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ABSTRACT

Academic libraries have traditionally used interlibrary lending to facilitate document delivery. The trend of stagnating or dwindling serials budgets in libraries, coupled with increased journal costs, has served to increase libraries' reliance on the benefits of consortium pricing and shared costs, by utilizing interlibrary lending of journals. ADONIS is a CD-ROM based document delivery system that contains articles from scientific journals which cover a wide area in the biomedical fields, including biochemistry, bioengineering, biotechnology, and chemistry. ADONIS has over 680 journal titles, from more than 70 publishers. The Creighton University Health Sciences Library (CUHSL) in Omaha (Nebraska) began using ADONIS in July 1995. A 486/DX computer with 16Mb of RAM, a 500 Mb hard drive, and SVGA monitor comprise the viewing station. The CD-ROMs are managed by a 500-disk, quadruple-speed jukebox. Articles are printed on a Hewlett-Packard Laserjet 4 Plus printer, and incur a charge varying from $1.50 to $32.00 per article. Although the text of documents in ADONIS is not searchable, the ADONIS index is searchable via numerous familiar search techniques. Use of ADONIS has grown since it began operation, and the ADONIS holdings have been loaded into SERHOLD, which noticeably increased interlibrary loan requests for ADONIS materials. Four appendices show ADONIS contact information, original publisher-members of ADONIS, symbols used in ADONIS software, and examples used for an ADONIS presentation. (Author/SWC)

ADONIS®:
One Library's Experience with a CD-ROM Document Delivery System

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ABSTRACT

ADONIS® is a CD-ROM-based article-delivery system. Articles are from scientific journals and cover a wide area in the biomedical fields, including biochemistry, bioengineering, biotechnology and chemistry. The Creighton Health Sciences Library began using ADONIS® in July 1995. A 486/DX computer with 16Mb of RAM, a 500Mb hard drive, and SVGA monitor comprise the viewing station. The CD-ROMs are managed by a 500-disk, quadruple-speed jukebox. Articles are printed on a Hewlett-Packard Laserjet 4 Plus printer. Use of ADONIS® has grown since it began operation. The ADONIS® holdings have been loaded into SERHOLD, which noticeably increased interlibrary loan requests for ADONIS® materials.

In the arena of document delivery, academic libraries have traditionally used interlibrary lending (ILL).This familiar practice maximizes libraries' resources in accepted and predictable ways. Rules, regulations, and courtesies extended through ILL smooth the transfer of print and audiovisual materials between libraries and their customers. Although commercial document delivery systems exist, they do not usually interfere with traditional ILL traffic.

Document delivery is just one of a variety of functions performed by an academic library to support its community. Academic libraries are not profit-making ventures. Unlike commercial document delivery vendors, they rely heavily on the benefits of consortium pricing and shared costs. The trend of stagnating or dwindling serials budgets coupled with increased journal costs has served to heighten this strategy. The Creighton University Health Sciences Library (CUHSL) is no stranger to the challenge of balancing serials budgets while sustaining a viable journal collection for its diverse clientele. Part of facing that challenge involved a large capital outlay to acquire the ADONIS® Document Delivery Service (ADONIS®).

The funds to purchase the equipment on which ADONIS® runs and the 1994-1995 subscription were garnered from a surcharge on cigarettes sold in Nebraska. In 1993, two bills (PL595 and PL595A) were passed by the State Legislature that

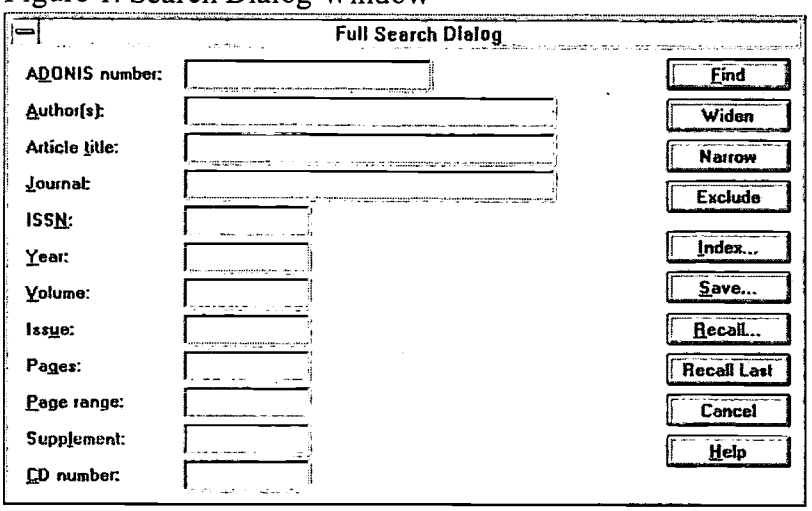
instituted the surcharge and apportioned some of those monies to Creighton University for use in support of its "research in cancer and allied diseases."[1,2]

