



NBS TECHNICAL NOTE 819

A Technical Index of Interactive Information Systems

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FOREWORD

Despite a history marked by some significant failures and numerous partial successes, the field of computer software for information services now offers a wide and growing range of choices. Indeed, the variety and complexity of available software seems to overwhelm routine documentation and distribution as an effective means of dissemination. This report offers relief as a concise reference to technical features and operational status in the domain of interactive systems, i.e., those providing a "conversational" usage mode to a "non-programmer" through a data terminal device. The report was prepared under National Science Foundation support for NBS to assess the status of automated information services for scientific and technical information. (Grant NSF-CA68). The principal motivation for this report was a request for assistance from the COSATI Task Group on Interactive Systems, chaired by Mr. Alexander Hoshovsky, U. S. Department of Transportation.

We gratefully acknowledge the excellent cooperation of the system producers, the review assistance of the COSATI Task Group, and especially the support and thoughtful advice of Dr. Edward Weiss and Mr. Richard Lee of the Office of Science Information Service, NSF.

This report identifies computer systems by trade names as necessary to provide a descriptive characterization of their features. This in no case implies a recommendation or endorsement by the National Bureau of Standards, nor should the presentation be construed as a certification that any system provides the indicated capabilities. The information presented was primarily obtained from producer's documents and has been reviewed by each producer for accuracy and clarity, with the authors retaining final technical judgement on the information included. The report is only intended to be informative and instructive in state-of-the-art assessments, and not to be a competitive evaluation of systems for any specific application.

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A TECHNICAL INDEX OF INTERACTIVE INFORMATION SYSTEMS

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Justin C. Walker, Beatrice A. Marron

This report constitutes a reference to technical features and operational status of interactive information systems, i.e. those providing a 'conversational' usage mode to a 'non-programmer' through a data terminal device. It is aimed at the ADP service manager, for his use in the state-of-the-art assessments preparatory to a detailed system selection process. It contains an index that describes 46 systems in terms of a list of over 50 technical features plus descriptive, identification, and background information. In addition, there are aids and examples contributing to the intended use of the index.

Key words: Bibliographic systems; computer programs; computer systems; data base; data management; information retrieval; information services; interactive system; query language; software selection; text processing.

1. INTRODUCTION

This report is written for the purpose of providing Federal ADP customers with information on a certain class of computer systems which are capable of handling scientific and technical information. The report attempts to show what is available and to characterize these systems in such a way as to answer questions which naturally arise prior to selecting such a system for a particular installation. The report is written at a level of technical detail which is aimed at information specialists rather than programming experts. It is intended to be informative and instructive, and not critical or evaluative.

We have reviewed for inclusion in this index over 200 systems which came to our attention from various published and unpublished sources as well as from word-of-mouth. The systems which were selected conform to the following definition: "Information Retrieval" or "Data Management" packages or services which are available to any Federal ADP installation, and which offer an interactive query and search capability that is geared for use by non-programmers. Various reasons for rejecting the systems which did not qualify for inclusion are listed at the end of Section 2 of this report.

The information contained here on each of the systems was obtained primarily from documentation received during 1972 and 1973. In cases where the available documentation did not provide sufficient data, further information was obtained by telephone. We believe that the reporting on these systems is accurate, for it has been reviewed and amended where necessary by the system producers. We regret if this report inadvertently omits any system which may meet the definition. Omissions and out-of-date information are inevitable in a survey of such an extremely active and evolutionary field as this.

A caveat on the use of this index must be mentioned. We have attempted to convey in a limited space information obtained from secondary sources. There are obvious limitations in such a treatment. The best way to gain in-depth familiarity with a system is, of course, to have hands-on experience with it. That has not been possible for most of our treatments, but that course is recommended to readers and users of this inventory.

This report is structured as follows: Section 2 elaborates on the definition of the scope of the survey and clarifies some of the important concepts and sometimes confusing terminology. Section 3 discusses evaluation for system selection, so that a manager can relate his needs to technical features which appear in our questionnaire. Section 4 presents the technical data on systems surveyed. Section 5 presents a brief description of the widely known, commercial data bases that are accessible on some of the surveyed systems. Section 6 presents a bibliography of related work that may also be helpful for information sources.

2. BASIC CHARACTERISTICS OF SYSTEMS UNDER STUDY

In this part, we discuss the rationale for including certain systems in this index and excluding others. The intention has been to include every system for which there are "yes" answers to the following questions:

- (1) Does it have an interactive query and search capability?
- (2) Is this capability geared for use by non-programmers?
- (3) Is the system available to any Federal ADP customer?

We will now explain what is meant by the three questions. The first question is dealt with extensively, since arriving at an acceptable understanding of "interactive" has proved to be quite difficult.

2.1 Interactive Query and Search

The term "interactive system" is elusive when attempts are made to pin down an exact definition. The problem is complicated by the fact that this and related terms have been used for promotional and advertising reasons as much as for technical reasons. Rather than try to establish a hard definition, we sketch the intuitive meaning for the term by placing it in perspective with other terms.

Terms currently in use to describe the processing of jobs by a computer system are batch, remote batch^{*}, on-line, and interactive. Intuitively, batch processing requires that all steps in a job, together with any required input, be specified prior to the job's initiation. A dis-

^{*}"Remote job entry" or "RJE" is often used and is synonymous with "remote batch".

tinction can be drawn between local batch and remote batch systems according to input via direct lines or via communication lines. The latter require an extra layer of protocol which sometimes must be specified by the user. A batch program is one in which all parameters are specified in advance, but also whose results are known only after completion of the whole job.

The term "on-line processing" is generally used to describe a spectrum of processing modes. The user communicates with an on-line system via a typewriter-like terminal (i.e., a terminal with a keyboard and possibly a display). The system actively acknowledges user input in some form, as opposed to the more passive remote batch systems. The spectrum of processing modes is determined by the extent of this acknowledgement, e.g. prompting after receipt of "input lines", prompting plus syntax check of control cards, and so on. Interactive systems form a portion of the on-line spectrum. They are characterized by "friendly" responses to input errors, relatively rapid response to system commands and the like. Generally, the interactive system links a system or user program directly with the user at all times, in contradistinction to other on-line systems. In the latter type, user and systems programs utilize the terminal mainly as a line printer.

The above distinctions are not rigorous, and from the user's view may be non-existent in a fast-response environment. The following discussion tries to focus on the "interactive" system from the user's point of view. In the survey we include systems from the entire on-line spectrum but we have attempted to restrict inclusion to those which present some indication of interactivity either from the above consideration or from those following.

Imagine a system which allows a user to formulate a query at his terminal and submit that query for searching against a file, and which prints out the records which satisfy that query, within a matter of seconds. Such a system qualifies as having an "interactive query and search capability", although it is at the weaker end of the spectrum compared to a system as now described.

This system allows the user to incrementally formulate a query, and responds with intermediate results (e.g. the number of records satisfying the query or similar terms or phrases which the user may also consider), based on which the user can re-formulate or extend his query. This cycle of system response with intermediate results leading to user re-formulation of query, etc. need have no upper limit. For example, the following user/system session is typical of one of the major applications of interactive systems, namely bibliographic search.

The user enters his query, e.g. "computers", which is checked for inclusion in an index of permitted terms. It is found to be included and found to be a descriptor of say 1,104 documents in the system. The system responds with "1,104 hits". At this point the user modifies his original request with "and the United States". The system responds with "52 hits". The user then modifies his now complex query with

"published since 1971". The system responds with "6 hits". The user requests the titles of these documents. On viewing them he then requests the full citations of three documents from that six that he really is interested in. Such a system would be at the stronger end of the "interactive" spectrum.

2.2 Use by Non-programmers

Many customers want the capability of having a user who is not a programmer formulate queries at a terminal in a way that is relatively natural for him. Many systems are designed in such a way that their interactive query and search components are geared for use by non-programmers: information specialists, managers, or clerical personnel. We have attempted to restrict our survey to such systems.

In some cases, the documentation for a system states that it is for use by programmers. All such systems have been rejected. In some cases not so rejected, inspection of a system's documentation forces us to reject it because there are requirements on the user to "do programming" of a sort. By this we mean that the user has to phrase some or all of his query (or operations preceding the query) in language constructs which are primitive and unnatural in relation to his task of query and search.

For example, one system defines its files in terms of physical storage structure. In querying files, the affected files must be described by such parameters as transport number, number of logical records per physical record, and address of first block (of tape) or sector (of disc).

Another system has essentially a high level programming language for querying files. Each query is bracketed by a BEGIN-END pair and language statements within are numbered hierarchically. Each statement potentially produces a result which can be referred to in other statements by giving the statement number. An example is:

```
BEGIN
1. FIND ALL RECORDS FOR WHICH GRADE = 2
2. COUNT RECORDS IN 1
3. PRINT ... COUNT IN 2
END
```

The primitive nature of the statements forces the user to construct a program to query the system, even for the most logically simple requests.

2.3 Availability

We are including in this index systems which are available to the Federal customer. Availability implies that the system is operational

(not in research or development) and still supported. There is also an understanding that there are no legal, security, or other problems in the way of availability. The systems included here are either available on a commercial basis or on a less formal and less costly basis in cases where the originator is not a commercial establishment. Further, we have included both those systems which are available on a service basis and those which are available as packages for lease or purchase.

To summarize, we have attempted to include every data management or information retrieval system for which there are "yes" answers to the three questions. Reasons for not including a system are: (1) it is a batch system; (2) its query language is not for use by non-programmers, (3) it (or its query language) is in research or development; (4) it is no longer supported; (5) the originator of the system is unlocatable or no longer in business; (6) there are legal or security problems in the way of releasing the system; and (7) documentation has been solicited but not yet received.

3. SYSTEM FEATURES AND EVALUATION REQUIREMENTS

3.1 Questionnaire with Explanatory Notes

Systems are built with different objectives and hence have different capabilities for different application situations. Since not all systems provide the same set of features to the same degree, it has been necessary here to establish features for describing systems relative to a broad range of possible user needs. The feature list or questionnaire used in this index is therefore the union of a wide number of possibly relevant capabilities, see Table 1. A specific system is characterized by a subset of the features covered.

3.2 Suggested Procedure for Use

The survey results, Section 4, represent a nearly complete inventory of available interactive software, and therefore are a basis for assessing the state-of-the-art in this field. The index is intended also to be informative in the preliminary, exploratory stage of a system selection activity. In this area, the index may aid a manager in articulating his requirements using the offered features as a starting point. Further, the index may be useful in forming a tentative set of candidate systems, by screening the inventory against a required subset of features. The latter of course imposes an inescapable burden on the user to relate his unique needs to applicable features.

The suggested procedure for using this index can be illustrated by briefly discussing questions arising in formulating requirements and evaluating information systems. Two basic alternatives would face an information service manager once he has decided to investigate the feasibility of automated service, see Figure 1. If the expected usage is very high and a computer facility is in place, an in-house service could be considered. Compatibility with the available mainframe may

TABLE 1. QUESTIONNAIRE WITH EXPLANATORY NOTES

A. GENERAL DESCRIPTION		C. FILE DEFINITION	
1. SYSTEM NAME ORIGINATOR TELEPHONE	Additional names are given for alternative versions. System originator is developer and implementor.	1. USER DITINABLE 2. VARIABLE LENGTH TEXT 3. REPEATED FIELDS	Can the remote user define and implement his own data and file structures?
2. SOFTWARE AVAILABILITY	Filled in if the computer program package itself is offered for customer installation.	4. FOR PURCHASE AT WHAT COST b. FOR LEASE AT WHAT COST	Do individual records accommodate text of any length, or at least as much as a typical bibliographic abstract?
3. SERVICE AVAILABILITY	Filled in if remote service is offered.	5. HISTORY OF SOFTWARE a. FIRST INSTALLATION b. SIGNIFICANT INSTALLATIONS	Is it possible to have a variable number of identically named fields in a record, e.g., J:c7w0rds or authcrs?
B. COMPUTER ENVIRONMENT		D. FILE MAINTENANCE	
1. MAIN FRAME 2. OPERATING SYSTEM 3. SOURCE LANGUAGE 4. TERMINAL TYPES		1. ALLOWS ON-LINE a. CREATION b. UPDATE	"On-line updating" refers to change of the logical content of a record, while "on-line editing" refers to an associated capability to selectively indicate partial changes of the record content.
5. TRANSMISSION RATES 6. RE-ENTRANT FOR MULTIPLE USERS		2. PREPROGRAMMED DATA VALIDATION CHECKS	Are there functions to check the "correctness" of the incoming data?
		3. OPTIONAL ORDERING OF ENTERED DATA	Can incoming data elements and records be optionally ordered with respect to pre-existing elements and records in the file?
		4. AUTOMATIC OR MACHINE-ADDED CONTENT INDEXING	Is there a preprogrammed automatic or machine-aided process to scan raw text and develop concept-indicating keywords and phrases?

TABLE 1., CONTINUED

E. QUERY

1. USER-SYSTEM INTERACTION

a. MULTIPLE OPTIONS
AT ANY POINT

During a session with the system, does the user have the freedom to specify various actions at any time? For example, after entering a search term, is the user returned to a state where he may choose more terms, review previous choices, or execute the search?

b. ENGLISH-LIKE
PHRASING

Do the system commands have English or near-English names indicating their function?

c. SYSTEM-FORCED
DIALOGUE

Is the user completely "led along" by the system in a dialog completely controlled by the system?

2. CONTENT SEARCHING

a. CONTROLLED VOCABULARY

Is the user required to use a pre-established set of search terms? Can the user use any word expected in text (excepting perhaps an excluded list of stop words like "a", "of", "the")?

c. STEMMING PERMITTED

Can the user specify a set of search terms by using a root expression such as "comput*", where * has all the values "e", "cr", "ers", etc. Does the system have the capability of specifying a class of semantically equivalent terms either in its vocabulary or else by definition?

e. DISPLAY OF
RELATED TERMS

Can the system display terms from its vocabulary which are equivalent to a given term or are more or less specific, but related to it?

f. CHECKING TERM IN CON-
TROLLED VOCABULARY

Is there a command which checks a given input term for inclusion in a controlled vocabulary and perhaps gives immediate alphabetic neighbors?

3. SEARCH SPECIFICATION

a. MUST NAME FIELDS

Is it necessary to always specify fields in query formulation, e.g., "Author=Picard"? Is it possible to specify fields in query formulation to limit or control the search? Is there an explicit capability for taking two valid search expressions and connecting them with AND or OR so as to construct a new expression with the usual Boolean interpretation?

c. BOOLEAN AND

Is there an explicit capability for negating a valid search expression by preceding it with NOT?

f. NESTING OF BOOLEAN
EXPRESSIONS

Is there an explicit capability for embedding search expressions within other search expressions?

g. PHRASE AND DISTANCE
SEARCHING

Is it possible to use multi-word strings as search terms? Is it possible to use a query which specifies that two terms must occur within some stated distance in the text from each other? Can the user phrase his search objective in natural English sentences and phrases? Is there a capability for specifying a range of numeric values in a search expression, e.g., "...published since 1970"?

4. TUTORIAL FEATURES

Is there a command which gives assistance to a user on what options are available to him at various points in a session?

b. DOCUMENTATION

Can the user get at documentation on-line which explains the system, the data bases, etc.?

TABLE 1., CONTINUED

- 5. SEARCH STRATEGY**
- Referring to the file accessing technique used in the implementation, is an individual record uniquely located:
- from an index,
 - by consecutive search of each record in the file,
 - within a group of records?
- F. REPORT GENERATION**
- 1. LANGUAGE TYPE**

How are alternative output formats determined?

Can the user write a program to specify his output format?
 - 2. MEDIA FLEXIBILITY**
 - Do programs exist to display simple charts and graphs?
 - Are there special output forms (e.g., microfilm, etc.) available?
 - 3. SPECIAL CAPABILITIES**
 - Can output be selectively sorted on chosen fields?
 - Refers to a capability for sorting or "ranking" by relevance to a query.
 - of number of hits.
 - On field values.
 - G. SECURITY PROTECTION**
 - 1. TERMINAL**

Refers to the use of passwords or other identifiers to inhibit use of a terminal or access to data elements by non-qualified users.
 - 2. DATA BASE**
 - RECORD
 - FIELD

Decision to investigate automated service

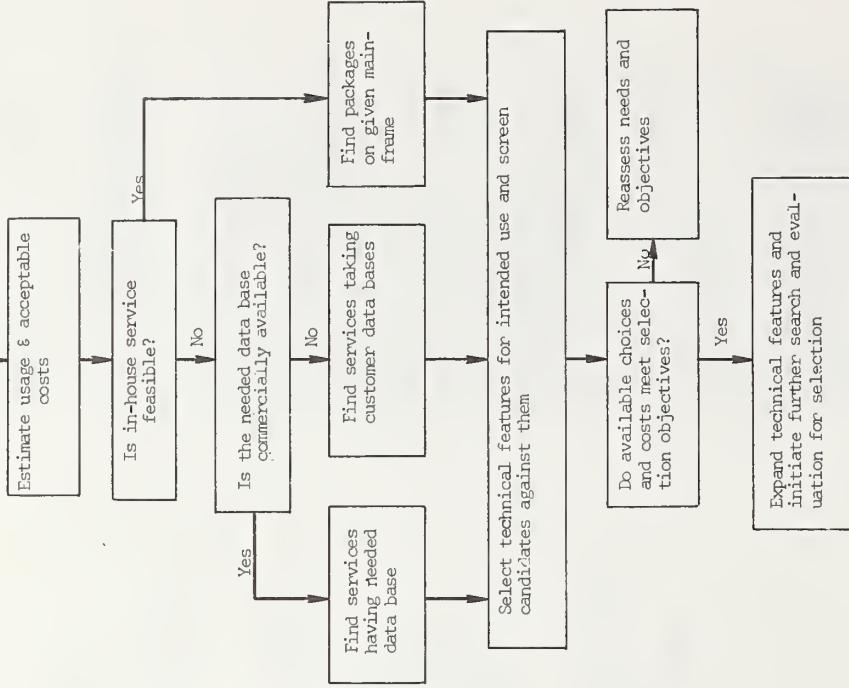


Figure 1. Flow Chart of a Suggested Usage Procedure

then be the overriding factor in the selection of a software package to be installed. The index can be used to find as prime candidates the systems implemented on the given vendor hardware. However, if expected usage is low, say on the order of a few hours of terminal use per day, or if a computer center and necessary expertise are unavailable, a worthy alternative would be to obtain use of software as a service from an outside computing center. A pertinent question then is whether the service offers searching of a major commercial data base, if required, or takes customer data bases if a special private file is involved. The index also assists in finding initial candidates based on these factors.

Having pursued one of the above alternatives to identify a relevant subset of available systems, attention should turn to technical features desirable or necessary for the intended application. The questions in the index were purposely selected to draw out distinctions in three broad classes of system application, called respectively formatted data processing, structured text searching, and personal text handling. As a tutorial guide for the index user to articulate his unique requirements, these classes will be individually discussed toward framing a representative list of essential and additional desirable features (Tables 2-4).

Formatted data processing is conceived as most typical of management information, military command/control, and other applications where data elements have mostly numerical, abbreviated text, or other encoded (e.g. date) values. Personnel, inventory, or production control files would be common examples. Data values in the file may need to be updated frequently as status changes occur in the application environment (e.g. personnel are reassigned, parts are used, or products moved from one manufacturing station to another). This is motivation for requiring on-line file maintenance as an essential capability. In Table 2, therefore, D. 1 indicates that a qualifying system must allow update or editing transactions to be entered from the user's remote terminal (see Table 1 for explanation of items under D.1). Formatted data processing software must provide considerable flexibility to the user in manipulating file data in any logically correct order and with a wide range of arithmetic functions. These are essential because such systems are usually applied concurrently to a number of differently organized files. Also, they must help their user to answer an indeterminable variety of questions about relationships and quantities in the file data. In Table 2, the conclusion is reflected in choices of: an interaction language with multiple options (E.1.a), a full Boolean capability to express logical or comparison conditions (E.3.c through E.3.f), and arithmetic capabilities (F.3.c and d). Users of these systems also require a range of options in formatting output reports, so that essential factors can be made clearly visible and effectively ordered with respect to related data. For these reasons, optional formatting (F.1.b and c) and ordering (F.3.a) are included as essential in Table 2.

Related to these essential features are several additional ones that seem especially desirable and are often available. In some circumstances they may be considered essential. Repeatable fields (C.3)

are a great convenience in organizing and referencing the machine file when records have multiple occurrences of the same type of data (e.g. children or work experience in a personnel file). This may also save considerable machine storage for many files. English-like language phrasing (E.1.b) aids user comprehension and ease of use, in conjunction with the multiple option language characteristic. Range searching (E.3.i) and displays of graphs (F.2.b) significantly enhance selection of desired records and data presentation in a more readily perceived form. Tutorial aids (E.4.a or b) are highly desirable, even essential, to bring users quickly toward effective use of complex software or to help solve usage problems as they are encountered.

Structured text searching (Table 3) is conceived as representative of bibliographic information searching, legal text searching, and similar uses where the file records consist of prescribed segments of text, individually of variable length (C.2 in Table 1), possibly rather long (1000 characters or more). Examples of text segments would be report titles, abstracts, patent claims, paragraphs, statute sections. To identify a text record for selection there must be a technique for abbreviated content description, since requiring an exact match to all the text in a segment would be inconceivable and inconsistent with the intended function. Content description may be provided by indexing each file record by a set of keywords from a controlled vocabulary (E.2.a) which the user can inspect to check his desired term for acceptability (E.2.f). Or else, any significant word occurring in text may be provided as a valid search term (E.2.b). Because these systems are especially aimed at users unaccustomed to programming encoded forms, English-like phrasing is deemed essential as well. Because a search may select voluminous text records that would be exceedingly long to print on the usual 10 or 30 character/second terminals, off-line printing (F.2.a) at high speed is also essential. Moreover, these systems should present a count (F.3.c) of the records that would be selected by a proposed search so that a user can judge the desirability of continuing the search.

The data files of structured text searching systems would be expected to be unchanging in content and very large in volume. It would be expensive to reorder or restructure them as new data is received, so it would be desirable for the system to accept new data in any order (D.3). Other desirable features would extend content searching capability, for example by giving a synonym facility (E.2.d) or a presentation of other terms that are conceptually related (E.2.e). As in formatted data processing, tutorial aid is desirable. In contrast to that application however, full Boolean capability, optional report formatting, and optional ordering are suggested here as desirable rather than essential. Only a Boolean AND, allowing the conjunction of distinct search terms, is imperative for user convenience, to avoid a tedious selection from record subsets found by individual terms. Optional formatting and ordering may not be used often for such simple structured output records as bibliographic citations. A standard output presentation then is generally sufficient, unless text fields become numerous and frequently of marginal importance, requiring more selectivity to be given the user.

