1988

The Sci-Mate Software System: A Review

Carol Tenopir
University of Tennessee - Knoxville

Gerald W. Lundeen

The Sci-Mate Software System:

A Review

Carol Tenopir and Gerald W. Lundeen

INTRODUCTION

The Sci-Mate Software system consists of three software packages that together provide a total database system. The Sci-Mate Searcher is designed for searching remote databases and downloading from them, the Sci-Mate Manager facilitates the creation and maintenance of private databases, and the Sci-Mate Editor creates formatted bibliographies. The Searcher does not substitute for knowledge of online databases but, when used in conjunction with the other modules, provides an excellent and easy way to create locally held databases. All three modules are reliable and easy to use.

The Sci-Mate Software System consists of three software packages that can be purchased individually or as a group. The Searcher (formerly called the Universal Online Searcher) is designed for searching remote databases and downloading from them; the Manager (formerly called the Personal Data Manager) is for creating and maintaining private bibliographic files; and the new Editor facilitates the editing of files for the creation of printed bibliographies. Together, they provide a total information system, but each package can also be used alone. Each user will decide which of the three packages are needed for his or her applications. Although this review concentrates on the Searcher, it includes comments on all three.

Sci-Mate is a product of the Institute for Scientific Information (ISI), a company that creates bibliographic databases and is very familiar with the unique problems of textual information storage and retrieval. ISI first introduced Sci-Mate as a two-part package in 1983. A flaw in this early version was the lack of a text editing/report generator. Users could search and download from remote databases and create their own files, but features for editing and customizing for printed reports were severely limited. The new three-part version, completed in 1986, eliminates these deficiencies.

FEATURES

The three parts of the Sci-Mate Software

Tenopir is Assistant Professor and Lundeen is Professor, School of Library and Information Studies, University of Hawaii at Manoa, Honolulu, HI.

System are described below.

The Searcher is a menu-driven front-end that accesses the following online vendors: BRS, DIALOG, NLM, ORBIT, and Questel. (It is the user's responsibility to establish accounts with any or all of these systems before using Sci-Mate.) The Searcher can also be used in a dumb terminal mode to access other systems for which a user has an account.

Using the Install program, the user enters telephone numbers and passwords for each system to enable the Searcher to automatically dial and log on to any of the five systems supported. (Auto-dialing is not supported in the dumb terminal mode.)

The Searcher offers a common menu-driven query language. Thus users need not know the individual query languages of the five systems. As comments below illustrate, the menus do not substitute for a general knowledge of online searching, but allow searchers to access vendors that they do not search often. Users knowing the query language of any of the online systems can search them using Sci-Mate's "native language" option. The native language option makes use of the auto-dial capabilities, then turns searching over to the user instead of going through the Searcher's search strategy menus. The native option is particularly important for complex searches, because complex Boolean operations are difficult to execute via the Searcher's menu approach; moreover, users who know the command language of a system will find the menus tedious.

The most economical method of searching with Sci-Mate is to formulate the search query before connecting to the online vendor. After the Searcher logs on to the online host and the initial search is uploaded, modifications can be made to the query online through Searcher menus or in native mode.

Search results can be downloaded to be stored on the user's microcomputer disk.[1] The downloaded records can then be processed using the other two parts of the Sci-Mate System.

The Manager facilitates creation and searching of private files. The records in the files may come from material downloaded via the Searcher, keyed in directly, or loaded from standard text files, such as those produced with a word processor.

Record definition for Manager files is done with Templates, which are either created by the user or selected from standard options that come with the program. Templates that are set up for specific online databases will be automatically applied to downloaded records from these databases if the downloaded records have field tags (i.e.,

Format 4 in DIALOG).

Records downloaded via the Searcher are stored in Work Files. From here, they can be displayed, printed, sorted, or copied to a User File. The copy operation can be done record by record, with the decision being made for each, or the entire file can be copied. (The records will be formatted automatically if they have field tags and if there are suitable templates.) Untagged records can be formatted individually with any template. The records can be copied to a text file for processing with word processing programs or other software.