The scope of journals in ADONIS® includes titles in the bioengineering, biomedical, chemical and pharmaceutical fields. When ADONIS® began its trial project in the mid-1980s, a consortium of 10 publishers (see Appendix B) used 219 journals[3] to test the viability of printing articles from a CD-ROM archive to satisfy document delivery requests.[4] It was thought that an easily printed copy of an article might lead to more efficient use of the labor involved in document delivery.[5] Built into the system would be an assurance that publishers would receive any royalty fees on copies made using such a system. While at first, publishers were skeptical, gradually more have been persuaded that using ADONIS® as a middle manager incurs little risk to culling the appropriate copyright fees.[6] Certainly under these conditions, publishers definitely receive more than they would from the photocopying of their articles! Currently, ADONIS® has over 680 journal titles from more than 70 publishers.[7]

At CUHSL, ADONIS® runs on a 486/DX machine using a MS-DOS 6.2 platform and MS-Windows 3.1 as an interface with the appropriate CD-ROM driver. The computer is equipped with 16Mb of RAM and a 500Mb hard drive. A 21-inch SVGA monitor, a 500-disk, quadruple-speed jukebox, MS-compatible mouse and a Hewlett-Packard Laserjet 4Plus complete the array of electronic devices required to use ADONIS®. One or two disks are received each week and loaded into the jukebox along with an updated index. Once every quarter, the use statistics are downloaded and sent to the United States ADONIS® headquarters in Massachusetts.

Although ADONIS® is a document delivery system, its index is searchable via a complement of familiar search techniques. Boolean searching, comparative and proximity searching, and wildcard searching are all available.

Figure 1. Search Dialog Window



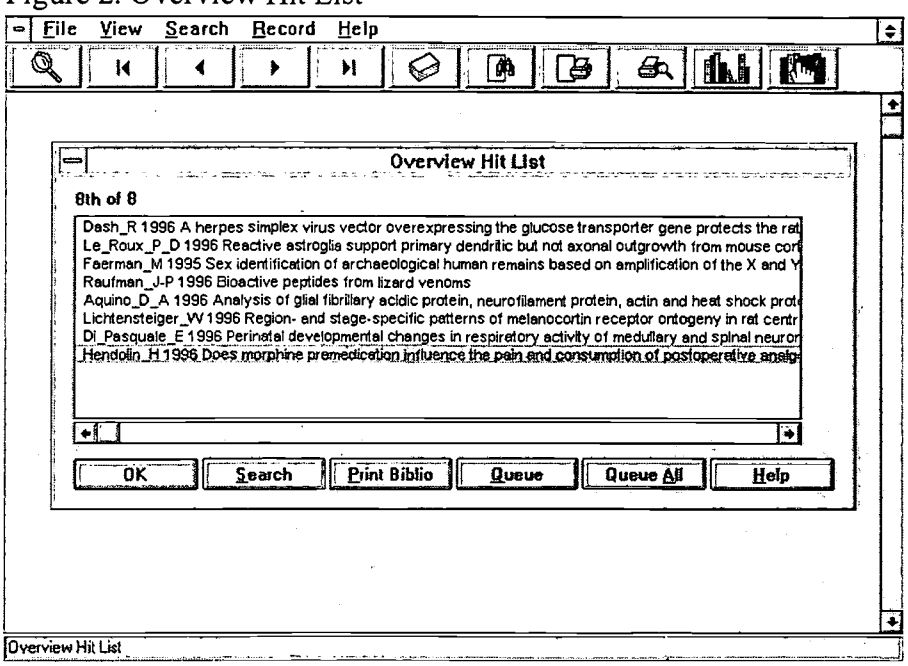
Except for comparative searching which is used only in numerical fields, any search technique may be used in any field. ADONIS® supplies the expected fields as seen in Figure 1.