Personal text handling is conceived as a generalization of structured text searching to uniquely serve an individual researcher in creation, editing, and composition of text bodies as well as searching them. Examples arise in military intelligence work, legal case preparations, source book or encyclopedia preparation, etc. Most of the requirements of structured text searching apply. The most germane additions are for user definable file structures (C.1) and on-line file maintenance (D.1), which allow complete user flexibility to establish arbitrary new files in the course of his interactive usage. Optional output formatting becomes essential because of the potential variety and scope of file structures. A highly desirable search capability would be phrase and distance searching (E.3.g), to permit the researcher to more narrowly select desired records based on occurrence of phrases or words in context (separated by limited distance). As the researcher may establish many records with grossly similar content within his special interest, this additional selectivity has great importance.

The above rationale indicates the type of analysis which may lead the user to a pertinent feature list for his situation.

Table 5 illustrates using the worksheet for structured text searching to develop comparative presentations of system capabilities. These are the basic questions which the index user may answer in such fashion: are there systems offering the essential combination of features? is there a good number of desirable systems, portending a competitive choice in cost, types of vendor support, proven system reliability, etc.? is the cost range of desirable systems within the funds available for a purchase or subscription? Positive answers should build confidence that an economical, proven system can be obtained, while negative answers may indicate a presently infeasible set of requirements or a constrained area where further research and system development is advisable.

It is suggested that each index user develop his own worksheet of features for his needs. Table 1 shows that the index permits a sharper delineation of required features than used in Tables 2 to 5. It is expected also that individual readers will perceive special features for their need that are not used here, and will have to be specially investigated for all systems of interest. The index is meant to help draw attention to that subset of systems of greatest interest and relevance.

The index is primarily meant however to aid state-of-the-art assessments. We see in the index results many disparities calling attention to needed research, and also many common factors indicating a readily available, recognized feature. Regarding the former, we note particularly that only half of the systems have tutorial capability - yet none are considered trivial to use. The design of effective training aids and problem diagnosis features is a very important area for further development. On the other hand, almost all systems offer English-like phrasing in their language style. This is encouraging for it is clearly desirable and of little added cost to implement in terms of meaningful command names.

Table 2. Illustrative Worksheet for Formatted Data Processing Application

Table 3. Illustrative Worksheet for Structured Text Search Application

GENERAL FACTORS		SYSTEMS				GENERAL FACTORS				SYSTEMS							
		1	2	3	4			1	2	3	4			1	2	3	4
System Name (A.1)						System Name (A.1)											
Originator						Originator											
Offers required data base (A.3.b)						Offers required data base (A.3.b)											
Takes customer data base (A.3.c)						Takes customer data base (A.3.c)											
Cost (A.2 or A.3.a)						Cost (A.2 or A.3.a)											
		TECHNICAL FEATURES				TECHNICAL FEATURES				TECHNICAL FEATURES				TECHNICAL FEATURES			
Essential						Variable length text (C.2)								Optional ordering of data (D.3)			
Desirable						English-like language (E.1.b or E.3.h)								Content searching aids (E.2.c-e, E.3.b, E.3.i)			
Essential						Content description (E.2.a and E.2.f or else E.2.b)								Full Boolean capability (E.3.c-f)			
Desirable						Off-line printing (F.2.a)								Tutorial aid (E.4.a-b)			
Essential						Counting of hits (F.3.c)								Optional report format (F.1.b-c)			
Desirable														Optional output order (F.3.a-b)			
Essential																	
Desirable																	

Table 4. Illustrative Worksheet for Personal Text Handling Application

Table 5. Illustrative Worksheet for Structured Text Searching, Completed for Representative Systems

GENERAL FACTORS		SYSTEMS				GENERAL FACTORS				SYSTEMS									
		1	2	3	4			1	2	3	4			1	2	3	4		
System Name (A.1)						System Name (A.1)		EASTIS	LEADER-MART	MASTER CONTROL									
Originator						Originator													
Offers required data base (A.3.b)						Offers required data base (A.3.b)													
Takes customer data base (A.3.c)						Takes customer data base (A.3.c)													
Cost (A.2 or A.3.a)						Cost (A.2 or A.3.a)													
TECHNICAL FEATURES		SYSTEMS				TECHNICAL FEATURES				SYSTEMS				TECHNICAL FEATURES					
User defined files (C.1)						Variable length text (C.2)		Yes	Yes	Yes	Yes	Yes	Yes	Variable length text (C.2)		Yes	Yes	Yes	Yes
Variable length text (C.2)						English like language (E.1.b or E.3.h)		Yes	Yes	Yes	Yes	Yes	Yes	English like language (E.1.b or E.3.h)		Yes	Yes	Yes	Yes
On-line file maintenance (D.1)						Content description (E.2.a and E.2.f or else E.2.b)		Yes	Yes	Yes	Yes	Yes	Yes	Content description (E.2.a and E.2.f or else E.2.b)		Yes	Yes	Yes	Yes
Multiple option interaction(E.1.a)						Off-line printing (F.2.a)		Yes	Yes	Yes	Yes	Yes	Yes	Off-line printing (F.2.a)		Yes	Yes	Yes	Yes
English-like language (E.1.b or E.3.h)						Counting of hits (F.3.c)		Yes	Yes	Yes	Yes	Yes	Yes	Counting of hits (F.3.c)		Yes	Yes	Yes	Yes
Content description (E.2.a and E.2.f or else E.2.b)																			
Optional report format (F.1.b-c)																			
Off-line printing (F.2.a)																			
Desirable						Optional ordering of data (D.3)		Yes	Yes	Yes	No			Optional ordering of data (D.3)		Yes	Yes	No	
						Content searching aids (E.2.c-e, E.3.b, E.3.i)		Yes	Yes	Yes	Yes			Content searching aids (E.2.c-e, E.3.b, E.3.i)		Yes	Yes	Yes	
						Full Boolean capability (E.3.c-f)		Yes	No	Yes	Yes			Full Boolean capability (E.3.c-f)		Yes	Yes	Yes	
						Tutorial aid (E.4.a-b)		Yes	Yes	Yes	Little			Tutorial aid (E.4.a-b)		Yes	Yes	Yes	
						Optional report format (F.1.b-c)		Yes	Yes	Yes	Yes			Optional report format (F.1.b-c)		Yes	Yes	Yes	
						Optional output order (F.3.a-b)		Yes	Yes	Yes	Yes			Optional output order (F.3.a-b)		Yes	Yes	Yes	

Section 4 presents several matrices that illustrate how the features may be used individually and in combination to categorize systems as may be relevant to user needs. It is advisable however for a user to create his own worksheet of pertinent features and draw information from the survey, e.g. Table 5, to judge the capabilities that are available in the field.

It is neither intended or recommended that the survey results or the broad feature list should be adopted as the exclusive basis of a system selection. A competitive selection decision requires a much more detailed matching of user requirements with functional features, coupled with a productivity assessment addressing performance and cost factors. The background for this task necessarily involves familiarity with a user's organization and its forcing constraints, such as the needed data files and their characteristics, funds available, allowable implementation time, present computer equipment, and available programming skills. The tools to be employed in system evaluation include benchmark exercises, performance monitoring, simulation and modeling, hands-on experience, detailed documentation review, and thorough audit tests. Inasmuch as this survey has been based primarily on documentation review, it cannot be evaluative of one system against another. Managers facing a selection decision are advised then to acquire system documentation, at least to the level of a complete user's manual, and to undertake hands-on familiarization or benchmark exercises to thoroughly understand each system's capability for his user community and procurement constraints.

4. SURVEY RESULTS

4.1 Indexes To Systems

As an aid to the reader, this section presents several examples of classification of information systems drawn from the questionnaires. Following is a brief description of each of the four illustrative classifications.

Applications:

As examples of application classes, there are three types considered: formatted data, structured text and personal text. The relevant features have been described in Section 3.2. Table 6 presents a matrix for this categorization. This may help the reader direct his first attention to systems closely corresponding to an intended usage.

Main Frames:

The matrix of Table 6 dealing with mainframes correlates the systems in the survey with the (classes of) main frames on which each runs. The classification "other" is used for those main frames for which only one of the systems is available. For these systems, reference to the specific questionnaire will give the appropriate main frame (B.1).

Table 6 Categorization of Systems

1. Applications

System \ Category	BASIS	CIRCOOL	(Data/Central)	DRMS	DS/3	ENFORML	FLEXIMITS	GIM	GPSY	IMARS	IMS (OEP)	IMS/360	IMS/8	INQUIRE	INSTTE	LEADERMARK	MARS III	MARS VI	MICROTEXT	MINDATA	MIREADS	MUSE	N.Y. TIMES	OLIVER	ORBIT III	PREFTS	QUERY UPDATE	RATIS	RECON	RFT	RIGS	SHOEBOX	SPIRES II	STARS	SYSTEM 2000	TICOON	UNIDATA		
Formatted Data Processing	x			x	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Structured Text Searching	x	x	x						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Personal Text Handling	x		x								x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

2. Main Frame Series

CDC 6000	x					x																																					
DEC PDP-10						x																																					
IBM 360/370	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x						
UNIVAC 1100	x					x			x		x		x		x		x		x		x		x		x		x		x		x		x		x		x		x		x		
Other									x		x		x		x		x		x		x		x		x		x		x		x		x		x		x		x		x		

3. Type of Offering

Service	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Package	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

4. Ownership

Public						x			x		x		x		x		x		x		x		x		x		x		x		x		x		x		x		x
Proprietary	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		

Type of Offering:

Questions A.2, 3 deal with the availability of a system and in particular answer whether the system is available as a software vendor's package to be installed at the user's site, or as a service running at the vendor's site.

Ownership:

Two categories are used to describe ownership of a system. The term "public" designates those systems in which the originator (or vendor) has not retained a substantial monetary interest, such as those which have been completely government funded. These systems are generally available (source and source listings) for a nominal fee, such as tape duplication. In some cases, the producer or vendor may only consider assistance for a fee, covering installation, modifications, and possibly maintenance. This assistance may be contractual and include on-site personnel in the case of packages, or resource costs, in the case of services.

The "proprietary" systems are those that are wholly owned by private concerns. Generally there is a purchase price on the system. However in the case of some main frame manufacturers, the system may be available without additional cost to the purchasers or lessors of their equipment.

4.2 The Inventory of Systems

<u>Name</u>	<u>Page</u>
BASIS	18
CDMS	19
CIRCOL	20
(Data/Central)	21
DIALOG	22
DMARS	23
DML	24
DRS	25
DS/3	26
EMISARI	27
ENFORM	28
FLEXIMIS	29
GIM	30
GIPSY	31
IMARS	32
IMS(OEP)	33
IMS/360	34
IMS/8	35
INQUIRE	36
INSYTE	37
LEADERMART	38
MARK IV	39
MARS III	40
MARS VI	41
MASTER CONTROL	42
MICROTEXT	43
MINIDATA	44
MIRADS	45
MUSE	46
NASIS	47
N.Y.TIMES	48
OLIVER	49
ORBIT III	50
PIRETS	51
QUERY UPDATE	52
RAMIS	53
RECON	54
RFI	55
RIQS	56
SHOEBOX	57
SOLAR	58
SPIRES II	59
STAIRS	60
SYSTEM 2000	61
TICON	62
UNIDATA	63

A. GENERAL DESCRIPTION		C. FILE DEFINITION	
1. SYSTEM NAME	BASIS (Battelle Automated Search Information System) Battelle Memorial Institute 505 King Ave. Columbus, Ohio 43201 614-299-3151	1. USER DEFINABLE 2. VARIABLE LENGTH TEXT 3. REPEATED FIELDS	Yes Yes Yes
2. SOFTWARE AVAILABILITY	BY special arrangement Approx. \$30,000 Yes \$1,500/mo.	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	Yes Yes Yes Yes
3. SERVICE AVAILABILITY	Battelle can develop a file and provide search service for it. Service also available through membership in Science Information Association (SIA). File implementation cost + on-line search cost (\$0.50-.75/min.) NMIC, MCIC, Copper Data, DOT-TRIS, NTIS (3 yrs.), Chemical Condensates (3 yrs.), DOD Cost Data, and 26 others.	2. PREPROGRAMMED DATA VALIDATION CHECKS 3. OPTIONAL ORDERING OF ENTERED DATA	Yes Yes
AT WHAT COST		4. AUTOMATIC OR "MACHINE-AIDED" CONTENT INDEXING	Yes
b. DATA BASES		E. QUERY	
c. TAKES CUSTOMER DATA BASES	Yes	1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS AT ANY POINT b. ENGLISH-LIKE PHRASING c. SYSTEM-FORCED DIALOGUE	Yes, prompting plus command Yes No
4. HISTORY OF SOFTWARE	JULY, 1970	2. CONTENT SEARCHING a. CONTROLLED VOCABULARY b. FULL TEXT INVERSION c. STEMMING PERMITTED d. SYNONYMS e. DISPLAY OF RELATED TERMS f. CHECKING TERM IN CONTROLLED VOCABULARY	Yes Yes Yes Yes Yes
a. FIRST INSTALLATION		3. SPECIAL CAPABILITIES	No
b. SIGNIFICANT INSTALLATIONS	Battelle, National Security Agency	4. SECURITY PROTECTION	
		1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD	No Yes Yes No
5. HISTORY OF SERVICE	JULY, 1970 Over 900 users, most at Battelle's Information Centers. Government users include EPA, DOT, DOD.	5. TRANSMISSION RATES	
a. SERVICE INITIATION		6. RE-ENTRANT FOR MULTIPLE USERS	
b. PRESENT USAGE		7. SOURCE LANGUAGE	
		8. TRANSMISSION TYPES	
6. COMPUTER ENVIRONMENT		9. HISTORY OF SERVICE	
1. MAIN FRAME	CDC 6400, UNIVAC 1108	a. SERVICE INITIATION	
2. OPERATING SYSTEM	CDC SCOPE 3.2, 3.3, 3.4 UNIVAC EXEC-8 95% FORTRAN, 5% Assembler	b. PRESENT USAGE	
3. SOURCE LANGUAGE	TRY compatible, CDC 200 series terminals		
4. TERMINAL TYPES			
5. TRANSMISSION RATES			
6. RE-ENTRANT FOR MULTIPLE USERS	110, 150, 300, 2000, 2400, 4800		
			No

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
CDMS
System Development Corp.
2500 Colorado Ave.
Santa Monica, Calif. 90406
213-393-9411
2. SOFTWARE AVAILABILITY Available from COSMIC (Computer Software Management and Information Center of the University of Georgia)
- a. FOR PURCHASE AT WHAT COST
b. FOR LEASE AT WHAT COST
3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE
AT WHAT COST
\$2,100 per month minimum
 - b. DATA BASES
None public
 - c. TAKES CUSTOMER DATA BASES
Yes
4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION
installed in May 1968
 - b. SIGNIFICANT INSTALLATIONS
National Military Command System Support Center, and CIA Washington, D.C.
5. HISTORY OF SERVICE
 - a. SERVICE INITIATION July 1969
2 accounts in Washington area (ARPA network), usage unknown
 - b. PRESENT USAGE

C. FILE DEFINITION

1. USER DEFTNABLE
2. VARIABLE LENGTH TEXT
3. REPEATED FIELDS

D. FILE MAINTENANCE

1. ALLOWS ON-LINE
 - a. CREATION
 - b. UPDATE
 - c. DELETION
 - d. EDITING
2. PREPROGRAMMED DATA VALIDATION CHECKS
3. OPTIONAL ORDERING OF ENTERED DATA
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING
No

E. QUERY

F. REPORT GENERATION

G. SECURITY PROTECTION

H. COMPUTER ENVIRONMENT

1. MAIN FRAME
2. OPERATING SYSTEM SDC's TS/EXPC, IBM OS/VS1
3. SOURCE LANGUAGE JOVIAL
4. TERMINAL TYPES IBM 2741, TTY models 33, 35
5. TRANSMISSION RATES 10, 15, 30 cps
6. RE-ENTRANT FOR MULTIPLE USERS No

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS Yes
- b. "ANY" LIMIT FIELDS --
- c. BOOLEAN AND Yes
- d. BOOLEAN OR Yes
- e. BOOLEAN NOT Yes
- f. INLISTING OF BOOLEAN EXPRESSIONS Yes
- g. PHRASE AND DISTANCE SEARCHING No
- h. NATURAL ENGLISH No
- i. RANGE SEARCHING Yes

4. TUTORIAL FEATURES

- a. "HELP" COMMAND Yes
- b. DOCUMENTATION ON-LINE Yes

5. SEARCH STRATEGY

- a. RANDOM Yes
- b. SEQUENTIAL No
- c. INDEXED SEQUENTIAL No

6. LANGUAGE TYPE

- a. STANDARD OUTPUT Yes
- b. SELECT AMONG OPTIONS Yes
- c. OWN CODE Yes

7. MEDIA FLEXIBILITY

- a. OFF-LINE PRINTING Yes
- b. DISPLAY OF GRAPHS No
- c. SPECIAL OUTPUTS No

8. SPECIAL CAPABILITIES

- a. SORTING Yes
- b. SEQUENCING No
- c. COUNTING Yes
- d. ARITHMETIC Yes

A. GENERAL DESCRIPTION

1. SYSTEM NAME
CIRCOL, Foreign Technology Division
Air Force Systems Command
Wright-Patterson Air Force
Base, Ohio 45433
513-257-2603
2. SOFTWARE AVAILABILITY NA
a. FOR PURCHASE AT WHAT COST
b. FOR LEASE AT WHAT COST
3. SERVICE AVAILABILITY
a. SEARCH SERVICE Yes, to government agencies.
AT WHAT COST By arrangement.
b. DATA BASES Foreign scientific and
technical documents.
- c. TAKES CUSTOMER DATA BASES No

4. HISTORY OF SOFTWARE NA
a. FIRST INSTALLATION
b. SIGNIFICANT INSTALLATIONS

5. HISTORY OF SERVICE
a. SERVICE INITIATION Early 1969
b. PRESENT USAGE 40 agency users.

B. COMPUTER ENVIRONMENT

1. MAIN FRAME IBM 360/65
2. OPERATING SYSTEM OS 360/MVT
3. SOURCE LANGUAGE Assembler Language
4. TERMINAL TYPES IBM 2741, TTY models 33, 35
5. TRANSMISSION RATES 10, 15 cps
6. RE-ENTRANT FOR MULTIPLE USERS No

C. FILE DEFINITION

1. USER DEFINABLE No
2. VARIABLE LENGTH TEXT Yes
3. REPEATED FIELDS Yes

D. FILE MAINTENANCE

1. ALLOWS ON-LINE
a. CREATION
b. UPDATE
c. DELETION
d. EDITING
2. PREPROGRAMMED DATA VALIDATION CHECKS No
3. OPTIONAL ORDERING OF ENTERED DATA No
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Yes

E. QUERY

1. USER-SYSTEM INTERACTION
a. MULTIPLE OPTIONS AT ANY POINT Yes
b. ENGLISH-LIKE PHRASING Yes
c. SYSTEM-FORCED DIALOGUE No

F. REPORT GENERATION

1. LANGUAGE TYPE
a. STANDARD OUTPUT Yes
b. SELECT AMONG OPTIONS
c. OWN CODE No
2. MEDIA FLEXIBILITY
a. OFF-LINE PRINTING Yes
b. DISPLAY OF GRAPHS No
c. SPECIAL OUTPUTS No
3. SPECIAL CAPABILITIES
a. SORTING Yes
b. SEQUENCING No
c. COUNTING Yes
d. ARITHMETIC Yes

G. SECURITY PROTECTION

1. TERMINAL Yes
2. DATA BASE No
3. RECORD No
4. FIELD No

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS No
- b. MAY LIMIT FIELDS Yes
- c. BOOLEAN AND Yes
- d. BOOLEAN OR Yes
- e. BOOLEAN NOT Yes
- f. NESTING OF BOOLEAN EXPRESSIONS Yes
- g. PHRASE AND DISTANCE SEARCHING Yes
- h. NATURAL ENGLISH No
- i. RANGE SEARCHING Yes

4. TUTORIAL FEATURES

- a. "HELP" COMMAND No
- b. DOCUMENTATION ON-LINE Yes, partial

5. SEARCH STRATEGY

- a. RANDOM No
- b. SEQUENTIAL No
- c. INDEXED SEQUENTIAL Yes

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
Head Technology Laboratories
Research Park
Dayton, Ohio 45432
(513) 426-3111
2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE No
 - AT WHAT COST Yes
 - b. FOR LEASE \$1500 a month for DOS, \$1800 a month for OS
 - c. AT WHAT COST Yes
3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE \$5,000 a month
 - AT WHAT COST American psychology Abstracts, data base of statutory and decisional law in the state of Ohio, and many others.
 - b. DATA BASES Yes
4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION 1968
 - b. SIGNIFICANT INSTALLATIONS Wright-Patterson Air Force Base, Union Carbide
5. HISTORY OF SERVICE
 - a. SERVICE INITIATION 1969
 - b. PRESENT USAGE 10 organizational users

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C. FILE DEFINITION

1. USER DEFINABLE
 1. USER DEFINABLE
 2. VARIABLE LENGTH TEXT
 3. REPEATED FIELDS
2. SOFTWARE AVAILABILITY
 1. ALLOWS ON-LINE
 - a. CREATION NO
 - b. UPDATE NO
 - c. DELETION YES
 - d. EDITING YES
 2. PREPROGRAMMED DATA VALIDATION CHECKS YCS
 3. OPTIONAL ORDERING OF ENTERED DATA NO
 4. AUTOMATIC OR MACHINE-AIDED CONTEXT INDEXING NO
3. SEARCH SPECIFICATION
 1. "MUST NAME FIELDS
 - b. "BY LIMIT FIELDS
 - c. BOOLEAN AND
 - d. BOOLEAN OR
 - e. BOOLEAN NOT
 - f. NESTING OF BOOLEAN
 - g. EXPRESSIONS YES
 - PHRASE AND DISTANCE YES
 - i. RANGE SEARCHING YES
4. FILE MAINTENANCE
 1. TUTORIAL FEATURES
 - a. "HELP" COMMAND YES
 - b. DOCUMENTATION YES, with extensive tutorials.
 2. SEARCH STRATEGY
 - a. RANDOM YES
 - b. SEQUENTIAL NO
 - c. INDEXED SEQUENTIAL YES
5. REPORT GENERATION
 1. LANGUAGE TYPE
 - a. STANDARD OUTPUT YES
 - b. SELECT AMONG OPTIONS YES
 - c. OWN CODE YES
 2. MEDIA FLEXIBILITY
 - a. OFF-LINE PRINTING YES
 - b. DISPLAY OF GRAPHS YES
 - c. SPECIAL OUTPUTS Color CRT, photocomposition
 3. SPECIAL CAPABILITIES
 - a. SORTING YES
 - b. SEQUENCING YES
 - c. COUNTING YES
 - d. ARITHMETIC NO
6. COMPUTER ENVIRONMENT
 1. MAIN FRAME IBM 360/40 and up
 2. OPERATING SYSTEM DOS or OS
 3. SOURCE LANGUAGE Assembly, COBOL, FORTRAN
 4. TERMINAL TYPES CRT, TTY, all IBM hard copy
 5. TRANSMISSION RATES 10, 30, 120 cps
 6. RE-ENTRANT FOR MULTIPLE USERS Yes
7. SECURITY PROTECTION
 1. TERMINAL DATA BASE
 2. RECORD FIELD

