the qualifier *e-journal* in the field *Resource or Service Type*. Searches can be further narrowed down by the addition of *Subject* headings or journal *Title* keywords. This search facility will be familiar to users of the national information service, BUBL, which uses the Netpublisher platform, its catalogue template and search form facility in a similar fashion, albeit in a more extensive web publication.



Figure 3. Strathclyde University Library e-journal catalogue record

### **BUBL and the Netpublisher platform**

It is fair to say that the experience gained through the running of the national BUBL service over a number of years at Strathclyde University Library has been an essential shaping influence in the evolution of the inhouse web and e-journal service. One useful factor about the co-existence of these two Netpublisher-based WWW services is that the importing of BUBL-created e-journal records for non-pilot site licence e-journals has been very easy, and records for these generally available e-journals can be found interfiled with the core site licence titles. Such freely accessible e-journals, which are not purchased through subscription and which are in no sense part of a local e-journal 'collection', are not listed on the Library catalogue however, only in the web-based e-journal pages.

### **Direct access versus indirect access**

An interesting difference in the evolution of the Strathclyde service from Glasgow's is the different treatment of the concept of direct access to the e-journal text itself from the web page or catalogue record that presents an initial bibliographic description of the e-journal. Glasgow's approach has been to streamline the movement direct from web record to fulltext journal, for example by using the URL for the journal title itself where possible in the web page bibliographic record and by keeping information about password permissions to a minimum by integrating them as notes onto the web page bibliographic record. The approach taken at Strathclyde has been to interpose a

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publisher-specific web page between bibliographic record and e-journal fulltext, with fuller descriptions of password requirements and other local access details on that page.

The Strathclyde approach has the merit of a high degree of copyright and legal control over access to the e-journal service, and an incidental gain in the ease of URL housekeeping management (it is easier, both initially and in terms of long term URL currency, to hotlink all Institute of Physics Publishing journal records to one local web page, than to link separately to the specific URL for each e-journal title itself). The Glasgow approach facilitates immediate ease of access to the journal text for the user.

## **Conclusion**

### **Present state of e-journal services**

As of May 1997 the Glasgow and Strathclyde e-journal services can be said to have reached a satisfactory initial stage of development. At Glasgow there are now some 500 journals indexed in the web service and Library catalogue, while at Strathclyde there are a similar number of journal titles in the web service pages, over half of which are also indexed by hyperlinked Library catalogue records. However, developments in the e-journal field still tend towards fragmentation, presenting an ever growing challenge to libraries that attempt to present e-journals as a simple, unified whole to their users.

### **Ever increasing diversity**

The provision of new viewer applications is one source of increasing diversity. For example, CatchWord's RealPage software, a new UK rival to the well established Acrobat package, has entered the scene over the last year or two. It is also possible that new publisher-based e-journal services will introduce their own proprietorial viewer software systems. This possibility makes the choice of viewer package for Elsevier's forthcoming e-journal service a source of interest - the initial signs are that both html and pdf formats should be supported.[\(3\)](#)

### **Non-Library solutions**

It should not be thought, however, that libraries are the only intermediaries trying to mark a path through this fragmented landscape. One should note the value of services such as OCLC's Electronic Collections Online, BIDS JournalsOnline, and also those of the international subscription agents (where a single interface for all e-journals is available). Evidently, all these parties are aware of the need for unified access on the part of e-journal users.

### **Diversity caused by user needs**

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Unfortunately, such responsiveness to user needs on the part of e-journal service suppliers can also create increased diversity. The different needs of would-be e-journal users will inevitably tend to create different types of e-journal service. For example, the undergraduate requires a simple one-stop service where a single subject search in an e-journal database can instantly provide one, subject-specific fulltext file of articles from a number of relevant journals. The journal titles from which these articles are derived is not of foremost importance - indeed, most of the titles will probably be unfamiliar to the undergraduate, nor need every article in each issue be included in the database. The EBSCO Masterfile service is a good example of such a system aimed at the undergraduate. By contrast, of paramount importance for the researcher is title access and comprehensive contents page display format for a key number of familiar journals - the pilot site licence initiative e-journal services suit this model of access very well.

In such very different cases, the library clearly has a role to play. Both these two service are present in the Strathclyde University Library e-journal web pages: the fulltext 'contents pages' generated for EBSCO titles in the Strathclyde University Library e-journal web pages are markedly different from those available for the pilot site licence initiative journals. Yet in creating the structure of a common access route Strathclyde is trying to smooth out these differences, and this must always be the aim of any library attempting to provide user-friendly navigation tools for its would-be e-journal readers.

## Future trends

To this end, both Glasgow and Strathclyde University Libraries will attempt to enhance the user friendliness of their different services with new tools such as *webpac* while still attempting to keep abreast of the expanding and proliferating e-journal scene. The services outlined in this article will therefore change and, it is hoped, improve. At no point does our experience suggest that the primacy of the printed journal is likely to be immediately supplanted by electronic access. Even so, such successes as the services have achieved to date may be of interest to others active in the development of e-journal services. More importantly perhaps, they add to a growing body of literature<sup>(4)</sup> that shows that, with appropriate support from the library, the e-journal has the potential to become a popular, even mainstream service in the university of today.

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