Boolean operators -- 'and,' 'not,' 'or' -- must be enclosed in square brackets, e.g. kidney [not] transplantation. For greater flexibility, ADONIS® allows for a graduated Boolean approach using the "Widen," "Narrow," and "Exclude" buttons which correspond to [or], [and], and [not] respectively. Searching via that method takes a few more steps, but the resulting hits can be manipulated more minutely.

Comparative searching uses logical operators ('<=,' '<>,' etc.) or [to] to specify a number or indicate a range of numbers. These operators are best used only in the numeric fields like the "ADONIS Number," "Year," and so on. Proximity operators include [near], [.] and [#]. These options are useful for phrase searching. '[Near]' searches for words within a paragraph; '[.]' finds words within the same sentence, and '[#],' where the symbol must be replaced by a numeric value, will find words within the designated range. Since only information in the provided fields are searchable, searching a paragraph or a sentence essentially means searching the title field of the index. The last search tool, the ubiquitious wildcard asterisk, replaces one or more letters or numbers.

Completed searches result in an Overview Hit List such as the one shown:

Figure 2. Overview Hit List

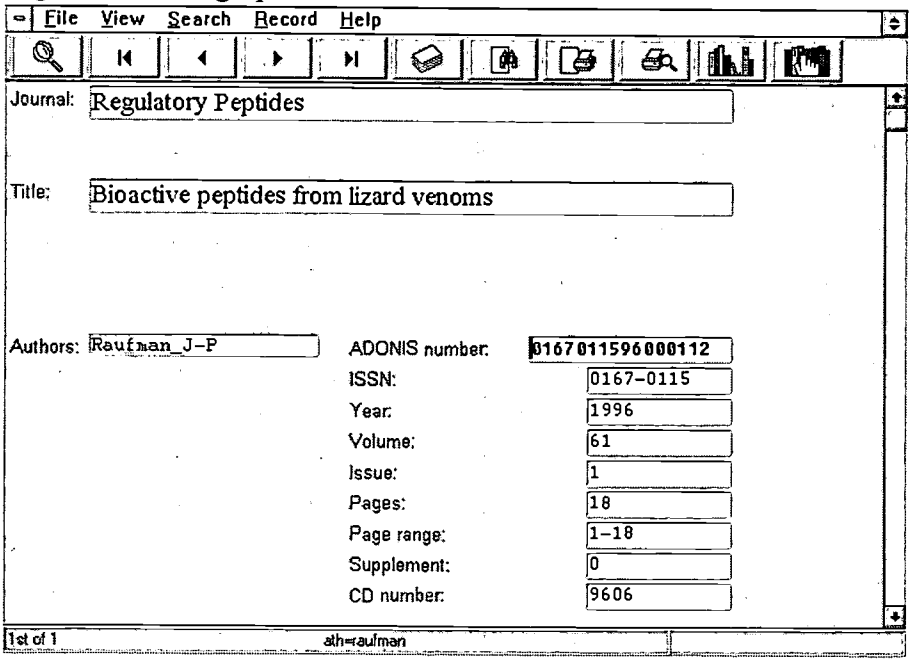


At this stage, searching could continue using the "Widen," "Narrow," and "Exclude" options, or the citations could be printed off at no charge. The "Search" directs one to the Search Dialog Window where more terms may be typed in and the appropriate button selected. If a bibliography is desired, it must printed while viewing the Overview Hit List. If selected items from the list are required, they must first be marked using the right mouse button. An article may be viewed at no charge by highlighting it and pressing the [ ] button.

It is important to remember that the documents in ADONIS® are images. This means that the actual text of a document is not searchable. Items included in the index alone have currency as search terms. This fact becomes clearer after a list of hits has been culled. The actual page numbers in the journal are not searchable. Thus, when wishing to view a particular page of an article, one must indicate the page number relative to the article as a stand-alone item rather than the page number shown on the journal's page.