A. GENERAL DESCRIPTION		C. FILE DEFINITION	
1. SYSTEM NAME ORIGINATOR	DIALOG Lockheed Research Lab. 3251 Hanover Palo Alto, Calif. 94304 Dr. Roger Summit 415-493-4411	1. USER DEFINABLE 2. VARIABLE LENGTH TEXT 3. REPEATED FIELDS	No Yes Yes
TELEPHONE		D. FILE MAINTENANCE	
2. SOFTWARE AVAILABILITY	Yes, by Govt. agencies Negotiable Yes, on installation and maintenance basis. Negotiable	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	None, but transaction file may be entered and edited on-line for later processing
3. SERVICE AVAILABILITY	Yes, from Lockheed Palo Alto via telephone, TWX, and Tymshare Inc. network for dial-up user; also Lockheed high-speed leased line. Based on data base and elapsed terminal hours. Typically, \$25/hr. on ERIC, \$35/hr. on NTIS, no minimum. NTIS, ERIC, PANDEX, Psych. Abstracts, COMPENDIX, INSPEC, and others.	2. PREPROGRAMMED DATA VALIDATION CHECKS 3. OPTIONAL ORDERING OF ENTERED DATA 4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	Yes Yes No
A. SEARCH SERVICE	Yes	E. QUERY	
4. HISTORY OF SOFTWARE	1968 at Lockheed, serving NASA--early version of RECON.	1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS AT ANY POINT b. ENGLISH-LIKE PHRASING c. SYSTEM-FORCED DIALOGUE	Yes Yes No
A. FIRST INSTALLATION	Lockheed, AEC (Oak Ridge), NASA, European Space Research Organization	2. CONTENT SEARCHING a. CONTROLLED VOCABULARY b. FULL TEXT INVERSION c. STEMMING PERMITTED d. SYNONYMS	Yes Yes Yes No, but SEARCH SAVE feature stores pre-selected terms
B. SIGNIFICANT INSTALLATIONS	More than 1,500 searches, totally, per month)	e. DISPLAY OF RELATED TERMS f. CHECKING TERM IN CONTROLLED VOCABULARY	Yes Yes
5. HISTORY OF SERVICE	1971 (ERIC) 1972 (NTIS) Nat. Institute of Education, Dept. of Commerce (NTIS), state, local and education agencies; and commercial users.	3. SPECIAL CAPABILITIES a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC	Yes No Yes No
A. SERVICE INITIATION	IBM 360/370. OS/MVT Assembler	G. SECURITY PROTECTION	Yes Yes, on terminal basis No No
B. COMPUTER ENVIRONMENT		1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD	
1. MAIN FRAME			
2. OPERATING SYSTEM			
3. SOURCE LANGUAGE			
4. TERMINAL TYPES			
5. TRANSMISSION RATES			
6. RE-ENTRANT FOR MULTIPLE USERS			
	ASCII compatible, IBM 2260, CC 30 10-480 cps		

A. GENERAL DESCRIPTION	D-MARS First Data Corp. 40 Totten Pond Rd. Waltham, Mass. 02154 617-890-6701	C. FILE DEFINITION	3. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR		1. USER DEFINABLE	a. MUST NAME FIELDS Yes
		2. VARIABLE LENGTH TEXT	b. MAY LIMIT FIELDS Yes
2. SOFTWARE AVAILABILITY	NA	3. REPEATED FIELDS	c. BOOLEAN AND Yes
a. FOR PURCHASE		D. FILE MAINTENANCE	d. BOOLEAN OR Yes
AT WHAT COST		1. ALLOWS ON-LINE	e. BOOLEAN NOT Yes
b. FOR LEASE		a. CREATION	f. NESTING OF BOOLEAN EXPRESSIONS Yes
AT WHAT COST		b. UPDATE	g. PHRASE AND DISTANCE SEARCHING No
3. SERVICE AVAILABILITY	Yes	c. DELETION	h. NATURAL ENGLISH No
a. SEARCH SERVICE AT WHAT COST	\$0.35/cpu sec + \$10/connect hour.	d. EDITING	i. RANGE SEARCHING Yes
b. DATA BASES	DOT grants trace data base (soon to be public), other data bases on informal agreement with user-owners.	2. PREPROGRAMMED DATA VALIDATION CHECKS	4. TUTORIAL FEATURES
c. TAKES CUSTOMER DATA BASES	Yes	3. OPTIONAL ORDERING OF ENTERED DATA	a. "HELP" COMMAND Yes
d. SIGNIFICANT INSTALLATIONS	NA	4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	b. DOCUMENTATION Yes
e. FIRST INSTALLATION		E. QUERY	c. INDEXED SEQUENTIAL Yes
f. HISTORY OF SERVICE	3rd quarter, 1972	1. USER-SYSTEM INTERACTION	5. SEARCH STRATEGY
a. SERVICE INITIATION	30 users in DOT (off. of Sec., UMTA) + others	a. MULTIPLE OPTIONS AT ANY POINT	a. RANDOM Yes
b. PRESENT USAGE		b. ENGLISH-LIKE PHRASING	b. SEQUENTIAL Yes
B. COMPUTER ENVIRONMENT	DECSystem 10	c. SYSTEM-FORCED DIALOGUE	c. INDEXED SEQUENTIAL Yes
1. MAIN FRAME	FORTRAN + MACRO-10	2. CONTENT SEARCHING	6. REPORT GENERATION
2. OPERATING SYSTEM	TSM (modified by First Data)	a. CONTROLLED VOCABULARY	1. LANGUAGE TYPE
3. SOURCE LANGUAGE		b. FULL TEXT INVERSION	a. STANDARD OUTPUT Yes
4. TERMINAL TYPES	ASCII, IBM code compatible	c. STEMMING PERMITTED	b. SELECT MONG OPTIONS Yes
5. TRANSMISSION RATES	10, 15, 30, 120 cps	d. SYNONYMS	c. OWN CODE Yes
6. RE-ENTRANT FOR MULTIPLE USERS	Yes	e. DISPLAY OF RELATED TERMS	d. OFF-LINE PRINTING Yes
		f. CHECKING TERM IN CONTROLLED VOCABULARY	b. DISPLAY OF GRAPHS No
			c. SPECIAL OUTPUTS No
			d. ARITHMETIC Yes
			G. SECURITY PROTECTION
			1. TERMINAL Yes
			2. DATA BASE Yes
			3. RECORD No
			4. FIELD No

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
Computer Sciences Corp.
Information Network Div.
650 N. Sepulveda Blvd.
El Segundo, Ca. 90245
TELEPHONE
213-678-0311
2. SOFTWARE AVAILABILITY
a. FOR PURCHASE
AT WHAT COST
b. FOR LEASE
AT WHAT COST
3. SERVICE AVAILABILITY
a. SEARCH SERVICE
AT WHAT COST
b. DATA BASES
c. TAKES CUSTOMER
DATA BASES
4. HISTORY OF SOFTWARE
a. FIRST INSTALLATION
b. SIGNIFICANT
INSTALLATIONS
5. HISTORY OF SERVICE
a. SERVICE INITIATION
APPROX. 30 Government and
commercial users.
b. PRESENT USAGE

B. COMPUTER ENVIRONMENT

1. MAIN FRAME
Univac 1108
2. OPERATING SYSTEM
CSTS
3. SOURCE LANGUAGE
Assembler
4. TERMINAL TYPES
TTY models 33, 35, 37; IBM
2741; CRT devices.
5. TRANSMISSION RATES
10-240 cps
6. RE-ENTRANT FOR
MULTIPLE USERS
Yes

C. FILE DEFINITION

1. USER DEFINABLE
DML
2. VARIABLE LENGTH TEXT
No, 128
char/field
max.
3. REPEATED FIELDS
Yes

D. FILE MAINTENANCE

1. ALLOWS ON-LINE
a. CREATION
b. UPDATE
c. DELETION
d. EDITING
2. PREPROGRAMMED DATA
VALIDATION CHECKS
No, but
programmable
in DML
3. OPTIONAL ORDERING OF
ENTERED DATA
No, but
programmable
in DML
4. AUTOMATIC OR
MACHINE-AIDED
CONTENT INDEXING
No

E. QUERY

1. USER-SYSTEM INTERACTION
a. MULTIPLE OPTIONS
AT ANY POINT
b. ENGLISH-LIKE
PHRASING
c. SYSTEM-FORCED
DIALOGUE
None directly
provided but
capabilities
programmable
in DML
2. CONTENT SEARCHING
None

F. REPORT GENERATION

1. LANGUAGE TYPE
a. STANDARD OUTPUT
b. SELECT AMONG
OPTIONS
c. OWN CODE
Yes
2. MEDIA FLEXIBILITY
a. OFF-LINE PRINTING
b. DISPLAY OF GRAPHS
c. SPECIAL OUTPUTS
No
3. SPECIAL CAPABILITIES
a. SORTING
b. SEQUENCING
c. COUNTING
d. ARITHMETIC
Yes

G. SECURITY PROTECTION

1. TERMINAL
a. RELATED TERMS
b. CHECKING TERM IN CON-
TROLLED VOCABULARY
Yes, through
operating
system
2. DATA BASE
3. RECORD
4. FIELD
Yes
No
No

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS
Yes
- b. MAY LIMIT FIELDS
Yes
- c. BOOLEAN AND
arithmetic
comparisons
Yes
- d. BOOLEAN OR
e. BOOLEAN NOT
f. NESTING OF BOOLEAN
EXPRESSIONS
g. PHRASE AND DISTANCE
SEARCHING
h. NATURAL ENGLISH
i. RANGE SEARCHING
Yes
4. TUTORIAL FEATURES
a. "HELP" COMMAND
b. DOCUMENTATION
ON-LINE
No
5. SEARCH STRATEGY
a. RANDOM
b. SEQUENTIAL
c. INDEXED SEQUENTIAL
Yes

A. GENERAL DESCRIPTION		C. FILE DEFINITION	
1. SYSTEM NAME ORIGINATOR	DRS (Data Retrieval System) A.R.A.P., Inc. 50 Washington Rd. Princeton, N.J. 08540	1. USER DEFINABLE	Yes
2. SOFTWARE AVAILABILITY		2. VARIABLE LENGTH TEXT	No, 1000 char/field limit
a. FOR PURCHASE AT WHAT COST	Yes \$2300 (8K IBM 1130 version), \$2800 (16K IBM 1130 version), \$9500 base for IBM 360/370 version.	3. REPEATED FIELD	No
b. FOR LEASE AT WHAT COST	Yes \$115-140/mo. (2 Yr. payout for IBM 1130 versions.)	D. FILE MAINTENANCE	Yes, phrases only in one field
3. SERVICE AVAILABILITY		1. ALLOWS ON-LINE	No
a. SEARCH SERVICE AT WHAT COST	Yes By arrangement None of wide interest.	a. CREATION	Yes
b. DATA BASES CUSTOMER DATA BASES	Yes	b. UPDATE	Yes
c. TAKES CUSTOMER DATA BASES	Yes	c. DELETION	Yes
4. HISTORY OF SOFTWARE		d. EDITING	No
a. FIRST INSTALLATION 1970 (IBM 1130), 1973 (IBM 370)		2. PREPROGRAMMED DATA VALIDATION CHECKS	Yes
b. SIGNIFICANT INSTALLATIONS Over 40 installations of IBM 1130 version.		3. OPTIONAL ORDERING OF ENTERED DATA	Yes
5. HISTORY OF SERVICE		4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	No
a. SERVICE INITIATION NA		E. QUERY	
b. PRESENT USAGE About 12 users		1. USER-SYSTEM INTERACTION	
B. COMPUTER ENVIRONMENT		a. MULTIPLE OPTIONS AT ANY POINT	Yes
1. MAIN FRAME	IBM 1130, IBM 360/370	b. ENGLISH-LIKE PHRASING	No
2. OPERATING SYSTEM	OS/1130 version 2, OS/360, 370	c. SYSTEM-FORCED DIALOGUE	No
3. SOURCE LANGUAGE	FORTRAN	2. CONTENT SEARCHING	Yes, if keyword field defined for a file
4. TERMINAL TYPES	IBM 2741, 1050, ASR-33 TTY (with adaptor)	a. CONTROLLED VOCABULARY	No
5. TRANSMISSION RATES	10-120 cps	b. FULL TEXT INVERSION	No
6. RE-ENTRANT FOR MULTIPLE USERS	No	c. STEMMING PERMITTED	No
		d. SYNONYM'S	No
		e. DISPLAY OF RELATED TERMS	No
		f. CHIPCHECK TERM IN CONTROLLED VOCABULARY	No
		G. SECURITY PROTECTION	
		1. TERMINAL	Yes
		2. DATA BASE	Yes
		3. RECORD	Yes
		4. FIELD	Yes

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
US/3
System Development Corp.
2500 Colorado Ave
Santa Monica, Calif. 90406
TELEPHONE
213-393-9411
2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE
AT WHAT COST
Yes
Terminal version-\$35,000.
Batch/TSO version-\$30,000
 - b. FOR LEASE
AT WHAT COST
Yes
Terminal version-\$1000/mo.
Batch/TSO version-\$900/mo.
3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE
AT WHAT COST
Run on SDC's 370/158
 - b. DATA BASES
None
 - c. TAKES CUSTOMER
DATA BASES
Uses customer-supplied data
bases only.
4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION
April 1966
 - b. SIGNIFICANT
INSTALLATIONS
Dept. of Health, Education &
Welfare, Coast Community
College District, Los Angeles
Police Dept.
5. HISTORY OF SERVICE
 - a. SERVICE INITIATION
May, 1973
 - b. PRESENT USAGE
Under service agreements:
National Commission on the
Financing of Post Secondary
Education, UCLA Vocational
Education

B. COMPUTER ENVIRONMENT

1. MAIN FRAME
IBM 360, model 40 and up,
370/145 and up
2. OPERATING SYSTEM
OS
3. SOURCE LANGUAGE
BASIC and "OL"
4. TERMINAL TYPES
TTY model 33, IBM 2741 or
compatible devices; TSO
version-whatever devices TSO
supports.
5. TRANSMISSION RATES
10, 120, 240, 300 cps
6. RE-ENTRANT FOR
MULTIPLE USERS
Yes

C. FILE DEFINITION

1. USER DEFINABLE
Yes
2. VARIABLE LENGTH TEXT
Yes
3. SEQUENCED FIELDS
Yes
- D. FILE "MAINTENANCE"
 1. ALLOWS ON-LINE
 - a. CREATION
No
 - b. UPDATE
Yes
 - c. DELETION
No
 - d. EDITING
No
 2. PRIDROGRAMMED DATA
VALIDATION CHECKS
No
 3. OPTIONAL ORDERING OF
ENTERED DATA
No
 4. AUTOMATIC OR
"MACHINE-AIDED"
CONTENT INDEXING
No
- E. QUERY
- F. REPORT GENERATION
- G. SECURITY PROTECTION

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS
Yes
- b. MAY LIST FIELDS
Yes
- c. BOOLEAN AND
d. BOOLEAN OR
e. BOOLEAN NOT
f. LISTING OF BOOLEAN
EXPRESSIONS
Yes
- g. PHRASE AND DISTANCE
SEARCHING
No
- h. INTEGRAL ENGLISH
No
- i. NAIVE SEARCHING
Yes

4. TUTORIAL FEATURES

- a. "HELP" COMMAND
Yes (EXPLAIN)
- b. DOCUMENTATION
ON-LINE
No

5. SEARCH SPECIFICITY

- a. PARDO
No
- b. SHOUTYAL
Yes
- c. INDEXED SEQUENTIAL
Yes

1. LANGUAGE TYPE

- a. STANDARD OUTPUT
b. FILETYPE A'LONG
OPTIONS
c. OUT CODE
Yes

2. TSDA FLEXIBILITY

- a. OFF-LINE PRINTING
b. DISPLAY OF GRAPHS
c. SPECIAL OUTPUTS
Yes

3. SPECIAL CAPABILITIES

- a. SORTING
b. SHUFFLING
c. COUNTING
d. ARITHMETIC
Yes

1. LANGUAGE INTERACTION

- a. MULTIPLE OPTIONS
AT ANY POINT
b. ENGLISH-LIKE
PHRASING
c. SYSTEM-FORCED
DIALOGUE
No
2. CONTENT SEARCHING
a. CONTROLLED VOCABULARY
b. FULL TEXT INVERSION
c. STEMMING PERMITTED
d. SYNONYM'S
e. RELATED TERMS
f. CHECKING TPS IN CONTROLLED VOCABULARY
Yes

2. DATA BASE

3. RECORD

4. FIELD

A. GENERAL DESCRIPTION

1. SYSTEM NAME
EMISARI
Mathematics and Computation
Laboratory
Office of Emergency
Preparedness
7706 Old Springhouse Rd.
McLean, Va. 22101
TELEPHONE 703-393-7710

2. SOFTWARE AVAILABILITY

Source free to government
users; compiler is proprietary
(see B.3)

- a. FOR PURCHASE AT WHAT COST
- b. FOR LEASE AT WHAT COST

3. SERVICE AVAILABILITY

- a. SEARCH SERVICE AT WHAT COST
- b. DATA BASES
- c. TAKTS CUSTOMER DATA BASES

4. HISTORY OF SOFTWARE

- a. FIRST INSTALLATION Aug., 1971
- b. SIGNIFICANT INSTALLATIONS Internal Revenue Service,
Office of Emergency Preparedness

5. HISTORY OF SERVICE

- a. SERVICE INITIATION
- b. PRESENT USAGE

B. COMPUTER ENVIRONMENT

- 1. MAIN FRAME UNIVAC 1108
- 2. OPERATING SYSTEM EXEC 8
- 3. SOURCE LANGUAGE R BASIC (proprietary compiler;
vendor- Language and System
Development, Silver Spring,
Md.)
- 4. TERMINAL TYPES ASCII compatible
- 5. TRANSMISSION RATES 10 or 30 cps
- 6. RE-ENTRANT FOR MULTIPLE USERS Yes

C. FILE DEFINITION

- 1. USER DEFINABLE Yes
- 2. VARIABLE LENGTH TEXT Yes
- 3. REPEATED FIELDS No
- 4. FILE MAINTENANCE
 - 1. ALLOWS ON-LINE
 - a. CREATION Yes
 - b. UPDATE Yes
 - c. DELETION Yes
 - d. EDITING Yes
 - 2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
 - 3. OPTIONAL ORDERING OF ENTERED DATA No
 - 4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No
- 5. QUERY
 - 1. USER-SYSTEM INTERACTION
 - a. MULTIPLE OPTIONS AT ANY POINT Yes
 - b. ENGLISH-LIKE PHRASING SYSTEM-FORCED DIALOGUE No
 - c. SYSTEM-FORCED DIALOGUE No
 - 2. CONTENT SEARCHING
 - a. CONTROLLED VOCABULARY Yes
 - b. FULL TEXT INVERSION NO
 - c. STEMMING PERMITTED NO
 - d. SYNONYMS NO
 - e. DISPLAY OF RELATED TERMS NO
 - f. CHECKING TERM IN CONTROLLED VOCABULARY Yes
- 6. REPORT GENERATION
 - 1. LANGUAGE TYPE
 - a. STANDARD OUTPUT Yes
 - b. SELECT AMONG OPTIONS No
 - c. OWN CODE No
 - 2. MEDIA FLEXIBILITY
 - a. OFF-LINE PPINTING NO
 - b. DISPLAY OF GRAPHS NO
 - c. SPECIAL OUTPUTS NO
 - 3. SPECIAL CAPABILITIES
 - a. SORTING NO
 - b. SEQUENCING NO
 - c. COUNTING YES
 - d. ARITHMETIC YES
 - 4. SECURITY PROTECTION
 - 1. TERMINAL YES
 - 2. DATA BASE NO
 - 3. RECORD NO
 - 4. FIELD NO

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
ENFORM
Engineering Numerics Corp.
8555 N. Stemmons Fwy.
Dallas, Tx. 75247
TELEPHONE
214-630-0640
2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE Yes
AT WHAT COST Minimum software \$25,000
 - b. FOR LEASE Yes
AT WHAT COST Two-year lease, approx.
\$1250/mo.
3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE AT WHAT COST
 - b. DATA BASES
 - c. TAKES CUSTOMER DATA BASES
4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION About 1968
 - b. SIGNIFICANT INSTALLATIONS NA
5. HISTORY OF SERVICE
 - a. SERVICE INITIATION
 - b. PRESENT USAGE

B. COMPUTER ENVIRONMENT

1. MAIN FRAME
CDC 6000 series
2. OPERATING SYSTEM
SCOPE or KRONOS
3. SOURCE LANGUAGE
FORTRAN, COBOL
4. TERMINAL TYPES
CDC 200 terminal,
TTY-compatible
5. TRANSMISSION RATES
10 eps to 2400 baud
6. RE-ENTRANT FOR
MULTIPLE USERS
No

C. FILE DEFINITION

1. USER DEFINABLE
2. VARIABLE LENGTH TEXT
3. REPEATED FIELDS
Yes
- D. FILE MAINTENANCE
 1. ALLOWS ON-LINE
 - a. CREATION
 - b. UPDATE
 - c. DELETION
 - d. EDITING
 2. PREPROGRAMMED DATA VALIDATION CHECKS
Yes
 3. OPTIONAL ORDERING OF ENTERED DATA
No
 4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING
No
- E. QUERY
- F. REPORT GENERATION
 1. LANGUAGE TYPE
 - a. STANDARD OUTPUT
 - b. SELECT AMONG OPTIONS
 - c. OWN CODE
 2. MEDIA FLEXIBILITY
 - a. OFF-LINE PRINTING
 - b. DISPLAY OF GRAPHS
 - c. SPECIAL OUTPUTS
 3. SPECIAL CAPABILITIES
 - a. SORTING
 - b. SEQUENCING
 - c. COUNTING
 - d. ARITHMETIC
- G. SECURITY PROTECTION
 1. TERMINAL
 2. DATA BASE
 3. RECORD
 4. FIELD

