Proceedings of the Contributed Papers Session
Seattle June 11, 1997

Special Libraries Association

?

Biological Sciences Division

GALILEO: Using the WWW to Access Biomedical and Life Sciences Resources

by
Susan C. Curtis
Science Library
University of Georgia
scurtis@uga.cc.uga.edu

With a $10 million grant from the Board of Regents and the State Legislature, the State of Georgia launched the GALILEO Internet project in 1995, linking the 34 research universities, four year colleges, and community colleges of the University System. The goal was to ensure universal access to core materials for every student and faculty member in the University System of Georgia, regardless of geographic location, size of institution, or mode of instruction. Lottery money initially funded GALILEO, or Georgia Library Learning Online (Fig. 1). In 1996 the University System received a grant from the Woodruff Foundation to provide access to GALILEO for private academic colleges and universities in the state as well. The state now funds the extension of selected elements of the GALILEO project to the Department of Technical and Adult Education, the Office of Public Library Services, and the Department of Education. At this time there are 160 GALILEO sites with plans to connect all public schools (K-12) in the future.

The menu of database offerings grew rapidly during the first year. Programmers and reference librarians incrementally recast the UMI and OCLC FirstSearch databases to display in a customized format using SiteSearch software. Then, in 1996 a contract with Cambridge Scientific Abstracts was signed. This agreement allowed users of the GALILEO system to bridge to Cambridge Scientific's server in Bethesda, Maryland to search its biological, ecological, biomedical, and technology files. The package also included the most recent five years of the National Library of Medicine's Medline and Toxline databases. A total of 45 biomedical and life science databases beckoned to users by the close of the year.

A third phase of the project incorporated more full-text sources. While the UMI databases of ABI Inform and Periodicals Abstracts have some full text, it was not until the addition of the Academic Press' Ideal package of 180 full text journals in the summer of 1996, that the scientific community had an opportunity to explore and retrieve full text scientific journal articles through GALILEO. Now the faculty and students have unlimited access to 1996 and 1997 issues of Academic Press' scholarly journals in biochemistry, biology, genetics, microbiology, and medicine, including *BBRC, Developmental Biology, Journal of Molecular Biology, and Virology*. In addition, the *New York Times* and several GALE directories and other reference sources are available in full-text mode.

Now I will show you the interface. Here we have the homepage. You will notice that in addition to the GALILEO databases selection, users may search the catalogs of other state academic libraries or go off to search the Internet. (Fig. 2) The alphabetical listing of databases provides a brief description and the option to click on the scope screens for further information. (Fig. 3) The subject breakdown of databases provides 13 categories. (Fig. 4) The Life Sciences category is extensive with 32 databases at the researcher's disposal. (Fig. 5) I will show you screens from a FirstSearch database, ISI's Current Contents, as well as a Cambridge Scientific file. Here we have a simple search executed in Basic BIOSIS, a FirstSearch database which is a subset of BIOSIS. (Fig. 6) The input screen permits keyword searching from the author, title, or subject fields as well as browsing. Further qualifiers can be added onto the initial search screen including date. The result set lists the most recent ten citations with the option of viewing the next grouping of ten citations. (Fig. 7) Searches may be subsequently refined through the use of the limit screens that have pull down boxes for specific field labels. (Fig. 8) Limit options include abstract key words, author, language, corporate name, and super taxa. Here we will limit to the names of two river basins. Matches are first displayed in a result list. (Fig. 9) Users may elect to print the result lists or click on desired records to see the full bibliographic citation. (Fig. 10) Users can then select the option to display local holdings. (Fig. 11) The marking feature permits selecting records for future printing or downloading. (Fig. 12) Here we have a list with two marked items. (Fig. 13) The review screen allows users to remove items, display a single item or a range of citations before printing or downloading. (Fig. 14)

The Current Contents database is versatile. Here the GALILEO system offers two searching avenues: topic and journal issue. (Fig. 15) In this example we are searching for the tables of contents of recent issues of the *Canadian Journal of Fisheries and Aquatic Sciences*. The system provides a list of issues. (Fig. 16) We will select an issue and display a citation to its first article. (Fig. 17) The topic approach (Fig. 18) permits limiting by reprint address location for those users who want to get in touch with the author. It also permits limiting by publication type, such as reviews. Perhaps more importantly it allows users to link back to specific journals by limiting by journal title, as in this example. (Fig. 19)

Many of you are, no doubt, familiar with Cambridge Scientific's interface. Cambridge Scientific offers several groupings of its databases to make cross database searching more efficient. (Fig. 20) An example of this would be the Biological Sciences Set. It includes 18 databases. Among these are Agricultural & Environmental Biotechnology Abstracts, Chemoreception Abstracts, Genetic Abstracts, and Immunology Abstracts. On GALILEO users have the option of searching these databases separately or clustered together. The advantage of the latter option is that the user gets just two result sets to review. These are based of years of coverage, with the most recent six years of coverage grouped into one set. This time we are looking for articles on tumor necrosis factor. Specifically we will look for articles related to the work done at a Seattle biotechnology company, Immunex. (Fig. 21) We find that there are 21 articles in the last five years and 1 earlier in this database. (Fig. 22) Here is the result list (Fig. 23) and a bibliographic record. (Fig. 24)