When a private database is created via the Manager, users can then edit, search, and retrieve the information without incurring further online costs. Records are edited with full screen edit commands displayed at the top of the screen. Boolean searches are allowed with AND, OR, and AND NOT operators. Files may be sorted by any fields in the Template or by the date on which the records were entered into the file.

Within the Manager, it is possible to produce simple reports in a columnar format, with each record limited to a single line. Each record may have up to six status flags, indicating such things as "on order." These status flags are used to create the columnar reports. A mailing label format is also supported.

For other formatted output, the Sci-Mate Editor must be used. The Editor works with Bibliography Files, either copied from Work Files, or entered directly via the Editor. Like the Manager, the Editor uses templates to work with structured or formatted records. Records may be tagged to indicate their type (e.g., books, journal articles, reports, etc.). Citation formats can be created, which will then permit the production of a bibliography, with each record formatted according to its type.

The Editor comes with several built-in style sheets for popular bibliographic formats, such as those of the *Chicago Manual of Style*, the Modern Language Association, etc. In addition to prepared style sheets, the Editor allows the creation of user-specified style sheets.

The Editor can also merge bibliographic references into a manuscript. Bibliography Files may be sorted by citing order, alphabetically by author, or on an alphanumeric key.

PERFORMANCE OF THE SEARCHER

The Searcher allows several options for searching databases via BRS, DIALOG, NLM, ORBIT, and Questel. The first option on the Searcher menu is "Search an Online Database." When this option is selected, the user is asked to choose from among the aforementioned five online vendors. Once a vendor

is chosen, a selected list of databases available through the vendor is displayed. If databases produced by ISI are available, they are always listed first, not because they are necessarily the most frequently used databases or the best, but because ISI is the creator of Sci-Mate. (Software author's privilege!) From one to approximately 15 other databases are listed for each vendor. According to ISI, the databases were chosen because they are the most frequently used databases by the target audience of Sci-Mate (researchers, faculty, physicians, graduate students, and librarians). For the databases listed on the Sci-Mate menu, the software stores all of the available field options and their tags, so it substitutes somewhat for each vendor's summary database documentation (e.g., the DIALOG Bluesheets).

After a database is selected, Sci-Mate automatically dials the phone and logs on to the vendor. The user's password will then be automatically issued, if that option was selected at installation. Sci-Mate's menus control the searching. It first asks the user to choose from among the fields available for searching or to enter his or her own search in native mode. When a field is selected, terms or phrases are entered one at a time. A second menu asks for refinements using Boolean operations or proximity. (If a phrase was entered initially, Sci-Mate will automatically insert the proximity operator.) The user can continue to refine the query by using the menus or choose to submit the query. The option DISPLAY/-DOWNLOAD prompts a format screen that comes preset with formatting options. These default options can be accepted or changed before display.

With search option number 1 just described, all of the menu prompts for searching come after log on. This means that reading the Sci-Mate menus, choosing options, having Sci-Mate translate the options into the appropriate vendor's query language, and the actual search are all taking place while online charges are accruing.

A more economical option is number 2 on the initial Searcher menu. Option 2, "Use Search Profile Subsystem before going Online," performs all of the search strategy development before logging on to the vendor. The search is uploaded after log on and can be modified as needed via the Sci-Mate menu screens.

This option should be the preferred option, in most cases, because it offers everything in option 1--but at a lower online cost. It should have been placed first on the Searcher menu or constituted an option after the user selects "Search an Online Database."

A third option allows one to use Sci-Mate in a dumb terminal mode.

To compare the cost-effectiveness and ease

of the various options, the same searches were conducted on ERIC via DIALOG using option numbers 1 and 2 with the Sci-Mate menu. The searches were conducted in native language mode in both options.

Not surprisingly, option number 1 took twice as long online as option number 2. Since Sci-Mate controls the search process, there is no advantage in selecting option 1. Even in option 2, the searcher can modify the search at any time while online or switch to native mode searching. Native mode allows greater flexibility in Boolean operations, but presupposes knowledge of the host's query language. The fairly typical search strategy of (A or B or C) and (D or E) cannot be executed easily via the menus.