- A. GENERAL DESCRIPTION
1. SYSTEM NAME
ORIGINATOR
FLEXIMIS
General Electric Co.
Information Services Business
Division
7735 Old Georgetown Rd.
Bethesda, Md. 20014
301-657-2120
 2. SOFTWARE AVAILABILITY NA
 - a. FOR PURCHASE AT WHAT COST
 - b. FOR LEASE AT WHAT COST
 3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE AT WHAT COST
 - b. DATA BASES
 - c. TAKES CUSTOMER DATA BASES
 4. HISTORY OF SOFTWARE NA
 - a. FIRST INSTALLATION
 - b. SIGNIFICANT INSTALLATIONS
 5. HISTORY OF SERVICE
 - a. SERVICE INITIATION 1970
 - b. PRESENT USAGE Available on GE national network.
- B. COMPUTER ENVIRONMENT
1. MAIN FRAME GE 600 series
 2. OPERATING SYSTEM GE MARK III time-sharing system
 3. SOURCE LANGUAGE BASIC, some assembler
 4. TERMINAL TYPES TTY compatible terminals
 5. TRANSMISSION RATES 10, 15, 30 cps
 6. RE-ENTRANT FOR MULTIPLE USERS No

- C. FILE DEFINITION
1. USER DEFINABLE Yes
 2. VARIABLE LENGTH TEXT Yes
 3. REPEATED FIELDS No
- D. FILE MAINTENANCE
1. ALLOWS ON-LINE
 - a. CREATION
 - b. UPDATE
 - c. DELETION
 - d. EDITING
 2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
 3. OPTIONAL ORDERING OF ENTERED DATA Yes (with own code (BASIC))
 4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No
- E. QUERY
1. USER-SYSTEM INTERACTION
 - a. MULTIPLE OPTIONS AT ANY POINT
 - b. ENGLISH-LIKE PHRASING
 - c. SYSTEM-FORCED DIALOGUE
 2. CONTENT SEARCHING None
 - a. CONTROLLED VOCABULARY
 - b. FULL TEXT INVERSION
 - c. STEMMING PERMITTED
 - d. SYNONYMS
 - e. DISPLAY OF RELATED TERMS
 - f. CHECKING TERM IN CONTROLLED VOCABULARY
- F. REPORT GENERATION
1. LANGUAGE TYPE
 - a. RANDOM
 - b. SEQUENTIAL
 - c. INDEXED SEQUENTIAL
 2. SPECIAL CAPABILITIES
 - a. SORTING
 - b. SEQUENCING
 - c. COUNTING
 - d. ARITHMETIC
- G. SECURITY PROTECTION
1. TERMINAL Yes
 2. DATA BASE Yes
 3. RECORD No
 4. FIELD No

A. GENERAL DESCRIPTION		C. FILE DEFINITION	
1. SYSTEM NAME ORIGINATOR	GTI TM TRW Systems Group 7600 Colshire Dr. McLean, Va. 22101 703-893-2000	1. USER DEFINABLE	Yes
2. SOFTWARE AVAILABILITY	No	2. VARIABLE LENGTH TEXT	No, approx. 600 char/field max. Longer text handled indirectly. Yes
a. FOR PURCHASE AT WHAT COST	Yes Initial installation price \$12,500; monthly lease price \$1,750 to commercial users. Available to Government agencies by contract.	3. REPEATED FIELDS	
b. FOR LEASE AT WHAT COST		D. FILE MAINTENANCE	
3. SERVICE AVAILABILITY	Planned for Sept., 1973 under Computer Sciences Corp. INFONET time-sharing service.	1. ALLOWS ON-LINE VALIDATION CHECKS	Yes
a. SEARCH SERVICE		2. PREPROGRAMMED DATA	
AT WHAT COST		3. OPTIONAL ORDERING OF ENTERED DATA	
b. DATA BASES		4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	No
c. TAKES CUSTOMER DATA BASES		E. QUERY	
4. HISTORY OF SOFTWARE	January 1968	1. USER-SYSTEM INTERACTION	
a. FIRST INSTALLATION	Department of Agriculture's Forest Service, NASA's "Manned Space Flight Center	2. MULTIPLE OPTIONS	Yes
b. SIGNIFICANT INSTALLATIONS		AT ANY POINT	
5. HISTORY OF SERVICE		b. ENGLISH-LIKE PHRASING	Yes
a. SERVICE INITIATION		c. SYSTEM-FORCED DIALOGUE	No
b. PRESENT USAGE		2. CONTENT SEARCHING	
B. COMPUTER ENVIRONMENT	(2 versions exist; corresponding data on separate lines)	a. CONTROLLED VOCABULARY	Yes
1. MAIN FRAME	IBM 360 series Univac 1100 series	b. FULL TEXT INVERSION	No
2. OPERATING SYSTEM	OS, PDP/MFT or MVT, TSO EXEC 8, EXEC 2	c. STEMMING PERMITTED	No
3. SOURCE LANGUAGE	Assembler F	d. SYNONYMS	Yes
4. TERMINAL TYPES	IBM 1050, 2240, 2741, 2780, TTY, Uniscope, 1005	e. DISPLAY OF RELATED TERMS	No
5. TRANSMISSION RATES	30 cps 120 cps	f. CHECKING TERM IN CONTROLLED VOCABULARY	No
6. RE-ENTRANT FOR MULTIPLE USERS	Yes	G. SECURITY PROTECTION	
		1. TERMINAL	Yes
		2. DATA BASE	No
		3. RECORD	Yes
		4. FIELD	No

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
GIPSY
University of Oklahoma, Office
of Research Admin.,
1808 Newton Drive,
Norman, Oklahoma, 73069
405-321-4812
2. SOFTWARE AVAILABILITY
a. FOR PURCHASE
AT WHAT COST
\$8,000 + \$550 per month during
first year; includes training,
installation, and maintenance.
Monthly charge reduced after
one year.
No
- b. FOR LEASE
AT WHAT COST
No

3. SERVICE AVAILABILITY
a. SEARCH SERVICE
By arrangement
U.S. Geological Survey and
American Petroleum Institute
data bases, by special
arrangement.
- b. DATA BASES
No
- c. TAKES CUSTOMER
DATA BASES
Yes

4. HISTORY OF SOFTWARE
a. FIRST INSTALLATION
Operational at University of
Oklahoma since July 1968
- b. SIGNIFICANT
INSTALLATIONS
Department of Interior (USGS),
University of Missouri,
Oklahoma State Univ., U.S.
Dept. of Commerce (NOAA)
5. HISTORY OF SERVICE
a. SERVICE INITIATION
b. PRESENT USAGE
1973
Not available

C. FILE DEFINITION

1. USER DEFINABLE
Yes
2. VARIABLE LENGTH TEXT
Yes
3. REPEATED FIELDS
No
- D. FILE MAINTENANCE
1. ALLOWS ON-LINE
a. CREATION
b. UPDATE
c. DELETION
d. EDITING
No
2. PREPROGRAMMED DATA
VALIDATION CHECKS
Yes, syntax
errors only
3. OPTIONAL ORDERING OF
ENTERED DATA
No

- E. QUERY
1. USER-SYSTEM INTERACTION
a. MULTIPLE OPTIONS
AT ANY POINT
b. ENGLISH-LIKE
PHRASING
c. SYSTEM-FORCED
DIALOGUE
Yes, via a
separate
program

- F. REPORT GENERATION
1. LANGUAGE TYPE
a. STANDARD OUTPUT
b. SELECT AMONG
OPTIONS
c. OWN CODE
Yes
2. MEDIA FLEXIBILITY
a. OFF-LINE PRINTING
b. DISPLAY OF GRAPHS
c. SPECIAL OUTPUTS
Yes, microfilm
3. SPECIAL CAPABILITIES
a. SORTING
b. SEQUENCING
c. COUNTING
d. ARITHMETIC
No

- G. SECURITY PROTECTION
1. TERMINAL
a. RELATED TERMS
f. CHECKING TERM IN CON-
TROLLED VOCABULARY
No
2. DATA BASE
3. RECORD
4. FIELD
No

1. MAIN FRAME
IBM 360 series, minimum of two
2311 disk drives, 90K bytes
storage
2. OPERATING SYSTEM
OS/360
3. SOURCE LANGUAGE
360 Assembler
4. TERMINAL TYPES
IBM 1050, 2741, and TTY
terminals
5. TRANSMISSION RATES
110 to 150 Baud
6. RE-ENTRANT FOR
MULTIPLE USERS
No

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS
Yes
- b. MAX LIMIT FIELDS
Yes
- c. BOOLEAN AND
BOOLEAN OR
BOOLEAN NOT
Nesting of BOOLEAN
EXPRESSIONS
PHRASE AND DISTANCE
SEARCHING
NATURAL ENGLISH
RANGE SEARCHING
Yes
- d. BOOLEAN
e. BOOLEAN
f. NESTING OF BOOLEAN
g. PHRASE AND DISTANCE
SEARCHING
NATURAL ENGLISH
RANGE SEARCHING
Yes
4. TUTORIAL FEATURES
a. "HELP" COMMAND
b. DOCUMENTATION
ON-LINE
Yes
5. SEARCH STRATEGY
a. RANDOM
b. SEQUENTIAL
c. INDEXED SEQUENTIAL
No

A. GENERAL DESCRIPTION

1. SYSTEM NAME
 ORIGINATOR IMARS
 Interactive Sciences Corp.
 60 Brooks Dr.
 Braintree, Mass. 02184
 617-848-2660
2. SOFTWARE AVAILABILITY
 a. FOR PURCHASE No
 AT WHAT COST
 b. FOR LEASE Yes, on perpetual license
 AT WHAT COST \$5k
3. SERVICE AVAILABILITY
 a. SEARCH SERVICE Yes
 AT WHAT COST
 Surcharge for use over normal
 time-sharing cost
 (\$3.75/connect hour +
 \$.0025/resource unit)
- b. DATA BASES
- c. TAKES CUSTOMER
 DATA BASES Yes
4. HISTORY OF SOFTWARE
 a. FIRST INSTALLATION NA
 b. SIGNIFICANT
 INSTALLATIONS

B. COMPUTER ENVIRONMENT

5. HISTORY OF SERVICE
 a. SERVICE INITIATION 4th quarter, 1972
 b. PRESENT USAGE Data not available
1. MAIN FRAME DECSys tem 10
2. OPERATING SYSTEM TSM
3. SOURCE LANGUAGE FORTRAN + MACRO-10
4. TERMINAL TYPES ASCII, IBM Correspondence code
 terminals
5. TRANSMISSION RATES 10, 15, 30 cps
6. RE-ENTRANT FOR
 MULTIPLE USERS Yes

C. FILE DEFINITION

1. USER DEFINABLE
2. VARIABLE LENGTH TEXT
3. REPEATED FIELDS

D. FILE MAINTENANCE

1. ALLOWS ON-LINE
 a. CREATION
 b. UPDATE
 c. DELETION
 d. EDITING
2. PREPROGRAMMED DATA
 VALIDATION CHECKS
3. OPTIONAL ORDERING OF
 ENTERED DATA
4. AUTOMATIC OR
 MACHINE-AIDED
 CONTENT INDEXING

E. QUERY

1. USER-SYSTEM INTERACTION
 a. MULTIPLE OPTIONS
 AT ANY POINT
 b. ENGLISH-LIKE
 c. PHRASING
 SYSTEM-FORCED
2. CONTENT SEARCHING
 a. CONTROLLED VOCABULARY
 b. FULL TEXT INVERSION
 c. STEMMING PERMITTED
 d. SYNONYM'S
 e. DISPLAY OF
 RELATED TERM'S
 f. CLICKING TERM'S IN CON-
 TROLLED VOCABULARY

F. REPORT GENERATION

1. LANGUAGE TYPE
 a. STANDARD OUTPUT
 b. SELECT AMONG
 OPTIONS
 c. OWN CODE
2. MEDIA FLEXIBILITY
 a. OFF-LINE PRINTING
 b. DISPLAY OF GRAPHS
 c. SPECIAL OUTPUTS
3. SPECIAL CAPABILITIES
 a. SORTING
 b. SEQUENCING
 c. COUNTING
 d. ARITHMETIC
4. SECURITY PROTECTION
 1. TERMINAL
 2. DATA BASE
 3. RECORD
 4. FIELD

G. SEARCH SPECIFICATION

- a. MUST NAME FIELDS
b. MAY LIMIT FIELDS
c. BOOLEAN AND
d. BOOLEAN OR
e. BOOLEAN NOT
f. NESTING OF BOOLEAN
g. EXPRESSIONS
 SEARCHING
h. PHRASE AND DISTANCE
 SEARCHING
i. RANGE SEARCHING
j. NATURAL ENGLISH
k. ON-LINE
l. DOCUMENTATION
m. ON-LINE
4. TUTORIAL FEATURES
a. "HELP" COMMAND
b. DOCUMENTATION
5. SEARCH STRATEGY
a. RANDOM
b. SEQUENTIAL
c. INDEXED SEQUENTIAL
3. SEARCH SPECIFICATION
- a. MUST NAME FIELDS
b. MAY LIMIT FIELDS
c. BOOLEAN AND
d. BOOLEAN OR
e. BOOLEAN NOT
f. NESTING OF BOOLEAN
g. EXPRESSIONS
 SEARCHING
h. PHRASE AND DISTANCE
 SEARCHING
i. RANGE SEARCHING
j. NATURAL ENGLISH
k. ON-LINE
l. DOCUMENTATION
m. ON-LINE
4. TUTORIAL FEATURES
a. "HELP" COMMAND
b. DOCUMENTATION
5. SEARCH STRATEGY
a. RANDOM
b. SEQUENTIAL
c. INDEXED SEQUENTIAL
6. REPORT GENERATION
1. LANGUAGE TYPE
a. STANDARD OUTPUT
b. SELECT AMONG
 OPTIONS
c. OWN CODE
2. MEDIA FLEXIBILITY
a. OFF-LINE PRINTING
b. DISPLAY OF GRAPHS
c. SPECIAL OUTPUTS
3. SPECIAL CAPABILITIES
a. SORTING
b. SEQUENCING
c. COUNTING
d. ARITHMETIC
4. SECURITY PROTECTION
1. TERMINAL
2. DATA BASE
3. RECORD
4. FIELD

- A. GENERAL DESCRIPTION
1. SYSTEM NAME IMS of Office of Emergency Preparedness Executive Office of the President Office of Emergency preparedness
2. OPERATING SYSTEM EXEC 8
3. SOURCE LANGUAGE VULCAN (a string processing language) plus assembly language plus FORTRAN interface
4. TERMINAL TYPES Any TTY and CRT terminals in use on the 1108
5. TRANSMISSION RATES 10,15,30 cps
6. RE-ENTRANT FOR MULTIPLE USERS Yes, due to property of VULCAN
- B. COMPUTER ENVIRONMENT
1. MAIN FRAME UNIVAC 1108
2. OPERATING SYSTEM EXEC 8
3. SOURCE LANGUAGE VULCAN (a string processing language) plus assembly language plus FORTRAN interface
- C. FILE DEFINITION
1. USER DEFINABLE Yes
2. VARIABLE LENGTH TEXT Yes
3. REPEATED FIELDS No
- D. FILE MAINTENANCE
1. ALLOWS ON-LINE
- a. CREATION Yes
- b. UPDATE Yes
- c. DELETION Yes
- d. EDITING Yes
2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
3. OPTIONAL ORDERING OF ENTERED DATA No
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No
- E. QUERY
1. USER-SYSTEM INTERACTION
- a. MULTIPLE OPTIONS AT ANY POINT Yes
- b. ENGLISH-LIKE PHRASING Yes, command-like
- c. SYSTEM-FORCED DIALOGUE No
2. CONTENT SEARCHING
- a. CONTROLLED VOCABULARY No
- b. FULL TEXT INVERSION Yes
- c. STEMMING PERMITTED Yes
- d. SYNONYMS No
- e. DISPLAY OF RELATED TERMS No
- f. CHICKING TERM IN CONTROLLED VOCABULARY No
- G. SECURITY PROTECTION
1. TERMINAL No
2. DATA BASE Yes
3. RECORD No
4. FIELD No

3. SEARCH SPECIFICATION
- a. JUST NAME FIELDS Yes
- b. MAX LIMIT FIELDS Yes
- c. BOOLFAN AND Yes
- d. BOOLEAN OR Yes
- e. BOOLEAN NOT Yes
- f. NESTING OF BOOLEAN EXPRESSIONS Yes
- g. PHRASE AND DISTANCE SEARCHING Yes
- h. NATURAL ENGLISH Yes
- i. RANGE SEARCHING Yes
4. TUTORIAL FEATURES
- a. "HELP" COMMAND No
- b. DOCUMENTATION ON-LINE No
5. SEARCH STRATEGY
- a. RANDOM Yes
- b. SEQUENTIAL Yes
- c. INDEXED SEQUENTIAL No
- F. REPORT GENERATION
1. LANGUAGE TYPE
- a. STANDARD OUTPUT Yes
- b. SELECT AMONG OPTIONS Yes
- c. OWN CODE Yes
2. MEDIA FLEXIBILITY
- a. OFF-LINE PRINTING Yes
- b. DISPLAY OF GRAPHS No
- c. SPECIAL OUTPUTS No
3. SPECIAL CAPABILITIES
- a. SORTING Yes, but runs off-line
- b. SEQUENCING No
- c. COUNTING Yes
- d. ARITHMETIC Yes

A. GENERAL DESCRIPTION		C. FILE DEFINITION	
1. SYSTEM NAME	IMS/360 Version 2 with IQF (Information Management System with Interactive Query Facility)	1. USER DEFINABLE	Yes
ORIGINATOR	IBM 1133 Westchester Ave. White Plains, N.Y. 10604 Local Representative	2. VARIABLE LENGTH TEXT	No
TELEPHONE		3. REPEATED FIELDS	Yes
2. SOFTWARE AVAILABILITY	No	D. FILE MAINTENANCE	
a. FOR PURCHASE		1. ALLOWS ON-LINE	Yes
AT WHAT COST		a. CREATION	Yes
b. FOR LEASE	Yes \$550/mo.-IMS/360 V2 (basic system) +\$625/mo.-Data Comm. Feature +\$300/mo.-IQF	b. UPDATE	Yes
AT WHAT COST		c. DELETION	Yes
3. SERVICE AVAILABILITY	NA	d. EDITING	Yes
a. SEARCH SERVICE		2. PREPROGRAMMED DATA VALIDATION CHECKS	No
AT WHAT COST		3. OPTIONAL ORDERING OF ENTERED DATA	Yes
b. DATA BASES		4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	No
c. TAKES CUSTOMER DATA BASES		E. QUERY	
4. HISTORY OF SOFTWARE	Nov. 1972	1. USER-SYSTEM INTERACTION	
a. FIRST INSTALLATION	Not available	a. MULTIPLE OPTIONS AT ANY POINT	Yes
b. SIGNIFICANT INSTALLATIONS		b. ENGLISH-LIKE PHRASING	Yes (using "null" words)
5. HISTORY OF SERVICE	NA	c. SYSTEM-FORCED DIALOGUE	No
a. SERVICE INITIATION		2. CONTENT SEARCHING	None
b. PRESENT USAGE		a. CONTROLLED VOCABULARY	
B. COMPUTER ENVIRONMENT		b. FULL TEXT INVERSION	
1. MAIN FRAME	IBM 360, 370	c. STEMMING PERMITTED	
2. OPERATING SYSTEM	OS/MFT, MVT, VS 1, VS 2	d. SYNONYMS	
3. SOURCE LANGUAGE	Assembler	e. DISPLAY OF RELATED TERMS	
4. TERMINAL TYPES	IBM 3270, 2260, 2265, 2740, 1050	f. CHECKING TERM IN CON- TROLLED VOCABULARY	
5. TRANSMISSION RATES	134.5, 600, 1200, 2000, 2400, 4800, 7200 bps	G. SECURITY PROTECTION	
6. RE-ENTRANT FOR MULTIPLE USERS	Partial (will support multiple users)	1. TERMINAL	Yes
		2. DATA BASE	Yes
		3. RECORD	No
		4. FIELD	No

3. SEARCH SPECIFICATION	a. MUST NAME FIELDS b. MAY LIMIT FIELDS c. BOOLEAN AND d. BOOLEAN OR e. BOOLEAN NOT f. NESTING OF BOOLEAN g. EXPRESSIONS h. PHRASE AND DISTANCE i. SEARCHING h. NATURAL ENGLISH i. RANGE SEARCHING	Yes Yes Yes Yes Yes Yes Yes Yes No
4. TUTORIAL FEATURES	a. "HELP" COMMAND b. DOCUMENTATION ON-LINE	None
5. SEARCH STRATEGY	a. RANDOM b. SEQUENTIAL c. INDEXED SEQUENTIAL	Yes Yes Yes
F. REPORT GENERATION	1. LANGUAGE TYPE	Yes
	a. STANDARD OUTPUT b. SELECT AMONG OPTIONS c. OWN CODE	No No No
	2. MEDIA FLEXIBILITY	Yes Yes Yes
	a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS	with CRT No No
	3. SPECIAL CAPABILITIES	Yes No Yes Yes
E. QUERY		
	1. USER-SYSTEM INTERACTION	
	a. MULTIPLE OPTIONS AT ANY POINT	
	b. ENGLISH-LIKE PHRASING	
	c. SYSTEM-FORCED DIALOGUE	
	2. CONTENT SEARCHING	
	a. CONTROLLED VOCABULARY	
	b. FULL TEXT INVERSION	
	c. STEMMING PERMITTED	
	d. SYNONYMS	
	e. DISPLAY OF RELATED TERMS	
	f. CHECKING TERM IN CON- TROLLED VOCABULARY	
G. SECURITY PROTECTION		
	1. TERMINAL	Yes
	2. DATA BASE	Yes
	3. RECORD	No
	4. FIELD	No