The full-text options for researchers are steadily growing. While Periodicals Abstracts is a multidisciplinary index, it does include the full text of some life science journals. (Fig. 25) In this example we are undertaking a more general search. (Fig. 26) We have clicked on the option to retrieve only full text articles. We find 44 full text articles on the topic of osteoarthritis. (Fig. 27) UMI does not reproduce graphics in this database. Here we see a bibliographic citation (Fig. 28) and a full text article display. (Fig. 29)

In contrast, Academic Press does reproduce graphics through the use of Adobe Acrobat. In this example we are looking for an article from *Developmental Biology*. (Fig. 30) We first see a list of issues. (Fig. 31) We select the September, 1996 issue and open the table of contents. (Fig. 32) Upon selecting an article we can peruse the pages. (Fig. 33) You see that the illustrations are included. (Fig. 34) You also can do topic searches in the Ideal system. In this example we have chosen the life sciences category. (Fig. 35) Our topic is the P53 gene and cancer. (Fig. 36)

In late 1995 the University of Georgia Library surveyed the faculty, staff, and students of the University about their satisfaction with Libraries services and collections. The Library in collaboration with the University's Survey Research Center developed a telephone survey instrument. The survey touched on many topics, including frequency of library visits and priorities for the future. It included numerous questions on the respondents use of computer technology to assess the use and effectiveness of GALILEO and other database initiatives.

The survey determined that fifty-seven per cent of the students and sixty-nine per cent of the faculty use the Library weekly, including remote access to its computer systems. The survey asked if due to the use of library computerized databases and new information technologies respondents were more or less likely to: Visit the library in person; Use library journals; Use library books; Find useful bibliographic citations; Consult a reference librarian; Acquire material directly from non-library sources; Keep current in their field; and Exchange information with colleagues. This series of questions found that sixty per cent of the respondents felt that use of the Library's databases enhanced their likelihood of finding useful bibliographic citations. Seventy-five per cent believed the computer data bases were helping them keep current in their fields and seventy per cent thought the databases were assisting them exchange information with colleagues. We also asked respondents to rate possible priorities for the Library during the next two years. The choices included: Delivering full text documents to personal computers; Continuing to building the print book and journal collections; Networking more bibliographic databases; Faxing articles from document delivery companies; Preserving library materials; Providing more librarian consultation; Providing more instruction and training. Sixty per cent of the respondents said that continuing to collect books was very important, and fifty-one per cent said that journals were also very important. Recognition of the role of electronic resources was substantial. Subscriptions to electronic journals or newspapers was rated as a very important priority by thirty-three per cent of the respondents, while forty-nine per cent stated that computer indexes to journals was very important. This encouraged us to proceed with the GALILEO initiative and add databases.

Fall of 1996 saw the consortium in the advantageous position of having a wealth of electronic databases to offer. Fliers were sent to individual departments highlighting the GALILEO databases of particular significance to that department. Library instruction classes featured the GALILEO databases. Usage statistics were gratifying to monitor. In the succeeding months GALILEO database use soared. We recorded our one millionth search just fourteen months after the system went into production.

The GALILEO usage statistics are available from an option on the Systems' homepage. Staff may review a day, a week, or a month of figures. (Fig. 37) You can elect to look at statistics for all the institutions/databases or only selected ones. You may specify that the report which the system will create focus on keyword searches, browse searches, full text articles displayed, citations displayed, indexes searched, or total logins. The information can be automatically displayed in percentage format. Here we have a graph tracking weekly activity since September, 1995. (Fig. 38) You can see that usage parallels our quarter system with high points in the later weeks of each academic term.

Data analysis demonstrates that keyword searching is the predominate method of searching. Only four percent of the searches are executed as a browse. Full text article displays are an extremely popular feature with use growing rapidly. Twenty-seven per cent of the citations which are viewed are subsequently read in the full text mode.

At the present time we do not charge for prints at the University of Georgia. High volume laser printers serve clusters of workstations with students pulling off their own records. While this is an expensive option, our network specialists have not found a print manager program which meets our needs for distributed printing.

By January of 1997 concerns about Internet traffic and its effects on response time were growing. Files

mounted at the vendors were documented as often sluggish. In March of this year OCLC installed a dedicated line between our local service provider, PEACHNET, and the OCLC host. We extended the amount of time our machine allowed to connect to other providers such as Cambridge Scientific, since long intervals often elapse before a search can be initiated.

Future directions for GALILEO include exploring mounting more full text files. The steering committee is looking at options for adding more electronic journals and reference materials specifically. Like GALILEO's namesake, the system is extending our community's horizons; our universe is expanding.

Author's address:
Susan C. Curtis
Science Library
University of Georgia Libraries
Athens, GA 30602
scurtis@uga.cc.uga.edu

GO TO:

Comments should be directed to Tom Turner tom.turner@asu.edu

HTML Document Preparation by Linda Shackle and Tom Turner
May 1997