The Sci-Mate Searcher performed as advertised in all tested cases. It often goes beyond the first step in its attempts to complete a search. If, for example, log on cannot be completed because of a modem or telecommunications problem, the Searcher offers to try other telecommunications options.

DOCUMENTATION

Each of the three parts of the Sci-Mate System has its own user manual. They are all in three-ring binders for easy updating. In addition, there is an Installation Manual for the system.

The Searcher Manual includes Tutorials for each of the five online systems supported. These are especially nice for beginning searchers or for familiarizing experienced searchers with other online vendors. After the Tutorials, there are eight chapters devoted to various software features.

The three user manuals are uniformly very good. Information is easy to find because each manual is logically organized, makes liberal use of tabs, and includes an index. The indexes could be more detailed, however, and the Searcher index does not cover the online system tutorials. The Installation Manual surprisingly includes neither an index nor a Table of Contents.

All of the manuals are concise, with a clear writing style and many examples. They are nicely illustrated, with pictures of screen layouts. They are neither too wordy nor too short. The best use of all of these manuals is to go over them before using the software. Users who like to plunge in without consulting the manuals will find help messages online, but will need to consult the manuals for some information. It is more difficult to find what is needed in the manuals in the middle of searching.

System are described below.

The Searcher is a menu-driven front-end that accesses the following online vendors: BRS, DIA-LOG, NLM, ORBIT, and Questel. (It is the user's responsibility to establish accounts with any or all of these systems before using Sci-Mate.) The Searcher can also be used in a dumb terminal mode to access other systems for which a user has an account.

Using the Install program, the user enters telephone numbers and passwords for each system to enable the Searcher to automatically dial and log on to any of the five systems supported. (Auto-dialing is not supported in the dumb terminal mode.)

The Searcher offers a common menu-driven query language. Thus users need not know the individual query languages of the five systems. As comments below illustrate, the menus do not substitute for a general knowledge of online searching, but allow searchers to access vendors that they do not search often. Users knowing the query language of any of the online systems can search them using Sci-Mate's "native language" option. The native language option makes use of the auto-dial capabilities, then turns searching over to the user instead of going through the Searcher's search strategy menus. The native option is particularly important for complex searches, because complex Boolean operations are difficult to execute via the Searcher's menu approach; moreover, users who know the command language of a system will find the menus tedious.

The most economical method of searching with Sci-Mate is to formulate the search query before connecting to the online vendor. After the Searcher logs on to the online host and the initial search is uploaded, modifications can be made to the query online through Searcher menus or in native mode.

Search results can be downloaded to be stored on the user's microcomputer disk.[1] The downloaded records can then be processed using the other two parts of the Sci-Mate System.

The Manager facilitates creation and searching of private files. The records in the files may come from material downloaded via the Searcher, keyed in directly, or loaded from standard text files, such as those produced with a word processor.

Record definition for Manager files is done with Templates, which are either created by the user or selected from standard options that come with the program. Templates that are set up for specific online databases will be automatically applied to downloaded records from these databases if the downloaded records have field tags (i.e.,

Format 4 in DIALOG).

Records downloaded via the Searcher are stored in Work Files. From here, they can be displayed, printed, sorted, or copied to a User File. The copy operation can be done record by record, with the decision being made for each, or the entire file can be copied. (The records will be formatted automatically if they have field tags and if there are suitable templates.) Untagged records can be formatted individually with any template. The records can be copied to a text file for processing with word processing programs or other software.

When a private database is created via the Manager, users can then edit, search, and retrieve the information without incurring further online costs. Records are edited with full screen edit commands displayed at the top of the screen. Boolean searches are allowed with AND, OR, and AND NOT operators. Files may be sorted by any fields in the Template or by the date on which the records were entered into the file.

Within the Manager, it is possible to produce simple reports in a columnar format, with each record limited to a single line. Each record may have up to six status flags, indicating such things as "on order." These status flags are used to create the columnar reports. A mailing label format is also supported.