A. GENERAL DESCRIPTION		C. FILE DEFINITION	3. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR	IMS-8 SPERRY RAND Corp. UNIVAC Div. 2121 Wisconsin Ave., N.W. Washington, D.C. 20007 TELEPHONE 202-338-8510	1. USER definable	a. MUST NAME FIELDS b. MAY LIMIT FIELDS c. BOOLEAN AND d. BOOLEAN OR e. BOOLEAN NOT f. NESTING OF BOOLEAN EXPRESSIONS g. PHRASE AND DISTANCE SEARCHING h. NATURAL ENGLISH i. RANGE SEARCHING
2. SOFTWARE AVAILABILITY	Available at no charge to UNIVAC 1108 users	2. VARIABLE LENGTH TEXT	No
a. FOR PURCHASE AT WHAT COST		3. REPEATED FIELDS	Yes
b. FOR LEASE AT WHAT COST		D. FILE MAINTENANCE	No
3. SERVICE AVAILABILITY	NA	1. ALLOWS ON-LINE	No
a. SEARCH SERVICE AT WHAT COST		a. CREATION	Yes
b. DATA BASES		b. UPDATE	Yes
c. TAKES CUSTOMER DATA BASES		c. DELETION	Yes
4. HISTORY OF SOFTWARE	1969-1970	d. EDITING	Yes
a. FIRST INSTALLATION	About 45, incl. HUD, NASA, SSA, other Government agencies.	2. PREPROGRAMMED DATA VALIDATION CHECKS	Yes
b. SIGNIFICANT INSTALLATIONS	NA	3. OPTIONAL ORDERING OF ENTERED DATA	Yes
5. HISTORY OF SERVICE		4. AUTOMATIC OR MACHINE-ALIDED CONTENT INDEXING	No
a. SERVICE INITIATION		E. QUERY	
b. PRESENT USAGE		1. USER-SYSTEM INTERACTION	
B. COMPUTER ENVIRONMENT		a. MULTIPLE OPTIONS AT ANY POINT	Yes
1. MAIN FRAME	UNIVAC 1108	b. ENGLISH-LIKE PHRASING	Yes
2. OPERATING SYSTEM	EXEC 8	c. SYSTEM-FORCED DIALOGUE	Yes
3. SOURCE LANGUAGE	COBOL, Assembler	2. CONTENT SEARCHING	Yes
4. TERMINAL TYPES	TTY-compatible	a. CONTROLLED VOCABULARY	No
5. TRANSMISSION RATES	10-30 cps	b. FULL TEXT INVERSION	No
6. RE-ENTRANT FOR MULTIPLE USERS	Yes	c. STEMMING PERMITTED	No
		d. SYNONYMS	No
		e. DISPLAY OF RELATED TERMS	No
		f. CHECKING TERM IN CON- TROLLED VOCABULARY	No
		G. SECURITY PROTECTION	
		1. TERMINAL 2. DATA BASE	Yes
		3. RECORD	Yes
		4. FIELD	No

A. GENERAL DESCRIPTION		C. FILE DEFINITION	
1. SYSTEM NAME ORIGINATOR	INQUIRE In5odata Systems, Inc. 1901 N. Fort Myer Dr. Arlington, Va. 22209 TELEPHONE	1. USER DEFINABLE 2. VARIABLE LENGTH TEXT 3. REPEATED FIELDS	Yes Yes Yes
2. SOFTWARE AVAILABILITY		D. FILE MAINTENANCE	
a. FOR PURCHASE AT WHAT COST	Yes \$38,500	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	Yes Yes Yes Yes
b. FOR LEASE AT WHAT COST	Yes \$1,325/mo.	2. PREPROGRAMMED DATA VALIDATION CHECKS	Yes
3. SERVICE AVAILABILITY	NA	3. OPTIONAL ORDERING OF ENTERED DATA	Updates indices, new records appended
a. SEARCH SERVICE AT WHAT COST		4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	No
b. DATA BASES		E. QUERY	
c. TAKES CUSTOMER DATA BASES		1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS AT ANY POINT b. ENGLISH-LIKE PHRASING c. SYSTEM-FORCED DIALOGUE	Yes
4. HISTORY OF SOFTWARE		2. CONTENT SEARCHING a. CONTROLLED VOCABULARY	Yes, via AVOCON, an associated thesaurus
a. FIRST INSTALLATION	July, 1969	3. FULL TEXT INVERSION b. FULL TEXT INVERSION c. SPANNING PERMITTED d. SYNONYMS e. DISPLAY OF RELATED TERMS f. CHECKING TERM IN CON- TROLLED VOCABULARY	Yes Yes Yes Yes Yes Yes
b. SIGNIFICANT INSTALLATIONS	E. R. Squibb & Sons, State of Ohio, IFAA, ESSO	G. SECURITY PROTECTION	
5. HISTORY OF SERVICE	NA	1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD	Yes Yes Yes, if requested Yes, if requested
a. SERVICE INITIATION			
b. PRESENT USAGE			
B. COMPUTER ENVIRONMENT			
1. MAIN FRAME	IBM 360, 370, mod 40 & up		
2. OPERATING SYSTEM	OS		
3. SOURCE LANGUAGE	PL/I		
4. TERMINAL TYPES	TTY, IB' 2741, or compatible		
5. TRANSMISSION RATES	As supplied by particular environment		
6. RE-ENTRANT FOR MULTIPLE USERS	No		

A. GENERAL DESCRIPTION								
1. SYSTEM NAME	INSYTE (Information Systems Technology)							
ORIGINATOR	Response Technology, Inc							
TELEPHONE	4064 S W Donovan Seattle, Washington 98136 206-937-7845							
2. SOFTWARE AVAILABILITY								
a. FOR PURCHASE	Yes							
AT WHAT COST	\$27,000							
b. FOR LEASE	Yes							
AT WHAT COST	\$12,500 + \$425 month							
3. SERVICE AVAILABILITY								
a. SEARCH SERVICE	May be available on time-sharing services							
AT WHAT COST								
b. DATA BASES								
c. TAKES CUSTOMER								
DATA BASES								
4. HISTORY OF SOFTWARE								
a. FIRST INSTALLATION	1970							
b. SIGNIFICANT								
INSTALLATIONS	Remote Computing Corp., Univ. of Washington							
5. HISTORY OF SERVICE								
a. SERVICE INITIATION								
b. PRESENT USAGE								
B. COMPUTER ENVIRONMENT								
1. MAIN FRAME	Burroughs B-5500							
2. OPERATING SYSTEM	Burroughs Time-sharing							
3. SOURCE LANGUAGE	COBOL							
4. TERMINAL TYPES	TTY compatible							
5. TRANSMISSION RATES	10, 15, 30 cps							
6. RE-ENTRANT FOR								
MULTIPLE USERS	Yes							
C. FILE DEFINITION								
1. USER DEFINABLE	Yes							
2. VARIABLE LENGTH TEXT	No							
3. REPEATED FIELDS	No							
D. FILE MAINTENANCE								
1. ALLOWS ON-LINE	Yes							
a. CREATION	Yes							
b. UPDATE	Yes							
c. DELETION								
d. EDITING	Yes							
E. QUERY								
1. USER-SYSTEM INTERACTION								
a. MULTIPLE OPTIONS	No							
AT ANY POINT								
b. ENGLISH-LIKE	Yes							
PHRASING								
c. SYSTEM-FORCED	No							
DIALOGUE								
F. REPORT GENERATION								
1. LANGUAGE TYPE								
a. STANDARD OUTPUT	Yes							
b. SELECT AMONG								
OPTIONS	Yes							
c. OWN CODE	No							
2. MEDIA FLEXIBILITY								
a. OFF-LINE PRINTING	Yes							
b. DISPLAY OF GRAPHS	No							
c. SPECIAL OUTPUTS	No							
3. SPECIAL CAPABILITIES								
a. SORTING	Yes							
b. SEQUENCING	Yes							
c. COUNTING	Yes							
d. ARITHMETIC	Yes							
G. SECURITY PROTECTION								
1. TERMINAL	No							
2. DATA BASE	Yes							
3. RECORD	Yes							
4. FIELD	Yes							

n. GENERAL DESCRIPTION

1. SYSTEM NAME LEADERMART
ORIGINATOR Center for Information Science
Lehigh University
Bethlehem, Pennsylvania 18015
TELEPHONE 215-691-7000, X631
 2. SOFTWARE AVAILABILITY By arrangement
 - a. FOR PURCHASE AT WHAT COST
 - b. FOR LEASE AT WHAT COST
 3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE AT WHAT COST Yes \$55.00 per connect hour (\$45.00 for government users)
Chemical Abstracts, Engineering Index, Civil Engineering, and Tall Buildings (locally defined)
 - b. DATA BASES
 - c. TAKES CUSTOMER DATA BASES Yes (by arrangement)
 4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION
 - b. SIGNIFICANT INSTALLATIONS
 5. HISTORY OF SERVICE
 - a. SERVICE INITIATION March, 1971
 - b. PRESENT USAGE Currently serving 12 interdisciplinary research centers at Lehigh, seven local colleges, Federal agencies, and industrial customers.

C. ETILE DEFINITION

B COMPUTER ENVIRONMENT

- | | | | | |
|--------------------------------------|---------------------------|--|------------------------------|------------|
| 1. MAIN FRAME | CDC 6400 | a. CONTROLLED VOCABULARY
b. FULL TEXT INVERSION
c. STEMMING PERMITTED
d. SYNONYMS | c. COUNTING
d. ARITHMETIC | Yes
No |
| 2. OPERATING SYSTEM | SCOPE 3.3, INTERCOM 3.0 | e. DISPLAY OF RELATED TERMS
f. CHECKING TERM IN CONTROLLED VOCABULARY | NA | Yes
Yes |
| 3. SOURCE LANGUAGE | Primarily FORTRAN | | | YCS
YCS |
| 4. TERMINAL TYPES | TTY and CRT | | | YCS
YCS |
| 5. TRANSMISSION RATES | 110, 300, 1200, 2400 baud | | | YCS |
| 6. RE-ENTRANT FOR INDEXING FUNCTIONS | | | | No |

A. GENERAL DESCRIPTION

1. SYSTEM NAME MARK IV (with on-line special feature)
2. ORIGINATOR INFORMATICS, Inc.
3. TELEPHONE MARK IV Systems Co.
21050 Vanowen St.
Canoga Park, CA 91303
(213) 887-9121

2. SOFTWARE AVAILABILITY

- a. FOR PURCHASE \$37,000 + \$10,000 for On-line feature
- b. FOR LEASE Yes
- c. AT WHAT COST Many plans, including installment purchase

3. SERVICE AVAILABILITY

- a. SEARCH SERVICE Yes, through commercial time-sharing companies.
- b. AT WHAT COST Machine utilization costs plus surcharge.
- c. DATA BASES N/A
- d. CUSTOMER DATA BASES Yes

4. HISTORY OF SOFTWARE

- a. FIRST INSTALLATION Evolved from MARK I, II, III 1968
- b. SIGNIFICANT INSTALLATIONS U.S. House of Representatives, HEW, Federal Reserve Board, GM, EXXON, Eastern Airlines

5. HISTORY OF SERVICE

- a. SERVICE INITIATION 1972
- b. PRESENT USAGE Not available

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C. FILE DEFINITION

1. USER DEFINABLE Yes
2. VARIABLE LENGTH TEXT Yes
3. REPEATED FIELDS Yes

D. FILE MAINTENANCE

1. ALLOWS ON-LINE
 - a. CREATION Yes
 - b. UPDATE Yes
 - c. DELETION Yes
 - d. EDITING Yes
2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
3. OPTIONAL ORDERING OF ENTERED DATA Yes (automatic with appropriate file structure)
4. AUTOMATIC OR MACHINE-VALIDED CONTENT INDEXING No

E. QUERY

1. USER-SYSTEM INTERACTION EDIT IV is only interactive part of system; query is remote batch or time-shared execution with on-line preparation

B. COMPUTER ENVIRONMENT

1. MAIN FRAME IBM 360
2. OPERATING SYSTEM OS/360 with TSO (for On-line feature) or with VP/CSS on 360/67; OS/VSI Assembler
3. SOURCE LANGUAGE Any standard device
4. TERMINAL TYPES Any standard rate
5. TRANSMISSION RATES
6. RE-ENTRANT FOR MULTIPLE USERS No

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS Yes
- b. *AY LIMIT FIELDS Yes
- c. BOOLEAN AND Yes
- d. BOOLEAN OR Yes
- e. BOOLEAN NOT Yes
- f. NESTING OF BOOLEAN EXPRESSIONS Yes
- g. PHRASE AND DISTANCE SEARCHING No
- h. NATURAL ENGLISH Yes
- i. RANGE SEARCHING Yes

4. TUTORIAL FEATURES

- a. "HELP" COMMAND Yes
- b. DOCUMENTATION ON-LINE Yes (by HELP)
- c. AS FILE DEFINED Yes (by own code)

5. SEARCH STRATEGY

- a. RANDOM Yes
- b. SEQUENTIAL Yes
- c. INDEXED SEQUENTIAL Yes

F. REPORT GENERATION

1. LANGUAGE TYPE
 - a. STANDARD OUTPUT Yes
 - b. SELECT AMONG OPTIONS Yes
 - c. OWN CODE Yes
2. MEDIA FLEXIBILITY
 - a. OFF-LINE PRINTING Yes
 - b. DISPLAY OF GRAPHS No, but user may program them
- c. SPECIAL OUTPUTS No

G. SECURITY PROTECTION

1. TERMINAL Yes
2. DATA BASE Yes
3. RECORD No
4. FIELD No

A. GENERAL DESCRIPTION						
1. SYSTEM NAME ORIGINATOR	MARS III CONTROL DATA Corp. 5272 River Rd. Washington, D.C. 20016					
TELEPHONE	301-652-2268					
2. SOFTWARE AVAILABILITY						
a. FOR PURCHASE AT WHAT COST	No					
b. FOR LEASE	Yes					
c. AT WHAT COST	\$500 initial + \$300/mo. royalty					
3. SERVICE AVAILABILITY	NA					
a. SEARCH SERVICE AT WHAT COST						
b. DATA BASES						
c. TAKES CUSTOMER DATA BASES						
4. HISTORY OF SOFTWARE	April, 1970					
a. FIRST INSTALLATION b. SIGNIFICANT INSTALLATIONS	U.S. Coast Guard, New York Dept. of Education, Hughes Aircraft Corp.					
5. HISTORY OF SERVICE	NA					
a. SERVICE INITIATION b. PRESENT USAGE						
B. COMPUTER ENVIRONMENT						
1. MAIN FRAME	CDC 3300, 3500					
2. OPERATING SYSTEM	MASTER					
3. SOURCE LANGUAGE	COMPASS (90%), American National Standards Institute COBOL (10%)					
4. TERMINAL TYPES	CRT, TTY					
5. TRANSMISSION RATES	Up to 4800 baud					
6. RE-ENTRANT FOR MULTIPLE USERS	No					
C. FILE DEFINITION						
1. USER DEFINABLE	Yes					
2. VARIABLE LENGTH TEXT	No, but field length is defined by user					
D. FILE MAINTENANCE						
1. ALLOWS ON-LINE MAINTENANCE	No on-line maintenance					
2. PREPROGRAMMED DATA VALIDATION CHECKS	Yes					
3. OPTIONAL ORDERING OF ENTERED DATA	Yes, automatic					
E. QUERY						
1. USER-SYSTEM INTERACTION	Query input on-line executed in batch					
2. CONTENT SEARCHING	None					
B. COMPUTER ENVIRONMENT						
1. MAIN FRAME	CDC 3300, 3500					
2. OPERATING SYSTEM	MASTER					
3. SOURCE LANGUAGE	COMPASS (90%), American National Standards Institute COBOL (10%)					
4. TERMINAL TYPES	CRT, TTY					
5. TRANSMISSION RATES	Up to 4800 baud					
6. RE-ENTRANT FOR MULTIPLE USERS	No					
C. FILE DEFINITION						
1. USER DEFINABLE	Yes					
2. VARIABLE LENGTH TEXT	No, but field length is defined by user					
D. FILE MAINTENANCE						
1. ALLOWS ON-LINE MAINTENANCE	No on-line maintenance					
2. PREPROGRAMMED DATA VALIDATION CHECKS	Yes					
3. OPTIONAL ORDERING OF ENTERED DATA	Yes, automatic					
E. QUERY						
1. USER-SYSTEM INTERACTION	Query input on-line executed in batch					
2. CONTENT SEARCHING	None					
F. REPORT GENERATION						
G. SECURITY PROTECTION						

A. GENERAL DESCRIPTION		C. FILE DEFINITION		3. SEARCH SPECIFICATION	
1. SYSTEM NAME ORIGINATOR	MARS VI Control Data Corp. 5272 River Rd., Washington, D.C. 20016 TELEPHONE	1. USER DEFINABLE	Yes	a. MUST NAME FIELDS	Yes
		2. VARIABLE LENGTH TEXT	No	b. MAY LIMIT FIELDS	Yes
		3. REPEATED FIELDS	Yes	c. BOOLEAN AND	Yes
				d. BOOLEAN OR	Yes
				e. BOOLEAN NOT	YCS
				f. NESTING OF BOOLEAN EXPRESSIONS	Yes
				g. PHRASE AND DISTANCE	No
				h. NATURAL ENGLISH	No
				i. RANGE SEARCHING	Yes
				4. TUTORIAL FEATURES	None
				a. "HELP" COMMAND	
				b. DOCUMENTATION	
				c. INDEXED SEQUENTIAL	
				d. ON-LINE	
				5. SEARCH STRATEGY	
				a. RANDOM	No
				b. SEQUENTIAL	Yes
				c. INDEXED SEQUENTIAL	
				6. REPORT GENERATION	
				a. STANDARD OUTPUT	
				b. SELECT AMONG	
				c. OWN CODE	
				7. LANGUAGE TYPE	YCS
				a. STANDARD OUTPUT	
				b. SELECT AMONG	
				c. OWN CODE	
				8. MEDIA FLEXIBILITY	None
				a. OFF-LINE PRINTING	
				b. DISPLAY OF GRAPHS	
				c. SPECIAL OUTPUTS	
				9. SPECIAL CAPABILITIES	
				a. SORTING	Yes
				b. SEQUENCING	No
				c. COUNTING	Yes
				d. ARITHMETIC	Yes
				10. SECURITY PROTECTION	
				a. TERMINAL	YCS
				b. DATA BASE	Yes
				c. RECORD	No
				d. FIELD	No

A. GENERAL DESCRIPTION

1. SYSTEM NAME ORIGINATOR
MASTER CONTROL (Version 3)
Information Research Group
Lawrence Livermore Laboratory
University of California
P.O. Box 808
Livermore, California 94550
TELEPHONE 415-447-1100, X3132
2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE AT WHAT COST Information available on request Yes
 - b. FOR LEASE AT WHAT COST No
3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE AT WHAT COST Information available on request
 - b. DATA BASES 14 major data bases, including Nuclear Science Abstracts, SPIN, Chemical Titles, and Engineering Index
 - c. TAKES CUSTOMER DATA BASES Yes, if programmatically related to Lawrence Livermore Laboratory

4. HISTORY OF SOFTWARE

- a. FIRST INSTALLATION December, 1968
- b. SIGNIFICANT INSTALLATIONS Lawrence Livermore Laboratory

5. HISTORY OF SERVICE

- a. SERVICE INITIATION December, 1968
- b. PRESENT USAGE 1,400 searches per month

B. COMPUTER ENVIRONMENT

1. MAIN FRAME CDC-6600/7600
2. OPERATING SYSTEM FROST/FLOE
3. SOURCE LANGUAGE LRLTRAN
4. TERMINAL TYPES TTY and CRT
5. TRANSMISSION RATES 4800 baud (110 baud with acoustic couplers)
6. RE-ENTRANT FOR MULTIPLE USERS No, not necessary

C. FILE DEFINITION

1. USER DEFINABLE Yes
2. VARIABLE LENGTH TEXT Yes
3. REPEATED FIELDS Yes
- D. FILE MAINTENANCE
 1. ALLOWS ON-LINE
 - a. CREATION Yes
 - b. UPDATE Yes
 - c. DELETION Yes
 - d. EDITING Yes
 2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
 3. OPTIONAL ORDERING OF ENTERED DATA Yes
 4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Optional

E. QUERY

F. REPORT GENERATION

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS No
- b. MAY LIMIT FIELDS Yes
- c. BOOLEAN AND Yes
- d. BOOLEAN OR Yes
- e. BOOLEAN NOT Yes
- f. NESTING OF BOOLEAN EXPRESSIONS Yes
- g. PHRASE AND DISTANCE SEARCHING Open length phrases; no distance searching No
- h. NATURAL ENGLISH RANGE SEARCHING Yes
- i. "HELP" COMMAND Some prompting, error correction No
4. TUTORIAL FEATURES
 - a. DOCUMENTATION ON-LINE
 - b. DOCUMENTATION ON-LINE
5. SEARCH STRATEGY
 - a. RANDOM Yes
 - b. SEQUENTIAL Yes, optional
 - c. INDEXED SEQUENTIAL Yes, optional

G. SECURITY PROTECTION

1. TERMINAL Yes
2. DATA BASE Yes
3. RECORD No
4. FIELD No

A. GENERAL DESCRIPTION	MICROTEXT MITRE Corp. Bedford, Mass. 01730 Contact: Henry A. Dayard
1. SYSTEM NAME ORIGINATOR	TELEPHONE
2. SOFTWARE AVAILABILITY	<p>a. FOR PURCHASE Yes AT WHAT COST</p> <p>b. FOR LEASE</p> <p>c. AT WHAT COST</p>
3. SERVICE AVAILABILITY	<p>a. SEARCH SERVICE Yes AT WHAT COST</p> <p>b. DATA BASES None</p> <p>c. TAKES CUSTOMER DATA BASES Yes</p>
4. HISTORY OF SOFTWARE	<p>a. FIRST INSTALLATION 1972</p> <p>b. SIGNIFICANT INSTALLATIONS None, other than MITRE</p>
5. HISTORY OF SERVICE	<p>a. SERVICE INITIATION</p> <p>b. PRESENT USAGE</p>
B. COMPUTER ENVIRONMENT	<p>1. MAIN FRAME IBM 360/370 (MICROTEXT requires 200K bytes of core)</p> <p>2. OPERATING SYSTEM OS/VVT with TSO</p> <p>3. SOURCE LANGUAGE PL/I</p> <p>4. TERMINAL TYPES Any terminals supported by TSO</p> <p>5. TRANSMISSION RATES From 10 (Teletype) to 800,000 (IBM 3270 displays) cps</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS No-relies on TSO to support multiple users</p>
C. FILE DEFINITION	<p>1. USER DEFINABLE Yes</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS Yes</p> <p>D. FILE MAINTENANCE</p> <ul style="list-style-type: none"> 1. ALLOWS ON-LINE <ul style="list-style-type: none"> a. CREATION Yes b. UPDATE Yes c. DELETION Yes d. EDITING Yes 2. PREPROGRAMMED DATA VALIDATION CHECKS No 3. OPTIONAL ORDERING OF ENTERED DATA Yes 4. AUTOMATIC OR MACHINE-aided CONTENT INDEXING No
E. QUERY	<p>1. USER-SYSTEM INTERACTION <ul style="list-style-type: none"> a. MULTIPLE OPTIONS AT ANY POINT Yes b. ENGLISH-LIKE PHRASING Yes c. SYSTEM-DEFINED DIALOGUE No </p> <p>2. CONTENT SEARCHING <ul style="list-style-type: none"> a. CONTROLLED VOCABULARY No b. FULL TEXT INVERSION Yes c. STEMMING PERMITTED Yes, left, right, or both </p> <p>d. SYNONYMS Yes (user definable)</p> <p>e. DISPLAY OF RELATED TERMS No</p> <p>f. CHECKING TERM IN CONTROLLED VOCABULARY No</p>
F. REPORT GENERATION	<p>1. LANGUAGE TYPE Yes</p> <p>a. STANDARD OUTPUT</p> <p>b. SELECT AMONG OPTIONS No</p> <p>c. OWN CODE Yes</p> <p>2. MEDIA FLEXIBILITY <ul style="list-style-type: none"> a. OFF-LINE PRINTING Yes b. DISPLAY OF GRAPHS No c. SPECIAL OUTPUTS No </p> <p>3. SPECIAL CAPABILITIES <ul style="list-style-type: none"> a. SORTING No b. SEQUENCING No c. COUNTING Yes d. ARITHMETIC No </p> <p>G. SECURITY PROTECTION <ul style="list-style-type: none"> 1. TERMINAL Provided by TSO 2. DATA BASE Yes 3. RECORD No 4. FIELD No </p>