Most often though, citations are verified using the Bibliographic Reference Window shown here (Figure 3) and the article placed in the print queue.

Figure 3: Bibliographic Reference Window



Other information may also be gleaned from this screen that can enhance a search, such as the "ADONIS number," and "ISSN" for verifying journal titles. In an archived document-retrieval system such as ADONIS® some of the fields may have limited function since retrieval is achieved mostly by citation. However

faulty citations immediately expose the benefits of some of the more esoteric search functions.

Printing an article incurs the "Publishers Copyright Charge" (PCC) which varies from $1.50 for items published by the Medical Letter, Inc. to $32.00 for selected Elsevier titles. The PCC is set at the discretion of each publisher and is related to the scope and value of each journal as perceived by the publisher. Most article prices fall between $7.00 and $12.00.

Since its installation in June 1995, ADONIS® has been responsible for a marked increase in the fill rate for ILL and Circulation clients. In a year's time, the combined Circulation-ILL fill rate has increased almost 5 times. The average number of articles requested on and filled via ADONIS® is now 80 per month. Although ADONIS® fills represent only a small percentage of the overall requests filled by CUHSL, they represent a steadily growing number the inception of the service just over a year ago.

Table 1. ADONIS® Use from June 1995 through May 1996

1995-1996	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Yrly. Totals
Circulation	6	21	18	12	15	16	9	15	12	23	38	36	221
ILL	19	29	40	68	71	60	57	89	89	68	77	76	743
Mthly. Totals	25	50	58	80	86	76	66	104	101	91	115	112	964

This is a strong indicator that the journals included in ADONIS® satisfy research needs and the cost is seen as an acceptable alternative, especially for non-affiliated customers, to not having an article. Also, it proves the point that the original ADONIS® consortium made over a decade ago that a CD-ROM document delivery system would be viable project.

At present, CUHSL subsidizes heavily the use of ADONIS® by faculty, staff and students of Creighton University and St Joseph Hospital. Non-affiliated individuals and organizations pay the PCC plus a nominal charge whether they are ILL or walk-in patrons. CUHSL clients have accepted the $.20 per page charge for ADONIS® in most cases without realizing extent to which the service is subsidized. The loss in revenue so far has not been offset by the nominal charges to non-affiliated clients. While CUHSL staff and its clients have become used to having the convenience of ADONIS®, we face the very real possiblilty of losing future access because the subscription rate is high. The balance between exposing our primary clients to the 'true' cost of ADONIS® and wanting to encourage use of the product has so far been in favor of affiliated clients.

In spite of an almost 40% overlap between the print collection and our new electronic one, the CUHSL journal collection has been hugely increased by the acquisition of the latter. The projected cost of having to subscribe to the unique items in ADONIS® was $319,802.96 in 1995. Clearly, for under $25,000, there is

no better option available. The challenge will be to retain ADONIS® when there will are no more cigarette tax monies in 1997-1998. Another challenge is the capacity of the jukebox for only 500 CD-ROMs. At the rate of 85-90 disks per subscription year, the jukebox will reach satiety within 5 years.

Currently, ADONIS® is not as widely recognized as it could be. The campus as a whole might be induced to extend its research to include ADONIS® titles when CUHSL makes the master index available via the university-wide network thereby bringing it to more immediate attention. In the summer of 1996, ADONIS® is beta-testing a networked version at CUHSL. When this becomes available, ADONIS® could be networked in the library such that up to four workstations could feed off of the jukebox.

In the meantime, ADONIS® continues to add publishers to its fold and the journal list lengthens. This introduces an interesting twist to the issue of viewing articles at no cost. If an item could be viewed at the leisure of the viewer, the urge to obtain a print copy of an article might be reduced. There is the possibility of a viewing charge being instituted. A discussion of this ,related topics, and a current list of publishers and journal titles may be found at your leisure (at no viewing charge) in the ADONIS News at the ADONIS® Home Page.

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[1] 1993 Neb. Laws 595.