For other formatted output, the Sci-Mate Editor must be used. The Editor works with Bibliography Files, either copied from Work Files, or entered directly via the Editor. Like the Manager, the Editor uses templates to work with structured or formatted records. Records may be tagged to indicate their type (e.g., books, journal articles, reports, etc.). Citation formats can be created, which will then permit the production of a bibliography, with each record formatted according to its type.

The Editor comes with several built-in style sheets for popular bibliographic formats, such as those of the *Chicago Manual of Style*, the Modern Language Association, etc. In addition to prepared style sheets, the Editor allows the creation of user-specified style sheets.

The Editor can also merge bibliographic references into a manuscript. Bibliography Files may be sorted by citing order, alphabetically by author, or on an alphanumeric key.

PERFORMANCE OF THE SEARCHER

The Searcher allows several options for searching databases via BRS, DIALOG, NLM, ORBIT, and Questel. The first option on the Searcher menu is "Search an Online Database." When this option is selected, the user is asked to choose from among the aforementioned five online vendors. Once a vendor

is chosen, a selected list of databases available through the vendor is displayed. If databases produced by ISI are available, they are always listed first, not because they are necessarily the most frequently used databases or the best, but because ISI is the creator of Sci-Mate. (Software author's privilege!) From one to approximately 15 other databases are listed for each vendor. According to ISI, the databases were chosen because they are the most frequently used databases by the target audience of Sci-Mate (researchers, faculty, physicians, graduate students, and librarians). For the databases listed on the Sci-Mate menu, the software stores all of the available field options and their tags, so it substitutes somewhat for each vendor's summary database documentation (e.g., the DIALOG Bluesheets).

After a database is selected, Sci-Mate automatically dials the phone and logs on to the vendor. The user's password will then be automatically issued, if that option was selected at installation. Sci-Mate's menus control the searching. It first asks the user to choose from among the fields available for searching or to enter his or her own search in native mode. When a field is selected, terms or phrases are entered one at a time. A second menu asks for refinements using Boolean operations or proximity. (If a phrase was entered initially, Sci-Mate will automatically insert the proximity operator.) The user can continue to refine the query by using the menus or choose to submit the query. The option DISPLAY/-DOWNLOAD prompts a format screen that comes preset with formatting options. These default options can be accepted or changed before display.

With search option number 1 just described, all of the menu prompts for searching come after log on. This means that reading the Sci-Mate menus, choosing options, having Sci-Mate translate the options into the appropriate vendor's query language, and the actual search are all taking place while online charges are accruing.

A more economical option is number 2 on the initial Searcher menu. Option 2, "Use Search Profile Subsystem before going Online," performs all of the search strategy development before logging on to the vendor. The search is uploaded after log on and can be modified as needed via the Sci-Mate menu screens.

This option should be the preferred option, in most cases, because it offers everything in option 1--but at a lower online cost. It should have been placed first on the Searcher menu or constituted an option after the user selects "Search an Online Database."

A third option allows one to use Sci-Mate in a dumb terminal mode.

To compare the cost-effectiveness and ease of the various options, the same searches were conducted on ERIC via DIALOG using option numbers 1 and 2 with the Sci-Mate menu. The searches were conducted in native language mode in both options.

Not surprisingly, option number 1 took twice as long online as option number 2. Since Sci-Mate controls the search process, there is no advantage in selecting option 1. Even in option 2, the searcher can modify the search at any time while online or switch to native mode searching. Native mode allows greater flexibility in Boolean operations, but presupposes knowledge of the host's query language. The fairly typical search strategy of (A or B or C) and (D or E) cannot be executed easily via the menus.

The Sci-Mate Searcher performed as advertised in all tested cases. It often goes beyond the first step in its attempts to complete a search. If, for example, log on cannot be completed because of a modem or telecommunications problem, the Searcher offers to try other telecommunications options.

DOCUMENTATION

Each of the three parts of the Sci-Mate System has its own user manual. They are all in three-ring binders for easy updating. In addition, there is an Installation Manual for the system.