A. GENERAL DESCRIPTION		C. FILE DEFINITION	
1. SYSTEM NAME ORIGINATOR	MINIDATA (for small data bases) United Computing Systems 3130 Broadway Kansas City, Mo. 64106 TELEPHONE 816-753-4500	1. USER DEFINABLE 2. VARIABLE LENGTH TEXT 3. REPEATED FIELDS	Yes No No
2. SOFTWARE AVAILABILITY	Yes (Limited license) AT WHAT COST Approx. \$10,000 Yes Approx. \$400-\$500/mo.	D. FILE MAINTENANCE	
a. FOR PURCHASE b. FOR LEASE c. AT WHAT COST	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	No Yes Yes Yes
3. SERVICE AVAILABILITY	Yes AT WHAT COST \$17,50 (10 cps), \$21.00 (30 cps) /connect hour None	E. QUERY	
a. SEARCH SERVICE b. DATA BASES c. TAKES CUSTOMER DATA BASES	2. PREPROGRAMMED DATA VALIDATION CHECKS 3. OPTIONAL ORDERING OF ENTERED DATA	1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS AT ANY POINT b. ENGLISH-LIKE PHRASING c. SYSTEM-FORCED DIALOGUE	Yes Yes Yes
4. HISTORY OF SOFTWARE	F a. FIRST INSTALLATION Aug., 1971 b. SIGNIFICANT INSTALLATIONS Only UCS	F. REPORT GENERATION	
5. HISTORY OF SERVICE	a. SERVICE INITIATION Aug., 1971 b. PRESENT USAGE More than 500 users	G. SECURITY PROTECTION	
B. COMPUTER ENVIRONMENT			
1. MAIN FRAME	CDC 6000 series	1. LANGUAGE TYPE a. STANDARD OUTPUT b. SELECT AMONG OPTIONS c. OWN CODE	No Yes Yes Yes
2. OPERATING SYSTEM	MAX (in-house) or KRONOS (CDC)	2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS	Yes Yes No
3. SOURCE LANGUAGE	FORTRAN, COMPASS	3. SPECIAL CAPABILITIES a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC	Yes Yes Yes Yes
4. TERMINAL TYPES	All low speed terminals; CDC 200 USER terminal compatible		
5. TRANSMISSION RATES	10-30 cps	G. SECURITY PROTECTION	
6. RE-ENTRANT FOR MULTIPLE USERS	Yes	1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD	Yes Yes No No

A. GENERAL DESCRIPTION

1. SYSTEM NAME MIRADS
ORIGINATOR Data Center Division
NASA
Marshall Space Flight Center,
Alabama 35812
TELEPHONE 205-453-1205 (technical)
205-453-4181 (administrative)

2. SOFTWARE AVAILABILITY Available through COSMIC

(Computer Software Management
and Information Center at the
University of Georgia)

- a. FOR PURCHASE AT WHAT COST
- b. FOR LEASE AT WHAT COST
- c. AT WHAT COST

3. SERVICE AVAILABILITY Not generally available

- a. SEARCH SERVICE AT WHAT COST
- b. DATA BASES
- c. TAKES CUSTOMER DATA BASES

4. HISTORY OF SOFTWARE

- a. FIRST⁵ INSTALLATION
- b. SIGNIFICANT INSTALLATIONS

late 1971
Federal Communication
Commission, University of
Alabama, Huntsville

5. HISTORY OF SERVICE

- a. SERVICE INITIATION
- b. PRESENT USAGE

B. COMPUTER ENVIRONMENT

1. MAIN FRAME UNIVAC 1108
EXEC 8
2. OPERATING SYSTEM 80% COBOL, 19% FORTRAN, 1%
Assembler
3. SOURCE LANGUAGE UNISCOPE CRT, DCT 500 hard
copy, DCT 2000, TTY, UNIVAC
9300, UNIVAC 1004

4. TERMINAL TYPES Device dependent

5. TRANSMISSION RATES Device dependent
6. RE-ENTRANT FOR MULTIPLE USERS No

C. FILE DEFINITION

- 1. USER DEFINABLE
- 2. VARIABLE LENGTH TEXT
- 3. REPEATED FIELDS

D. FILE MAINTENANCE

- 1. ALLOWS ON-LINE
 - a. CREATION
 - b. UPDATE
 - c. DELETION
 - d. EDITING
- 2. PREPROGRAMMED DATA VALIDATION CHECKS
- 3. OPTIMUM ORDERING OF ENTERED DATA

E. QUERY

- 4. AUTOMATIC OR MACHINE-aidED CONTENT INDEXING
- 5. LANGUAGE TYPE
- 6. SECURITY PROTECTION

F. REPORT GENERATION

- 1. USER-SYSTEM INTERACTION
 - a. MULTIPLE OPTIONS AT ANY POINT
 - b. ENGLISH-LIKE PHRASING
 - c. SYSTEM-DEFINED DIALOGUE
- 2. CONTENT SEARCHING
 - a. CONTROLLED VOCABULARY
 - b. FULL TEXT INVERSION
 - c. STEMMING PERMITTED
- 3. SPECIAL CAPABILITIES
 - a. SORTING
 - b. SEQUENCING
 - c. COUNTING
 - d. ARITHMETIC
- 4. MEDIA FLEXIBILITY
 - a. OFF-LINE PRINTING
 - b. DISPLAY OF GRAPHS
 - c. SPECIAL OUTPUTS
- 5. RECORD
- 6. FIELD

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS
- b. MAY LIMIT FIELDS
- c. BOOLEAN AND
- d. BOOLEAN OR
- e. BOOLEAN NOT
- f. NESTING OF BOOLEAN EXPRESSIONS
- g. PHRASE AND DISTANCE
- No
- h. NATURAL ENGLISH
- i. RANGE SEARCHING
- None
- a. "HELP" COMMAND
- b. DOCUMENTATION
- ON-LINE
- 5. SEARCH STRATEGY
 - a. RANDOM
 - b. SEQUENTIAL
 - c. INDEXED SEQUENTIAL
- Yes (inverted list)
- Yes
- Yes
- 1. LANGUAGE TYPE
 - a. STANDARD OUTPUT
 - b. SELECT AMONG OPTIONS
 - c. OWN CODE
- 2. RECORD
- 3. REPORT GENERATION
- 4. FILE
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A. GENERAL DESCRIPTION		natural language	
1. SYSTEM NAME ORIGINATOR		MUST Meta Language products Inc. 635 E 14 Street Apt 9-6 New York, New York, 10009 212-437-4924	
TELEPHONE	Contact:	George Potts	
2. SOFTWARE AVAILABILITY		Yes Negotiable Yes Negotiable	
a. FOR PURCHASE	AT WHAT COST	Yes Negotiable	
b. FOR LEASE	AT WHAT COST	Yes Negotiable	
3. SERVICE AVAILABILITY		Software service has been available on symshare	
a. SEARCH SERVICE	AT WHAT COST		
b. DATA BASES			
c. TAKES CUSTOMER DATA BASES			
4. HISTORY OF SOFTWARE		Installed briefly at department of commerce. No current installations.	
a. FIRST INSTALLATION			
b. SIGNIFICANT INSTALLATIONS	Xerox Corp.		
5. HISTORY OF SERVICE		NA	
a. SERVICE INITIATION			
b. PRESENT USAGE			
B. COMPUTER ENVIRONMENT			
1. MAIN FRAME	NDS-940	940 time-sharing System	
2. OPERATING SYSTEM			
3. SOURCE LANGUAGE	ARPAS - assembly language for 940	Any TTY compatible terminal	
4. TERMINAL TYPES			
5. TRANSMISSION RATES	10, 15, 30 eps	full, text transmission	
6. RE-ENTRANT FOR MULTIPLE USERS	Yes	a. SEMANTIC PERMITTED	no
C. FILE DEFINITION		import	
1. USER DEFINABLE	Yes	a. MUST NAME FIELDS	no
2. VARIABLE LENGTH TEXT	No	b. "ANY" LENGTH FIELDS	no
3. SEPARATED FIELDS	Yes	c. BOOLEAN AND	yes
D. FILE MAINTENANCE		d. BOOLEAN OR	yes
1. ALLOWS ON-LINE	Yes	e. BOOLEAN NOT	yes
a. CREATE	Yes	f. INVERSE OF BOOLEAN	yes
b. UPDATE	Yes	g. EXPRESSIONS	yes
c. DELETION			
d. EDITING			
E. OUTPUT		SEARCHING	
1. USER-SYSTEM INTERACTION		a. MATERIAL INCLUDING	no, not in text field
a. MULTIPLE OPTIONS		b. RANGE SEARCHING	yes
AT ANY POINT	Yes	c. "HELP" COMMAND	yes
b. ENGLISH-LIKE PHRASING		d. DOCUMENTATION	no
c. SYSTEM-INITIATED DIALOGUE	Yes	e. ON-LINE	no
F. REPORT GENERATION		SEARCH STRATEGY	
1. LANGUAGE TYPE		a. SEQUENTIAL	YCS, using coordinate indexing
a. STANDARD OUTPUT		b. INDEXED	
b. SELECT AMONG OPTIONS		c. SEQUENTIAL	
c. OWN CODE		d. INDEXED SEQUENTIAL	
G. SECURITY PROTECTION		REPORT GENERATION	
1. TERMINAL		a. OFF-LINE PRINTING	yes
2. DATA BASE		b. DISPLAY OF GRAPHS	no
3. RECORD		c. SPECIAL OUTPUTS	no
4. FIELD			

A. GENERAL DESCRIPTION

1. SYSTEM NAME
NASTIS
Computing Services Division
NASA, Lewis Research Center
Cleveland, Ohio 44135
2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE Yes Available to government agencies
 - b. FOR LEASE No At what cost
3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE No At what cost
 - b. DATA BASES NA
 - c. TAKES CUSTOMER No
 - d. DATA BASESETS No
4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION September 1970
 - b. SIGNIFICANT INSTALLATIONS Carnegie Mellon University
5. HISTORY OF SERVICE
 - a. SERVICE INITIATION NA
 - b. PRESENT USAGE

C. FILE DEFINITION

1. USER DEFINABLE
 1. USER DEFINABLE Yes
 2. VARIABLE LENGTH TEXT Yes
 3. REPEATED FIELDS Yes
2. SOFTWARE AVAILABILITY
 - a. AT WHAT COST
 - b. AT WHAT COST
3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE
 - b. DATA BASES
 - c. TAKES CUSTOMER
 - d. DATA BASESETS
4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION September 1970
 - b. SIGNIFICANT INSTALLATIONS Carnegie Mellon University
5. HISTORY OF SERVICE
 - a. SERVICE INITIATION NA
 - b. PRESENT USAGE

D. FILE MAINTENANCE

1. ALLOWS ON-LINE
 - a. CREATION Yes
 - b. UPDATE Yes
 - c. DELETION Yes
 - d. EDITING Yes
2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
3. OPTIONAL ORDERING OF ENTERED DATA Yes
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Yes, separate utility package

E. QUERY

1. USER-SYSTEM INTERACTION
 - a. MULTIPLE OPTIONS AT ANY POINT Yes
 - b. ENGLISH-LIKE PHRASING Yes
 - c. SYSTEM-FORCED DIALOGUE No
2. CONTENT SEARCHING
 - a. CONTROLLED VOCABULARY Yes
 - b. FULL TEXT INVERSION Yes
 - c. STEMMING PERMITTED Yes
 - d. SYNONYMS No
 - e. DISPLAY OF RELATED TERMS
 - f. CHECKING TERM IN CONTROLLED VOCABULARY Yes
3. SECURITY PROTECTION
 1. TERMINAL No
 2. DATA BASE Yes
 3. RECORD Yes
 4. FIELD Yes

F. 7

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS Yes
- b. MAX LIMIT FIELDS Yes
- c. BOOLEAN AND Yes
- d. BOOLEAN OR Yes
- e. BOOLEAN NOT Yes
- f. NESTING OF BOOLEAN EXPRESSIONS Yes
- g. PUNCTUATE AND DISTANCE SEARCHING No
- h. NATURAL ENGLISH No
- i. RANGE SEARCHING Yes

4. TUTORIAL FEATURES

- a. "HELP" COMMAND Yes
- b. DOCUMENTATION Yes

5. SEARCH STRATEGY

- a. RANDOM Yes
- b. SEQUENTIAL Yes
- c. INDEXED SEQUENTIAL Yes

r. REPORT GENERATION

1. LANGUAGE TYPE
 - a. STANDARD OUTPUT Yes
 - b. SELECT AMONG OPTIONS Yes
 - c. OWN CODE Yes
2. MEDIA FLEXIBILITY
 - a. OFF-LINE PRINTING Yes
 - b. DISPLAY OF GRAPHS Yes
 - c. SPECIAL OUTPUTS No
3. SPECIAL CAPABILITIES
 - a. SORTING Yes
 - b. SEQUENCING Yes
 - c. COUNTING Yes
 - d. ARITHMETIC Yes

A. GENERAL DESCRIPTION	THE NEW YORK TIMES INFORMATION BANK Information Services Division The New York Times 229 West 43rd St. New York, N.Y. 10036 212-556-1031	
1. SYSTEM NAME ORIGINATOR	TELEPHONE	
2. SOFTWARE AVAILABILITY	a. FOR PURCHASE AT WHAT COST b. FOR LEASE AT WHAT COST	
3. SERVICE AVAILABILITY	Yes a. SEARCH SERVICE AT WHAT COST b. DATA BASES	
C. TAKES CUSTOMER DATA BASES	Not at present	
4. HISTORY OF SOFTWARE a. FIRST INSTALLATION b. SIGNIFICANT INSTALLATIONS	NA	
5. HISTORY OF SERVICE a. SERVICE INITIATION b. PRESENT USAGE	Late 1972 64 in-house terminals. Around 15 outside subscribers, including Department of State, Library of Congress, and University of Pittsburgh	
B. COMPUTER ENVIRONMENT		
1. MAIN FRAME	IBM 370/145	
2. OPERATING SYSTEM	DOS	
3. SOURCE LANGUAGE	PL/I, IBM 370 BAL, COBOL	
4. TERMINAL TYPES	Incoterm SPD-10/20 CRF terminal for outside subscribers	
5. TRANSMISSION RATES	2000 or 2400 bps	
6. RE-ENTRANT FOR MULTIPLE USERS	Yes	
C. FILE DEFINITION		
1. USER DEFINABLE	No	
2. VARIABLE LENGTH TEXT	Yes	
3. REPEATED FIELDS	Yes, for index terms and certain bibliographic elements	
D. FILE MAINTENANCE		
1. ALLOWS ON-LINE a. CREATION	Yes, to establish temporary file; permanent file established via later batch run Yes, in temporary file Yes, in temporary file Yes	
b. UPDATE		
c. DELETION		
d. EDITING		
E. QUERY		
1. USER-SYSTEM INTERACTION		
a. MULTIPLE OPTIONS AT ANY POINT	Yes	
b. ENGLISH-LIKE PHRASING	Yes	
c. SYSTEM-FORCED DIALOGUE	Yes, except when entering search terms	
2. CONTENT SEARCHING		
a. CONTROLLED VOCABULARY	Yes, open-ended vocabulary now contains about 200,000 terms	
F. REPORT GENERATION		
1. LANGUAGE TYPE		
a. STANDARD OUTPUT	Yes	
b. SELECT AMONG OPTIONS	Yes	
c. OWN CODE	Yes	
2. MEDIA FLEXIBILITY		
a. OFF-LINE PRINTING	Yes	
b. DISPLAY OF GRAPHS	No	
c. SPECIAL OUTPUTS	Yes, microfilm,	
3. SPECIAL CAPABILITIES		
a. SORTING	Yes, by date	
b. SEQUENCING	Yes	
c. COUNTING	Yes	
d. ARITHMETIC	No	
G. SECURITY PROTECTION		
1. TERMINAL	Yes	
2. DATA BASE	Yes	
3. RECORD	No	
4. FIELD	No	

A. GENERAL DESCRIPTION	OLIVER On-Line Systems, Inc. 115 Evergreen Heights Dr. Pittsburgh, Pa. 15229 TELEPHONE 412-931-7600									
1. SYSTEM NAME ORIGINATOR	1. USER DEFINABLE 2. VARIABLE LENGTH TEXT 3. REPFATED FIELDS									
2. SOFTWARE AVAILABILITY	By arrangement a. FOR PURCHASE AT WHAT COST b. FOR LEASE AT WHAT COST									
3. SERVICE AVAILABILITY	a. SEARCH SERVICE AT WHAT COST b. DATA BASES TAKES CUSTOMER DATA BASES									
4. HISTORY OF SOFTWARE	NA + \$1.50/psu/mo. Standard & Poor's Daily Report Yes									
5. HISTORY OF SERVICE	About 50 companies, 10-20 users each a. SERVICE INITIATION 1970 b. PRESENT USAGE									
B. COMPUTER ENVIRONMENT	DECSYSTEM 10 TOPS-10 Monitor (variant) MACRO-10 (assembler) TRY-compatibile, 2741-compatibile 10-120 cps RE-ENTRANT FOR MULTIPLE USERS									
C. FILE DEFINITION	3. SEARCH SPECIFICATION a. MUST NAME FIELDS b. MAY LIMIT FIELDS c. BOOLEAN AND d. BOOLEAN OR e. BOOLEAN NOT f. NESTING OF BOOLEAN EXPRESSIONS g. PHRASE AND DISTANCE SEARCHING h. NATURAL ENGLISH i. RANGED SEARCHING									
D. FILE MAINTENANCE	4. FILE MAINTENANCE 1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING									
E. QUERY	5. OPTIONAL ORDERING OF ENTERED DATA 2. PREPROGRAMMED DATA VALIDATION CHECKS Yes New records are appended or else go into holes left by deletions									
F. REPORT GENERATION	4. AUTOMATIC OR MACHINE-ALDED CONTENT INDEXING No 1. LANGUAGE TYPE a. STANDARD OUTPUT b. SELECT AMONG OPTIONS c. OWN CODE 2. MEDIA FLEXIBILITY a. OPT-OUT PRINTING b. DISPLAY OF GRAPHS Yes, limited capability through own code 3. SPECIAL OUTPUTS a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC Yes									
G. SECURITY PROTECTION	C. SECURITY PROTECTION 1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD Yes Yes Yes Yes									

A. GENERAL DESCRIPTION		C. FILE DEFINITION	
1. SYSTEM NAME ORIGINATOR	ORBIT III System Development Corp. 2500 Colorado Ave. Santa Monica, Calif. 90406 TELEPHONE	1. USER DEFINABLE Yes	Yes, with assistance Yes
2. SOFTWARE AVAILABILITY		2. VARIABLE LENGTH TEXT Yes	No
a. FOR PURCHASE AT WHAT COST	\$47,500	3. REPEATED FIELDS Yes	a. MUST NAME FIELDS Yes
b. FOR LEASE AT WHAT COST	Yes \$950 per month plus \$2,000 startup charges	D. FILE MAINTENANCE	b. MAX LIMIT FIELDS Yes
c. TAKES CUSTOMER DATA BASES	Yes	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	c. BOOLEAN AND BOOLEAN OR e. BOOLEAN NOT f. NESTING OF BOOLEAN EXPRESSIONS g. PHRASE AND DISTANCE SEARCHING h. NATURAL ENGLISH i. RANGE SEARCHING Yes, for one category
3. SERVICE AVAILABILITY		2. PREPROGRAMMED DATA VALIDATION CHECKS Yes \$22.00 to \$35.00 per hour. ERIC, CA Condensates, and CAIN-MEDLINE available to a restricted customer set.	4. TUTORIAL FEATURES a. "HELP" COMMAND b. DOCUMENTATION ON-LINE Yes
a. SEARCH SERVICE AT WHAT COST		3. OPTIONAL ORDERING OF ENTERED DATA No	5. SEARCH STRATEGY a. RANDOM b. SEQUENTIAL c. INDEXED SEQUENTIAL No
b. DATA BASES		4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Yes	F. REPORT GENERATION Yes, via an optional separate package
c. TAKES CUSTOMER DATA BASES		5. HISTORY OF SERVICE a. FIRST INSTALLATION 1970 b. SIGNIFICANT INSTALLATIONS National Library of Medicine, SDC, Carolinska Institute of Stockholm, Dept. State, SUNY (Syracuse)	E. QUERY 1. USER-SYSTEM INTERACTION a. 'MULTIPLE OPTIONS AT ANY POINT b. ENGLISH-LIKE PHRASING c. SYSTEM-FORCED DIALOGUE Yes Yes No
4. HISTORY OF SOFTWARE		2. CONTENT SEARCHING a. CONTROLLED VOCABULARY Yes, if user supplied No b. FULL TEXT INVERSION c. STEMMING PERMITTED d. SYNONYMS Yes, if established at file creation Yes, with special programming	2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS No
5. HISTORY OF SERVICE		3. SOURCE LANGUAGE PL/I	3. SPECIAL CAPABILITIES a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC No
a. SERVICE INITIATION	IBM Series 360, 370	4. TERMINAL TYPES TTY, IBM 2741, and others	G. SECURITY PROTECTION No
b. PRESENT USAGE	OS/MFT, OS/MVT, VS/2	5. TRANSMISSION RATES 10, 15, 30 cps	a. SEQUENCING Yes, for number of hits No
B. COMPUTER ENVIRONMENT		6. RE-ENTRANT FOR MULTIPLE USERS Yes	b. COUNTING Yes, using security at print level No
1. MAIN FRAME		f. CHECKING TERM IN CON- TROLLED VOCABULARY Yes, if user supplied	c. RECORD Yes
2. OPERATING SYSTEM		4. FIELD No	d. ARITHMETIC No
3. SOURCE LANGUAGE			e. DISPLAY OF RELATED TERMS Yes, with special programming
4. TERMINAL TYPES			f. FIELD No