[2] 1993 Neb. Laws 595A.

[3] Stern, B.T., & Campbell, R. (1988). ADONIS: the story so far. In Oppenheim, C. (Ed.) CD-ROM: Fundamentals to applications (pp. 214-219). London: Butterworths.

[4] Merry, Karen. (1988). ADONIS -- a new era in document delivery. Interlending & Document Supply 16 (2), 65-69.

[5] Barden, P. (1990). ADONIS -- the British Library experience. Interlending & Document Supply 18 (3), 88-91.

[6] Compier, H. & Campbell, R. (1995). ADONIS gathers momentum and faces some new problems. Interlending & Document Supply 23 (3), 22-25.

[7] ADONIS® Home Page. (1996). http://adonis.blacksci.co.uk/.

Appendix A
ADONIS® Addresses

ADONIS USA
238 Main Street, Suite 501
Cambridge, MA 02142

Phone: 1-800-944-6415
FAX: 617-876-7022
e-mail: 74674.3144@compuserv.com

Home Page Address: http://adonis.blacksci.co.uk/

Appendix B
Original publisher-members of ADONIS®

Blackwell Scientific Publications
Butterworth
Churchill Livingstone
Elsevier Science
C.V. Mosby Co.
Munksgaard
Pergammon Press
Springer Verlag
Georg Thieme Verlag
John Wiley & Sons

Appendix C
Symbols used in ADONIS® software

 opens Search Dialog Window

 skips to first item in hit list

 shows previous item

 shows next item

 skips to last item in hit list

 displays Overview Hit List

 retrieves article for viewing

 places citation in print queue

 shows print queue

Appendix D
Examples Used for ADONIS® Presentation, May 17, 1996
Note: Three versions of each page listed below were displayed for comparison:

1. the ADONIS® copy
2. a color photocopy (to represent original)
3. a black and white photocopy

Aquino, D.A., Padin, C., Perez, J.M., Peng, D., Lyman, W.D., & Chiu, F.-C. (1996). Analysis of glial acidic protein, actin and heat shock proteins in human fetal brain during the second trimester. Developmental Brain Research. 91 (1), 3.
sample of color photographs, staining

Dash, R., Lawrence, M., Ho, D., & Sapolsky, R. (1995). A herpes simplex virus vector overexpressing the glucose transporter gene protects the rat dentate gyrus from an antimetabolite toxin. Experimental Neurology 137 (1), 46.
sample of color photomicrographs

Di Pasquale, E., Tell, F., Monteau, R., & Hilaire, G. (1996). Perinatal developmental changes in respiratory activity of medullary and spinal neurons: and in vitro study on fetal and newborn rats. Developmental Brain Research. 91 (1), 125.

sample of amplitude printouts

Faerman, M., Filon, D., Kahila, G., Greenblatt, C.L., Smith, P., & Oppenheim, A. (1995). Sex identification of archaeological human remains based on amplification of the X and Y amelogenin alleles. Gene 167 (1-2), 331.

sample of polymerase chain reaction

Le Roux, P.D., & Reh, T.A. (1995). Reactive astroglia support primary dendeitic but not axonal outgrowth from mouse cortical neurons in vitro. Experimental Neurology 137 (1), 52.

sample of color fluorescent photomicrographs

Hendolin, H., Nuutinen, L., Kokki, H., & Tuomisto, L. (1996). Does morphine premedication influence the pain and consumption of postoperative analgesics after total knee arthroplasty? Acta Anaesthesiologica Scandinavica 40 (1), 83.

sample of graphs

Lichtensteiger, W., Hanimann, B., Siegrist, W., & Eberle, A.N. (1996). Region- and stage-specific patterns of melanocortin receptor ontogeny in rat central nervous system, cranial nerve ganglia and sympathetic ganglia. Developmental Brain Research. 91 (1), 104.

sample of autoradiographs

Raufman, J-P. (1996). Bioactive peptides from lizard venoms. Regulatory Peptides 61 (1), 2.

sample of color photograph

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Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

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Corporate Source: ~~Health Sciences Library Creighton University Omaha, NE~~ Nebraska Library Association Forum	Publication Date: May 17, 1996

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