The Searcher Manual includes Tutorials for each of the five online systems supported. These are especially nice for beginning searchers or for familiarizing experienced searchers with other online vendors. After the Tutorials, there are eight chapters devoted to various software features.

The three user manuals are uniformly very good. Information is easy to find because each manual is logically organized, makes liberal use of tabs, and includes an index. The indexes could be more detailed, however, and the Searcher index does not cover the online system tutorials. The Installation Manual surprisingly includes neither an index nor a Table of Contents.

All of the manuals are concise, with a clear writing style and many examples. They are nicely illustrated, with pictures of screen layouts. They are neither too wordy nor too short. The best use of all of these manuals is to go over them before using the software. Users who like to plunge in without consulting the manuals will find help messages online, but will need to consult the manuals for some information. It is more difficult to find what is needed in the manuals in the middle of searching.

EASE OF USE

Ease of use is one of the strongest features of the Sci-Mate System. Installation is straightforward; most of the set-up can be done without consulting the Installation Manual.

All three parts of Sci-Mate are easy to use. The menu choices are consistently clear, and help is available online throughout by entering a question mark. (The Help messages are sent on a separate floppy disk, however. Use of a hard disk is strongly recommended, especially for users of all three packages.) A status line at the top of the screen reminds the user of control commands. A minor flaw is that in some parts of the system a carriage return is required, while in other parts it is not. Beginning users may find this confusing, because the menus do not indicate when a carriage return is needed.

Only a few minutes are needed to create a file template using the Manager. Options and subsequent actions are always clearly displayed. Creating formats for printed bibliographies with the Editor is a straightforward process as well.

The Searcher is the most complex of the three modules, probably because of the inherent complexity of interacting with many online vendors and telecommunications networks. The Searcher does not substitute for knowledge of databases and online searching. Instead, it supplements basic knowledge of users by allowing them to search online systems that may be unfamiliar. Sci-Mate takes care of such things as differences in syntax (e.g., it will automatically insert AU= in an author search on DIALOG and hyphens between the last and first name and .AU. in a BRS author search.) For several selected databases (notably ISI databases), the Searcher aids in search strategy development by providing menu choices for the various field options.

An inexperienced searcher may still be puzzled by the variations among databases or by the reason for an unsuccessful search. The Sci-Mate Searcher (like most front-end systems) does nothing to diagnose or correct unsatisfactory search results. Users will find that basic knowledge of at least one online system before using the Searcher will result in more satisfactory use of the package. Experienced searchers of each system will find native mode more efficient.

Given that the Searcher is an easy and reliable communications package, what are the advantages of Sci-Mate over an inexpensive telecommunications package if a user searches mostly in native mode? One minor advantage for the few databases included in Sci-Mate is the availability of field tags online. The real advantage, however, comes with the total system. In-house databases or bibliographies can easily be created and maintained. An excellent use of Sci-Mate is to combine the search expertise of an experienced intermediary with the private file needs of a researcher. If the library uses the Searcher, and researchers have the Manager, an intermediary can do a search using the Searcher's native mode and download the search results. For tagged database output, the results can be formatted automatically. Search results on a floppy disk can then be given to the requestor to edit and create private files as he or she wishes.

EASE OF LEARNING

The manuals include tutorials, help is available online, and the menus choices are generally clear. Together, these features make all three parts of Sci-Mate easy to learn. In fact, considering the complexity of the three functions and the satisfactory products that result, Sci-Mate's ease of learning is noteworthy.

One exception is the attempt to teach the basics of online searching in a help screen that is accessed from the initial Searcher menu. The instructions given are superficial at best. A tutorial would be better; or perhaps, just relying on incorporating the instructions into the search development process would be more realistic.

ERROR HANDLING

Error handling within the Sci-Mate menus is consistent. If an incorrect number or letter is entered at a menu choice, Sci-Mate repeats the list of acceptable values. The Escape key always takes the user back one menu.