A. GENERAL DESCRIPTION		C. FILE DEFINITION		3. SEARCH SPECIFICATION	
1. SYSTEM NAME ORIGINATOR	QUERY UPDATE (version 1) Control Data Corp. 5272 River Rd. Washington D.C. 20016 TELEPHONE 301-652-2268	A. USES FILES prepared externally	a. MUST NAME FIELDS b. MAX LIMIT FIELDS c. BOOLEAN AND d. BOOLEAN OR e. BOOLEAN NOT f. NESTING OF BOOLEAN g. EXPRESSIONS h. PHRASE AND DISTANCE i. RANGE SEARCHING	Yes Yes Yes Yes No (Exclusive OR instead)	Yes Yes Yes Yes Yes Yes Yes No Yes
2. SOFTWARE AVAILABILITY	No	B. VARIABLE LENGTH TEXT	2. REPEATED FIELDS	4. TUTORIAL FEATURES	a. "HELP" COMMAND b. DOCUMENTATION ON-LINE
a. FOR PURCHASE AT WHAT COST	Yes AT WHAT COST	3. FILE MAINTENANCE	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	No (see C.)	Yes Yes Yes Yes
3. SERVICE AVAILABILITY	NA	D. FILE MAINTENANCE	2. PREPROGRAMMED DATA VALIDATION CHECKS	5. SEARCH STRATEGY	a. RANDOM b. SEQUENTIAL c. INDEXED SEQUENTIAL
a. SEARCH SERVICE AT WHAT COST		E. OPTIONAL ORDERING OF ENTERED DATA	3. OPTIONAL ORDERING OF ENTERED DATA	F. REPORT GENERATION	Yes Yes Yes Yes
b. DATA BASES			4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	1. LANGUAGE TYPE	a. STANDARD OUTPUT b. SELECT AMONG OPTIONS c. OWN CODE
c. TAKES CUSTOMER DATA BASES				2. MEDIA FLEXIBILITY	None a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS
4. HISTORY OF SOFTWARE	late 1972			3. SPECIAL CAPABILITIES	a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC
a. FIRST INSTALLATION				G. SECURITY PROTECTION	1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD
b. SIGNIFICANT INSTALLATIONS	No extensive use yet				Yes Yes No No
5. HISTORY OF SERVICE	NA				
a. SERVICE INITIATION					
b. PRESENT USAGE					
B. COMPUTER ENVIRONMENT		E. QUERY			
1. MAIN FRAME	CDC CYBER/70, 6000 series	1. USER-SYSTEM INTERACTION	a. MULTIPLE OPTIONS AT ANY POINT	1. LANGUAGE TYPE	a. STANDARD OUTPUT b. SELECT AMONG OPTIONS c. OWN CODE
2. OPERATING SYSTEM	SCOPE 3, INTERCOM 3	b. ENGLISH-LIKE PHRASING	b. AT ANY POINT	2. MEDIA FLEXIBILITY	None a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS
3. SOURCE LANGUAGE	SYML	c. SYSTEM-FORCED DIALOGUE	c. SYSTEM-FORCED DIALOGUE	3. SPECIAL CAPABILITIES	a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC
4. TERMINAL TYPES	TTY 33, 35, CRT	2. CONTENT SEARCHING	None	G. SECURITY PROTECTION	1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD
5. TRANSMISSION RATES	10-30 cps, 100 cps, 2400 baud	a. CONTROLLED VOCABULARY	a. CONTROLLED VOCABULARY b. FULL TEXT INVERSION c. STEMMING PERMITTED d. SYNONYMS e. DISPLAY OF RELATED TERMS f. CHECKING TERM IN CONTROLLED VOCABULARY		Yes Yes No No
6. RE-ENTRANT FOR MULTIPLE USERS	No				

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
NATHERIC INC.
Princeton Station Office Park
P.O. Box 2392
Princeton, N.J. 08540
TELEPHONE
609-739-2600
2. SOFTWARE AVAILABILITY
a. FOR PURCHASE Yes
AT WHAT COST \$21,000-\$36,000
b. FOR LEASE Yes
AT WHAT COST \$840-\$1300/mo.
3. SERVICE AVAILABILITY
a. SEARCH SERVICE Yes
AT WHAT COST Approx. 33% over raw computer time
None
- b. DATA BASES Yes
- c. TAKES CUSTOMER DATA BASES
4. HISTORY OF SOFTWARE
a. FIRST INSTALLATION 1967
b. SIGNIFICANT INSTALLATIONS Standard Oil of California,
Bell Telephone Labs, Nabisco,
Inc.

5. HISTORY OF SERVICE
a. SERVICE INITIATION 1967
b. PRESENT USAGE 75 major corporation users

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3. SEARCH SPECIFICATION

- C. FILE DEFINITION
a. 'LIST NAME' FIELDS Yes
b. 'MAX LIMIT' FIELDS --
c. BOOLEAN AND Yes
d. BOOLEAN OR Yes
e. BOOLEAN NOT Yes
f. NESTING OF BOOLEAN EXPRESSIONS Yes
g. PHRASE AND DISTANCE SEARCHING Yes
h. NATURAL ENGLISH No
i. RANGE SEARCHING Yes
- D. FILE MAINTENANCE
1. ALLOWS ON-LINE
a. CREATION Yes
b. UPDATE Yes
c. DELETION Yes
d. EDITING Yes
2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
3. OPTIONAL ORDERING OF ENTERED DATA Yes
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING NA
- E. QUERY
1. USER-SYSTEM INTERACTION
a. MULTIPLE OPTIONS AT ANY POINT Yes (CPMS version)
b. ENGLISH-LIKE PHRASING
c. SYSTEM-FORCED DIALOGUE Yes
- B. COMPUTER ENVIRONMENT
1. MAIN FRAME IBM 360, 370
2. OPERATING SYSTEM OS (TSO), CPMS/VM 370
3. SOURCE LANGUAGE Assembler + FORTRAN
4. TERMINAL TYPES All kinds
5. TRANSMISSION RATES All rates
6. RE-ENTRANT FOR MULTIPLE USERS No
- F. REPORT GENERATION
1. LANGUAGE TYPE
a. STANDARD OUTPUT No
b. SELECT AMONG OPTIONS No
c. OWN CODE Yes (embedded in query specification)
2. MEDIA FLEXIBILITY
a. OFF-LINE PRINTING Yes
b. DISPLAY OF GRAPHS Yes
c. SPECIAL OUTPUTS No
3. SPECIAL CAPABILITIES
a. SORTING Yes
b. SEQUENCING Yes
c. COUNTING Yes
d. ARITHMETIC Yes, very complete
- G. SECURITY PROTECTION
1. TERMINAL Yes
2. DATA BASE Yes
3. RECORD Yes
4. FIELD Yes

A. GENERAL DESCRIPTION

1. SYSTEM NAME RFCON/STIMS, JURIS, ENVIRON, TOXICON (same system); Lockheed's DIALOG is technically the same.
- ORIGINATOR NASA Science & Tech. Information Division, Washington, D.C.
- TELEPHONE 301-755-3465
2. SOFTWARE AVAILABILITY Available via COSMIC. Extended version available by late 1973
- a. FOR PURCHASE AT WHAT COST
- b. FOR LEASE AT WHAT COST
3. SERVICE AVAILABILITY
- a. SEARCH SERVICE No, in-house services only at government agencies; NLM service publicly available at special centers.
- AT WHAT COST
- b. DATA BASES NLM (TOXICON) has CBAC, Toxicity Bibliography; NASA has STAR, IMA; Justice (JURIS) has JURIS data base;
- c. TAKES CUSTOMER DATA BASES Yes (with help from a contractor)
4. HISTORY OF SOFTWARE
- a. FIRST INSTALLATION 1967 for NASA
- b. SIGNIFICANT INSTALLATIONS NASA, NLM, Justice, AEC, EPA, Federal Mediation and Conciliation Service
5. HISTORY OF SERVICE
- a. SERVICE INITIATION NA
- b. PRESENT USAGE
- B. COMPUTER ENVIRONMENT
1. MAIN FRAME IBM 360/50
2. OPERATING SYSTEM OS/IWVT and IIFT
3. SOURCE LANGUAGE RECON (the interactive subsystem) is all assembler; STIMS (the batch file maintenance subsystem) is PL/1 + assembler.
4. TERMINAL TYPES ASCII compatible terminals IBM 2260, Bunker Ramo 2200, and TTY compatible
5. TRANSMISSION RATES 10-300 cps
6. RE-ENTRANT FOR MULTIPLE USERS No

C. FILE DEFINITION

1. USER DEFINABLE
2. VARIABLE LENGTH TEXT
3. REPEATED FIELDS
- D. FILE MAINTENANCE
1. ALLOWS ON-LINE
- a. CREATION
- b. UPDATE
- c. DELETION
- d. EDITING
2. PREPROGRAMMED DATA VALIDATION CHECKS
3. OPTIONAL ORDERING OF ENTERED DATA
4. AUTOMATIC OR MACHINE-aidED CONTENT INDEXING

- E. QUERY
1. USER-SYSTEM INTERACTION
- a. 'MULTIPLE OPTIONS' AT ANY POINT
- b. ENGLISH-LIKE PHRASING
- c. SYSTEM-FORCED DIALOGUE
2. CONTENT SEARCHING
- a. CONTROLLED VOCABULARY
- b. FULL TEXT INVERSION
- c. STEMMING PERMITTED
- d. SYNONYMS
- e. DISPLAY OF RELATED TERMS
- f. CHECKING TERM IN CONTROLLED VOCABULARY

- F. REPORT GENERATION
1. LANGUAGE TYPE
- a. STANDARD OUTPUT
- b. SELECT AMONG OPTIONS
- c. OWN CODE
2. MEDIA FLEXIBILITY
- a. OFF-LINE PRINTING
- b. DISPLAY OF GRAPHS
- c. SPECIAL OUTPUTS
3. SPECIAL CAPABILITIES
- a. SORTING
- b. SEQUENCING
- c. COUNTING
- d. ARITHMETIC
- G. SECURITY PROTECTION
1. TERMINAL
2. DATA BASE
3. RECORD
4. FIELD

3. SEARCH SPECIFICATION
- a. MUST NAME FIELDS
- b. MAY LIMIT FIELDS
- c. BOOLEAN AND
- d. BOOLEAN OR
- e. BOOLEAN NOT
- f. USETING OF BOOLEAN EXPRESSIONS
- g. PHRASE AND DISTANCE SEARCHING
- h. NATURAL ENGLISH
- i. RANGE SEARCHING

4. TUTORIAL FEATURES
- a. "HELP" COMMAND
- b. DOCUMENTATION
- ON-LINE
5. SEARCH STRATEGY
- a. RANDOM
- b. SEQUENTIAL
- c. INDEXED SEQUENTIAL
- F. REPORT GENERATION
1. LANGUAGE TYPE
- a. STANDARD OUTPUT
- b. SELECT AMONG OPTIONS
- c. OWN CODE
2. MEDIA FLEXIBILITY
- a. OFF-LINE PRINTING
- b. DISPLAY OF GRAPHS
- c. SPECIAL OUTPUTS
3. SPECIAL CAPABILITIES
- a. SORTING
- b. SEQUENCING
- c. COUNTING
- d. ARITHMETIC
- G. SECURITY PROTECTION
1. TERMINAL
2. DATA BASE
3. RECORD
4. FIELD

3. SEARCH SPECIFICATION
- a. MUST NAME FIELDS
- b. MAY LIMIT FIELDS
- c. BOOLEAN AND
- d. BOOLEAN OR
- e. BOOLEAN NOT
- f. USETING OF BOOLEAN EXPRESSIONS
- g. PHRASE AND DISTANCE SEARCHING
- h. NATURAL ENGLISH
- i. RANGE SEARCHING

4. TUTORIAL FEATURES
- a. "HELP" COMMAND
- b. DOCUMENTATION
- ON-LINE

5. SEARCH STRATEGY
- a. RANDOM
- b. SEQUENTIAL
- c. INDEXED SEQUENTIAL

6. SECURITY PROTECTION
1. TERMINAL
2. DATA BASE
3. RECORD
4. FIELD

A. GENERAL DESCRIPTION

1. SYSTEM NAME RFI (Remote File Inquiry System)
ORIGINATOR NASA John F. Kennedy Space Center Automatic Data Processing Center Kennedy Space Center, Fla.
TELEPHONE 305-867-4166
2. SOFTWARE AVAILABILITY Available to government agencies
 - a. FOR PURCHASE At what cost
 - b. FOR LEASE
 - c. AT WHAT COST
3. SERVICE AVAILABILITY No, in-house use only
 - a. SERVICE AT WHAT COST
 - b. DATA BASES NASA technical data on parts reliability, financial management, master personnel, etc.
 - c. TAKES CUSTOMER DATA BASES NA
4. HISTORY OF SOFTWARE 1969
 - a. FIRST INSTALLATION
 - b. SIGNIFICANT INSTALLATIONS NASA Headquarters, NASA Space Center
5. HISTORY OF SERVICE 1969
 - a. SERVICE INITIATION See 4.b.; supplied to Army Safeguard Command and House of Representatives, but usage there unknown
 - b. PRESENT USAGE

B. COMPUTER ENVIRONMENT

1. MAIN FRAME Minimum 360/40
2. OPERATING SYSTEM OS/MFT (QTAM), MVT at NASA Headquarters
3. SOURCE LANGUAGE Assembler (level F)
4. TERMINAL TYPES TTY compatible
5. TRANSMISSION RATES 110 baud
6. RE-ENTRANT FOR MULTIPLE USERS Yes

C. FILE DEFINITION

1. USER DEFINABLE Yes
2. VARIABLE LENGTH TEXT Yes
3. REPEATED FIELDS Yes
- D. FILE MAINTENANCE
 1. ALLOWS ON-LINE
 - a. CREATION Yes
 - b. UPDATE Yes
 - c. DELETION Yes
 - d. EDITING Yes
 2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
 3. OPTIONAL ORDERING OF ENTERED DATA Yes
 4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No
- E. QUERY
- F. REPORT GENERATION
- G. SECURITY PROTECTION

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS Yes
- b. 'NAY LIMIT FIELDS --
- c. BOOLEAN AND Yes
- d. BOOLEAN OR Yes
- e. BOOLEAN NOT Yes
- f. NESTING OF BOOLEAN EXPRESSIONS Yes
- g. PHRASE AND DISTANCE SEARCHING No
- h. NATURAL ENGLISH Yes
- i. RANGE SEARCHING Yes

4. TUTORIAL FEATURES

- None
- a. "HELP" COMMAND
- b. DOCUMENTATION ON-LINE

5. SEARCH STRATEGY

- A combination of a, b, and c
- a. RANDOM
- b. SEQUENTIAL
- c. INDEXED SEQUENTIAL

A. GENERAL DESCRIPTION	
1. SYSTEM NAME ORIGINATOR	RIGS Vogelback Computing Center Northwestern Univ. Evanston, Ill. 60201
TELEPHONE	312-492-3741
2. SOFTWARE AVAILABILITY	By arrangement
a. FOR PURCHASE AT WHAT COST	
b. FOR LEASE	
c. AT WHAT COST	
3. SERVICE AVAILABILITY	To non-profit or educational organizations Cost-reimbursable Mostly bibliographies (Computer science, physics, etc.), journals, abstracts for social sciences, others
a. SEARCH SERVICE AT WHAT COST	
b. DATA BASES	
c. TAKES CUSTOMER DATA BASES	Yes
4. HISTORY OF SOFTWARE	First INSTALLATION Sept. 1969
a. FIRST INSTALLATION	
b. SIGNIFICANT INSTALLATIONS	
5. HISTORY OF SERVICE	Demonstration of prototype
a. SERVICE INITIATION Sept., 1969	
b. PRESENT USAGE	Heavy usage, over 50 data bases in Chicago area.

C. FILE DEFINITION	
1. USER DEFINABLE	Yes
2. VARIABLE LENGTH TEXT	Yes
3. REPEATED FIELDS	Yes
D. FILE MAINTENANCE	No on-line capability
1. ALLOWS ON-LINE	
a. CREATION	
b. UPDATE	
c. DELETION	
d. EDITING	
2. PRIPROGRAMMED DATA VALIDATION CHECKS	Yes (user specified)
3. OPTIONAL ORDERING OF ENTERED DATA	Yes
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	Yes
E. QUERY	
1. USER-SYSTEM INTERACTION	
a. MULTIPLE OPTIONS AT ANY POINT	Yes
b. ENGLISH-LIKE PHRASING	Yes
c. SYSTEM-FORCED DIALOGUE	No
2. CONTENT SEARCHING	No
a. CONTROLLED VOCABULARY	
b. FULL TEXT INVERSION	Yes, user may request inverted index, or else full text search occurs on all items
B. COMPUTER ENVIRONMENT	
1. MAIN FRAME	CDC 6400
2. OPERATING SYSTEM	SCOPE 3.3 + in-house built interactive front-end (on-line subsystem)
3. SOURCE LANGUAGE	FORTRAN + COMPASS
4. TERMINAL TYPES	TTY-compatible; IMLAC graphics terminal (15k baud, local connection)
5. TRANSMISSION RATES	10, 15, 30 cps
6. RE-ENTRANT FOR MULTIPLE USERS	No
C. SEARCH SPECIFICATION	
a. MUST NAME FIELDS	No
b. 'ANY LIMIT' FIELDS	Yes
c. BOOLEAN AND	Yes
d. BOOLEAN OR	Yes
e. BOOLEAN NOT	Yes
f. NESTING OF BOOLEAN	Yes
g. EXPRESSIONS	No distance search
h. NATURAL ENGLISH	No
i. RANGE SEARCHING	Yes
4. PHRASE AND DISTANCE SEARCHING	No distance search
5. TUTORIAL FEATURES	Yes
a. "HELP" COMMAND	
b. DOCUMENTATION	
ON-LINE	Yes
5. SEARCH STRATEGY	
a. RANDOM	Yes, for specified records or subsets
b. SEQUENTIAL	Yes, for full file
c. INDEXED SEQUENTIAL	Yes
F. REPORT GENERATION	
1. LANGUAGE TYPE	
a. STANDARD OUTPUT	Yes
b. SELECT AMONG OPTIONS	No
c. OWN CODE	Yes
2. MEDIA FLEXIBILITY	
a. OFF-LINE PRINTING	Yes
b. DISPLAY OF GRAPHS	Yes
c. SPECIAL OUTPUTS	No
3. SPECIAL CAPABILITIES	
a. SORTING	Yes, batch mode only
b. SEQUENCING	No
c. COUNTING	Yes
d. ARITHMETIC	Yes
c. SECURITY PROTECTION	
1. TERMINAL	No
2. DATA BASE	Yes
3. RECORD	No
4. FIELD	No

A. GENERAL DESCRIPTION		C. FILE DEFINITION		3. SEARCH SPECIFICATION	
1. SYSTEM NAME ORIGINATOR	SHOEBOX MITRE Corp. Bedford, Mass. 01730 Contact: Henry A. Bayard 617-271-2582	1. USER DEFINABLE	Yes	a. MUST NAME FIELDS b. MAY LIMIT FIELDS	No Ycs, limit to preestablished text segments or to given lines of text
2. SOFTWARE AVAILABILITY	Yes By arrangement; probably at reproduction cost to government users	2. VARIABLE LENGTH TEXT	Ycs	c. BOOLEAN AND d. BOOLEAN OR e. BOOLEAN NOT f. NESTING OF BOOLEAN EXPRESSIONS g. PHRASE AND DISTANCE SEARCHING	Ycs Ycs Ycs Ycs Yes
a. FOR PURCHASE AT WHAT COST		3. REPEATED FIELDS	Yes	h. NATURAL ENGLISH i. RANGE SEARCHING	No Yes
b. FOR LEASE AT WHAT COST		D. FILE MAINTENANCE	Ycs	4. TUTORIAL FEATURES	No
3. SERVICE AVAILABILITY	Yes By arrangement with MITRE Corp.	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	Yes	a. "HELP" COMMAND b. DOCUMENTATION ON-LINE	No
a. SEARCH SERVICE AT WHAT COST		2. PREPROGRAMMED DATA VALIDATION CHECKS	No	5. SEARCH STRATEGY	No
b. DATA BASES	None	3. OPTIONAL ORDERING OF ENTERED DATA	Ycs	a. RANDOM b. SEQUENTIAL c. INDEXED SEQUENTIAL	No No Yes
c. TAKES CUSTOMER DATA BASES		4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	No	F. REPORT GENERATION	No
4. HISTORY OF SOFTWARE	1970	E. QUERY		1. LANGUAGE TYPE	Yes
a. FIRST INSTALLATION		5. HISTORY OF SERVICE		a. STANDARD OUTPUT b. SELECT AMONG OPTIONS c. OWN CODE	Yes No Yes
b. SIGNIFICANT INSTALLATIONS	None, other than MITRE	a. SERVICE INITIATION b. PRESENT USAGE	Yes	2. MEDIA FLEXIBILITY	Yes
				a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS (punched cards)	No Yes No
B. COMPUTER ENVIRONMENT		6. RE-ENTRANT FOR MULTIPLE USERS	Yes (Up to 8 concurrent users)	3. SPECIAL CAPABILITIES	Yes No Yes No
1. MAIN FRAME	IBM 360 or 370 (SHOEBOX requires 186 K bytes of core)	1. CONTENT SEARCHING	No	a. SORTING b. SEQUENCING c. COUNTING d. APITHETIC	Yes No Yes No
2. OPERATING SYSTEM	OS/PCP, MFT, MVT	2. CONTROLLED VOCABULARY	No	G. SECURITY PROTECTION	No
3. SOURCE LANGUAGE	TREET (LISP derivative)	a. FULL TEXT INVERSION b. STEMMING PERMITTED	Yes, left, right, or both	1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD	Yes No No No
4. TERMINAL TYPES	IBM 2260 alphanumeric display	d. SYNONYMS	Yes (uscr definable)		
5. TRANSMISSION RATES	2500 cps (in local configuration)	c. DISPLAY OF RELATED TERMS	No		
6. RE-ENTRANT FOR MULTIPLE USERS		f. CHECKING TERM IN CON- TROLLED VOCABULARY	No		