Brief help messages are available at most points, although they usually just elaborate on the menu choices. A tutorial on searching would be helpful, if it were incorporated into the help screens. Help messages in the Searcher never explain anything about the online vendors or the databases listed, so Sci-Mate does not help the novice searcher decide which vendor or which database to select. Because help messages come on a separate floppy disk, searching is more convenient if the user has a hard disk system.

Error handling is limited to Sci-Mate functions. There is no provision for catching search input errors. If, for example, a user selects the option to search by subject, Sci-Mate expects the user to enter a single word or phrase. If a Boolean expression is entered instead, Sci-Mate incorrectly places the proximity operators on either side of the Boolean expression, e.g., (PMS (W) OR (W) Premenstrual (W) Stress). Sci-Mate does not check

Sci-Mate Searcher

	Unacceptable	Poor	Satisfactory	Very Good	Excellent
Performance				x	
Documentation				x	
Easy of Learning					x
Ease of Use					x
Error-Handling			x		
Support				x	
Value				x	

Summary: The Sci-Mate Software System is a total system designed for the searching of remote data-bases, creation, and maintenance of private files, and generation of printed bibliographies. Its three parts--the Searcher, the Manager, and the Editor--can be purchased individually or as a set. At $399 per package (or $359 each if at least two are purchased), the system may be too expensive for personal use. Good software of this type is often more expensive than other types of microcomputer software, however. For libraries or other institutions involved with both searching and creating bibliographic databases, Sci-Mate is highly recommended. It is economical when compared with similar packages, easy to use, and rates very good-to-excellent for most features. Purchase of the Searcher alone is more difficult to justify than purchase of the Searcher along with at least one of the other two modules.

Product Details: Price: $399 for each of the three parts: Sci-Mate Searcher, Sci-Mate Manager, and Sci-Mate Editor. Volume discounts are available.

Hardware Specifications: Version 2.0 available for : 1) MS-DOS for IBM and IBM-compatible machines with at least 128Kb RAM. 5 1/4-inch double-sided, double-density 320Kb DOS 1.1 formatted diskettes provided; 2) CP/M 80 for a Z80 processor with standard 8 inch drives. 8 inch single-sided, single-density 243 Kb formatted diskettes are provided. Sci-Mate Searcher requires Hayes Smartmodem 1200 A or B. A hard disk is strongly recommended.

Producer: ISI (Institute for Scientific Information), Sci-Mate Customer Service, 3501 Market St., Philadelphia, PA 19104; (800) 523-4092; in PA (215) 386-0100, ext. 1418; in Europe 44-895-70016.

---

for stopwords or other erroneous input.

If the descriptor search option is selected, the user must know the exact form of the descriptor on the database selected. Even if punctuation is put in incorrectly, Sci-Mate does not question the user nor does it switch automatically while online to the vendor's command for displaying searchable terms. Users must know something about the online vendors and databases they are accessing to best take advantage of Sci-Mate.

SUPPORT

Customer support for Sci-Mate is very good. ISI sends regular updates to the Sci-Mate Manuals and issues a newsletter, as well. An 800 number is available during daytime hours, with helpful, knowledgeable personnel answering the phone. ISI charges an annual fee for the telephone support and newsletter. There is also a Sci-Mate user group.

VALUE

When compared to other packages that perform the same functions, the Sci-Mate System is a good value. The price of $399 per module may be too high for personal use, but it is very reasonable for libraries or other institutions involved with searching and creating bibliographic databases. The Sci-Mate Manager allows very large bibliographic files to be created, so it provides an economical way to create an easy-to-use in-house database. The Editor provides a simple way to create bibliographies formatted in a choice of many standard styles.

Purchase of the Searcher alone is more difficult to justify than purchase of the Searcher plus at least one of the other two modules. Since users must have passwords to all of the vendors accessed through the Searcher, they will already own the system manuals. If searching is to be done without creating either databases or formatted bibliographies, experienced searchers are probably better off buying an inexpensive telecommunications package and checking the system manuals of the vendors they want to search. Using the Sci-Mate modules together, however, provides a powerful, easy-to-use database system.

NOTE

1. Downloading is not allowed by all database producers. The user is responsible for making sure he or she is in compliance with copyright and contract laws.