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
TELEPHONE
- SOLAR
Washington State University
Pullman, Washington, 99163
509-335-3564
2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE Yes
 - AT WHAT COST Not established
 - b. FOR LEASE No
 - AT WHAT COST No
3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE Yes \$500 annual subscription plus costs per demand searches subset of CABC plus local literatures
 - AT WHAT COST
 - b. DATA BASES
 - c. TAKES CUSTOMER DATA BASES No
4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION Since 1971
 - b. SIGNIFICANT INSTALLATIONS None yet
5. HISTORY OF SERVICE
 - a. SERVICE INITIATION since 1971 for internal use only infrequent, about ten times per month
 - b. PRESENT USAGE

B. COMPUTER ENVIRONMENT

1. MAIN FRAME IBM 360/67 operating as a 65
2. OPERATING SYSTEM OS MVT
3. SOURCE LANGUAGE PL/I plus assembly
4. TERMINAL TYPES Any TTY compatible with IBM 1050, and 2741
5. TRANSMISSION RATES 10, 14.7 and 15 cps
6. RE-ENTRANT FOR MULTIPLE USERS Yes

C. FILE DEFINITION

1. USER DEFINABLE No
2. VARIABLE LENGTH TEXT Yes
3. REPEATED FIELDS No
- D. FILE MAINTENANCE
 1. ALLOWS ON-LINE
 - a. CREATION No
 - b. UPDATE No
 - c. DELETION No
 - d. EDITING No
 2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
 3. OPTIONAL ORDERING OF ENTERED DATA No
 4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Yes, in batch-mode only

E. QUERY

 1. USER-SYSTEM INTERACTION
 - a. MULTIPLE OPTIONS Yes
 - b. AT ANY POINT
 - c. ENGLISH-LIKE PHRASING
 - c. SYSTEM-FORCED DIALOGUE No
 2. CONTENT SEARCHING
 - a. CONTROLLED VOCABULARY Yes, special vocabulary for use in the CBAC data base
 - b. FULL TEXT INVERSION
 - c. STEMMING PERMITTED
 - d. SYNONYMS
 - e. DISPLAY OF RELATED TERMS

F. REPORT GENERATION

 1. LANGUAGE TYPE
 - a. STANDARD OUTPUT Yes
 - b. SELECT AMONG OPTIONS
 - c. OWN CODE No
 2. MEDIA FLEXIBILITY
 - a. OFF-LINE PRINTING Yes
 - b. DISPLAY OF GRAPHS No
 - c. SPECIAL OUTPUTS No
 3. SPECIAL CAPABILITIES
 - a. SORTING No
 - b. SEQUENCING No
 - c. COUNTING No
 - d. ARITHMETIC No

G. SECURITY PROTECTION

 1. TERMINAL
 2. DATA BASE
 3. RECORD
 4. FIELD
 2. CHECKING TERM IN CONTROLLED VOCABULARY No

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
SPIRES II
Institute for Communication
Research
Stanford Univ.
Stanford, Ca. 94305
415-321-2300, X2755
TELEPHONE

2. SOFTWARE AVAILABILITY By arrangement

a. FOR PURCHASE Yes
AT WHAT COST
b. FOR LEASE
AT WHAT COST

3. SERVICE AVAILABILITY

a. SEARCH SERVICE Yes
AT WHAT COST
Based on resources used +
\$3.50/connect hour

b. DATA BASES
c. TABLES CUSTOMER
DATA BASES Yes

4. HISTORY OF SOFTWARE

a. FIRST INSTALLATION
b. SIGNIFICANT
INSTALLATIONS

5. HISTORY OF SERVICE

a. SERVICE INITIATION Fall, 1972
people are still learning how
to use it. There have been
many outside inquiries.

b. PRESENT USAGE

B. COMPUTER ENVIRONMENT

1. MAIN FRAME
IBM 360/67

2. OPERATING SYSTEM
ORVYX under OS/MFT-II

3. SOURCE LANGUAGE
PL360

4. TERMINAL TYPES
Primarily IBM 2741. Other
types can be supported.

5. TRANSMISSION RATES
10, 15 cps

6. RE-ENTRANT FOR
MULTIPLE USERS Yes

C. FILE DEFINITION

1. USER DEFINABLE Yes

2. VARIABLE LENGTH TEXT Yes

3. REPEATED FIELDS Yes

D. FILE MAINTENANCE

1. ALLOWS ON-LINE Yes
a. CREATION
b. UPDATE
c. DELETION
d. EDITING

2. PREPROGRAMMED DATA VALIDATION CHECKS Yes

3. OPTIONAL ORDERING OF ENTERED DATA Yes

4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No

E. QUERY

1. USER-SYSTEM INTERACTION

a. MULTIPLE OPTIONS AT ANY POINT Yes

b. ENGLISH-LIKE PUNCTUATING
c. SYSTEM-FORCED DIALOGUE No

2. CONTENT SEARCHING

a. CONTROLLED VOCABULARY Yes, when user-defined
b. FULL TEXT INVERSION Yes, on user-designated files

F. REPORT GENERATION

1. LANGUAGE TYPE

a. STANDARD OUTPUT Yes

b. SELECT AMONG OPTIONS Yes

c. OWN CODE No

2. MEDIA FLEXIBILITY

a. OFF-LINE PRINTING Yes
b. DISPLAY OF GRAPHS Yes
c. SPECIAL OUTPUTS No

3. SPECIAL CAPABILITIES

a. SORTING Yes

b. SEQUENCING No
c. COUNTING Yes
d. ARITHMETIC No

G. SECURITY PROTECTION

1. TERMINAL Yes

2. DATA BASE Yes

3. RECORD Yes

4. FIELD Yes

3. SEARCH SPECIFICATION

- a. JUST NAME FIELDS No
 - b. MAY LIMIT FIELDS Yes
 - c. BOOLEAN AND Yes
 - d. BOOLEAN OR Yes
 - e. BOOLEAN NOT Yes
 - f. NESTING OF BOOLEAN EXPRESSIONS Yes
 - g. PHRASE AND DISTANCE SEARCHING No
 - h. NATURAL ENGLISH No
 - i. RANGE SEARCHING Yes
4. TUTORIAL FEATURES
- a. "HELP" COMMAND Yes
 - b. DOCUMENTATION ON-LINE Yes
5. SEARCH STRATEGY
- a. RANDOM Yes
 - b. SEQUENTIAL No
 - c. INDEXED SEQUENTIAL No

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
STAIRS
IBM Corporation
Data Processing Division
1133 Westchester Ave.
White Plains, N.Y. 10604
Local Representative
2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE No
 - AT WHAT COST
 - b. FOR LEASE Yes
 - AT WHAT COST \$500.00 per month
3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE NA
 - AT WHAT COST
 - b. DATA BASES
 - c. TAKES CUSTOMER DATA BASES
4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION July, 1972
 - b. SIGNIFICANT INSTALLATIONS Not available

C. FILE DEFINITION

1. USER DEFINABLE
 2. VARIABLE LENGTH TEXT
 3. REPEATED FIELDS
4. FILE MAINTENANCE
 1. ALLOWS ON-LINE
 - a. CREATION
 - b. UPDATE
 - c. DELETION
 - d. EDITING
 2. PREPROGRAMMED DATA
 - b. VALIDATION CHECKS
 3. OPTIONAL ORDERING OF ENTERED DATA
 - a. merge records into file, but not fields within record
 4. AUTOMATIC OR MACHINE-ALDED CONTENT INDEXING

E.

E. QUERY

1. USER-SYSTEM INTERACTION
 - a. MULTIPLE OPTIONS AT ANY POINT Yes
 - b. ENGLISH-LIKE PHRASING
 - c. SYSTEM-FORCED DIALOGUE
2. CONTENT SEARCHING
 - a. CONTROLLED VOCABULARY
 - b. FULL TEXT INVERSION Yes
 - c. STEMMING PERMITTED Yes
 - d. SYNONYMS Yes
 - e. DISPLAY OF RELATED TERMS
 - f. CHECKING TERM IN CONTROLLED VOCABULARY NA
 3. SOURCE LANGUAGE Assembly, with some PL/I
 4. TERMINAL TYPES IBM 2741, 2260, 2265
 5. TRANSMISSION RATES 15, 120 or 240 cps
 6. RE-ENTRANT FOR MULTIPLE USERS Yes

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS
- b. MAY LIMIT FIELDS
- c. BOOLEAN AND
- d. BOOLEAN OR
- e. BOOLEAN NOT
- f. NESTING OF BOOLEAN EXPRESSIONS
- g. PHRASE AND DISTANCE SEARCHING
- h. NATURAL ENGLISH
- i. RANGE SEARCHING

4. TUTORIAL FEATURES
 - a. "HELP" COMMAND
 - b. DOCUMENTATION ON-LINE
5. SEARCH STRATEGY
 - a. RANDOM
 - b. SEQUENTIAL
 - c. INDEXED SEQUENTIAL
- F. REPORT GENERATION
 1. LANGUAGE TYPE
 - a. STANDARD OUTPUT Yes
 - b. SELECT, MONG OPTIONS
 - c. OWN CODE Yes
 2. MEDIA FLEXIBILITY
 - a. OFF-LINE PRINTING Yes
 - b. DISPLAY OF GRAPHS No
 - c. SPECIAL OUTPUTS No
 3. SPECIAL CAPABILITIES
 - a. SORTING
 - b. SEQUENCING
 - c. COUNTING
 - d. ARITHMETIC
- G. SECURITY PROTECTION
 1. TERMINAL
 2. DATA BASE Yes
 3. RECORD Yes
 4. FIELD Yes

- A. GENERAL DESCRIPTION
1. SYSTEM NAME SYSTEM 2000 (TM reg.)
MRI Systems Corp.
P.O. Box 9968
Austin, TX. 78766
 2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE Yes
 - AT WHAT COST \$25,000 (minimum package)
 - b. FOR LEASE Yes
 - AT WHAT COST \$740 or \$960/mo. with option to buy (minimum package)
 3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE Yes
 - AT WHAT COST None
 - b. DATA BASES
 - c. TAKES CUSTOMER DATA BASES
 - Yes, with help from MRI and data centers
 4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION July, 1970
 - b. SIGNIFICANT INSTALLATIONS Control Data data center, St. Paul Insurance Co. (IBM version), INFONET
 5. HISTORY OF SERVICE
 - a. SERVICE INITIATION July, 1970
 - b. PRESENT USAGE Approx. 200 users.
- B. COMPUTER ENVIRONMENT
1. MAIN FRAME
 - IBM 360, 370
 - UNIVAC 1100 series
 - CDC 6000 and CYBER 70 series
 2. OPERATING SYSTEM
 - OS/VMS, MFT, TSO, VS/1
 - EXEC 8, CSTS
 - SCOPE, KRONOS
 3. SOURCE LANGUAGE FORTRAN + Assembler
 4. TERMINAL TYPES TTY 33, 35, IBM 2741, 2260
 5. TRANSMISSION RATES 10, 15, 120, 240 cps
 6. RE-ENTRANT FOR MULTIPLE USERS Only IBM version

- C. FILE DEFINITION
1. USER DEFINABLE Yes
 2. VARIABLE LENGTH TEXT Yes
 3. REPEATED FIELDS Yes
- D. FILE MAINTENANCE
1. ALLOWS ON-LINE
 - a. CREATION Yes
 - b. UPDATE Yes
 - c. DELETION Yes
 - d. EDITING Yes
 2. PREPROGRAMMED DATA VALIDATION CHECKS Yes
 3. OPTIONAL ORDERING OR ENTERED DATA Yes
 4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No
- E. QUERY
1. USER-SYSTEM INTERACTION
 - a. MULTIPLE OPTIONS AT ANY POINT No
 - b. ENGLISH-LIKE PHRASING Yes
 - c. SYSTEM-FORGED DIALOGUE No
 2. CONTENT SEARCHING
 - a. CONTROLLED VOCABULARY None
 - b. FULL TEXT INVERSION
 - c. STEMMING PERMITTED
 - d. SYNONYMS
 - e. DISPLAY OF RELATED TERMS
 - f. CHECKING TERM IN CONTROLLED VOCABULARY
- F. REPORT GENERATION
1. LANGUAGE TYPE
 - a. RANDOM No
 - b. SEQUENTIAL Yes
 - c. INDEXED SEQUENTIAL No
 2. STANDARD OUTPUT Yes
 3. SELECT AMONG OPTIONS Yes
 4. OWN CODE Yes
- G. SECURITY PROTECTION
1. TERMINAL Yes
 2. DATA DASE Yes
 3. RECORD Yes (ID: only)
 4. FIELD Yes

A. GENERAL DESCRIPTION

1. SYSTEM NAME TICON (Timeshared Information Control System)
ORIGINATOR Advanced Computer Systems, Inc.
3131 S. Dixie Dr.
Dayton, Ohio 45439
TELEPHONE 513-294-0586

2. SOFTWARE AVAILABILITY
a. FOR PURCHASE Yes
AT WHAT COST Basic system is \$50 K.
b. FOR LEASE Yes
AT WHAT COST By arrangement

3. SERVICE AVAILABILITY NA
a. SEARCH SERVICE AT WHAT COST
b. DATA BASES
c. TAKES CUSTOMER DATA BASES

4. HISTORY OF SOFTWARE
a. FIRST INSTALLATION Available and operational, but none installed yet.

b. SIGNIFICANT INSTALLATIONS
5. HISTORY OF SERVICE NA
a. SERVICE INITIATION
b. PRESENT USAGE

a. MULTIPLE OPTIONS
AT ANY POINT Yes
b. ENGLISH-LIKE PHRASING
c. SYSTEM-FORCED DIALOGUE

2. CONTENT SEARCHING
a. CONTROLLED VOCABULARY No
b. FULL TEXT INVERSION Yes
c. STEMMING PERMITTED Yes
d. SYNONYMS No
e. DISPLAY OF RELATED TERMS No
f. CHECKING TERM IN CONTROLLED VOCABULARY Yes

3. SPECIAL CAPABILITIES
a. SORTING Yes
b. SEQUENCING No
c. COUNTING Yes
d. ARITHMETIC Yes

4. TERMINAL TYPES CRT, TTY, any BTAM or GRAPHIC supported terminal.
80 cps, 10 cps

5. TRANSMISSION RATES
6. RE-ENTRANT FOR MULTIPLE USERS Yes

C. FILE DEFINITION

1. USER DEFINABLE Yes
2. VARIABLE LENGTH TEXT Yes
3. REPEATED FIELDS Yes

D. FILE MAINTENANCE
1. ALLOWS ON-LINE
a. CREATION
b. UPDATE
c. DELETION
d. EDITING

2. PREPROGRAMMED DATA
VALIDATION CHECKS
3. OPTIONAL ORDERING OF ENTERED DATA Yes

4. AUTOMATIC OR MACHINE-AIDED
CONTENT INDEXING Yes

E. QUERY

1. USER-SYSTEM INTERACTION
a. MULTIPLE OPTIONS
AT ANY POINT Yes
b. ENGLISH-LIKE PHRASING
c. SYSTEM-FORCED DIALOGUE

2. CONTENT SEARCHING
a. CONTROLLED VOCABULARY No
b. FULL TEXT INVERSION Yes
c. STEMMING PERMITTED Yes
d. SYNONYMS No
e. DISPLAY OF RELATED TERMS No
f. CHECKING TERM IN CONTROLLED VOCABULARY Yes

B. COMPUTER ENVIRONMENT

1. MAIN FRAME

IBM 360, 370

2. OPERATING SYSTEM

OS

3. SOURCE LANGUAGE

Assembler

4. TERMINAL TYPES

CRT, TTY, any BTAM or GRAPHIC

supported terminal.

5. TRANSMISSION RATES

80 cps, 10 cps

6. RE-ENTRANT FOR MULTIPLE USERS

Yes

F. REPORT GENERATION

3. SEARCH SPECIFICATION
a. MUST NAME FIELDS Yes
b. MAY LIMIT FIELDS Yes
c. BOOLEAN AND Yes
d. BOOLEAN OR Yes
e. BOOLEAN NOT Yes
f. NESTING OF BOOLEAN EXPRESSIONS Yes
g. PHRASE AND DISTANCE Yes
h. NATURAL ENGLISH Yes
i. RANGE SEARCHING Yes
j. SEARCHING WITH ARITHMETIC DATA ONLY Yes
k. DOCUMENTATION NO
l. ON-LINE No

4. TUTORIAL FEATURES
a. "HELP" COMMAND
b. DOCUMENTATION
ON-LINE No

5. SEARCH STRATEGY
Inverted file for each word, searching via indices

a. RANDOM Yes
b. SEQUENTIAL No
c. INDEXED SEQUENTIAL Yes

G. SECURITY PROTECTION

1. LANGUAGE TYPE
a. STANDARD OUTPUT Yes
b. SELECT AMONG OPTIONS Yes
c. OWN CODE Yes

2. MEDIA FLEXIBILITY
a. OFF-LINE PRINTING Yes
b. DISPLAY OF GRAPHS No
c. SPECIAL OUTPUTS No

3. SPECIAL CAPABILITIES
a. SORTING Yes
b. SEQUENCING No
c. COUNTING Yes
d. ARITHMETIC Yes

H. OTHER INFORMATION

- A. GENERAL DESCRIPTION
1. SYSTEM NAME
ORIGINATOR

UNIDATA
United Computing Systems
3130 Broadway
Kansas City, Mo. 64106
816-753-4500
 2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE Yes
 - b. AT WHAT COST By arrangement
 - c. FOR LEASE Yes
 - d. AT WHAT COST By arrangement
 3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE Yes
 - b. AT WHAT COST Variable, ave. \$25-\$35//connect hour
 4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION Fall 1969
 - b. SIGNIFICANT INSTALLATIONS Only UCS
 5. HISTORY OF SERVICE
 - a. SERVICE INITIATION Fall 1969
 - b. PRESENT USAGE Data not available
- B. COMPUTER ENVIRONMENT
1. MAIN FRAME

CDC 6000 series
 2. OPERATING SYSTEM!

MAX (in-house) or KRONOS (CDC)
 3. SOURCE LANGUAGE

FORTRAN, COMPASS
 4. TERMINAL TYPES

All low-speed terminals; remote batch CDC 200 USER terminal compatible. Also CRT devices.
 5. TRANSMISSION RATES

10-30 cps, 2400-9600 baud
 6. RE-ENTRANT FOR MULTIPLE USERS

Yes

- C. FILE DEFINITION
1. USER DEFINABLE
 - a. VARIABLE LENGTH TEXT Yes
 - b. REPEATED FIELDS Yes
 2. FILE MAINTENANCE
 - a. ALLOWS ON-LINE
 - a. CREATION Yes
 - b. UPDATE Yes
 - c. DELETION Yes
 - d. EDITING Yes
 - b. PREPROGRAMMED DATA VALIDATION CHECKS Yes
 - c. OPTIONAL ORDERING OF ENTERED DATA Yes
 - d. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Yes
 3. SEARCH STRATEGY
 - a. RANDOM Yes
 - b. SEQUENTIAL Yes
 - c. INDEXED SEQUENTIAL No
 4. REPORT GENERATION
 - a. LANGUAGE TYPE Yes
 - b. STANDARD OUTPUT Yes
 - c. SELECT AMONG OPTIONS Yes
 - d. OWN CODE Yes
 5. MEDIA FLEXIBILITY
 - a. MULTIPLE OPTIONS AT ANY POINT Yes
 - b. ENGLISH-LIKE PHRASING Yes
 - c. SYSTEM-FORCED DIALOGUE Limited
 6. SPECIAL CAPABILITIES
 - a. SORTING Yes
 - b. SEQUENCING No
 - c. COUNTING Yes
 - d. ARITHMETIC Yes
 - e. DISPLAY OF RELATED TERMS Yes
 - f. CHECKING TERM IN CONTROLLED VOCABULARY Yes
- D. SECURITY PROTECTION
1. TERMINAL
 - a. DATA BASE Yes
 - b. RECORD Yes
 - c. FIELD No
 - d. FIELD No

5. GLOSSARY OF COMMON DATA BASES

APA - American Psychological Association has created a data base containing the past four years' Psychological Abstracts.

COMPENDEX - Computerized Engineering Index, issued monthly by Engineering Index, Inc., is the computer-readable version of the printed publication, Engineering Index Monthly, which contains references spanning all engineering disciplines. These references are taken from professional and trade journals, publications of engineering organizations, papers from conferences and symposiums, books, and other documents.

CA-C - Chemical Abstracts Condensate issued by Chemical Abstracts Service is the computer searchable complement to the printed publication, Chemical Abstracts (CA), which covers the full range of chemistry, referencing 250,000 articles per year.

CA-Condensates is issued weekly; the content corresponds to an issue of CA. The tape version, CA-Condensates, precedes the corresponding printed issue of CA by several weeks due to the time required to print, bind, and distribute CA printed issues.

The abstracts in CA and CA-Condensates are grouped into five categories: Biochemistry, Organic Chemistry, Macromolecular Chemistry, Applied Chemistry and Chemical Engineering, and Physical and Analytical Chemistry. The first two groupings are published as an odd numbered issue one week, and the last three groupings are published as an even numbered issue the following week. Searches may be limited to odd or even numbered issues if desired.

CAIN - A data base distributed by the National Agricultural Library, it covers literature from all over the world concerned with agriculture in a broad sense. Ten per cent of the coverage consists of monographs; the remaining 90% consists of journal articles. The 90% comes from a review of 1,200 journals.

CT - Chemical Titles, also issued by Chemical Abstracts Service , contains journal references to approximately 4,500 articles per issue appearing in 650 important U. S. and non-U. S. chemical and engineering journals. Titles that appear in CT represent over 65% of the total abstracts that later appear in Chemical Abstracts. Chemical Titles offers journal references to articles approximately 70 days before their abstracts are published in Chemical Abstracts. In many cases titles appear in Chemical Titles before the journal containing the article is published. Thus Chemical Titles is valuable as an alerting service.

CBAC - Chemical-Biological Activities, also issued by Chemical Abstracts Services, provides up-to-date coverage of published work concerned with the interaction of organic compounds (drugs, pesticides, etc.) with biological systems.

Also covered are metabolism studies and studies of in-vitro chemical reactions of biochemical interest. Nearly 700 journals are monitored. CBAC is a consolidated source of information in the chemical-biological field, and especially appeals to scientists involved in biochemical and physiological research.

The tape version of CBAC corresponds to the Chemical-Biological Activities hard-copy version; however, tape issues are usually available two-four weeks ahead of the printed copy. Each issue contains 500-600 digests.

ENVIRON - Environmental Information Retrieval On-line is a modified version of RECON operating at Environmental Protection Agency (EPA). It services the EPA and maintains a data base of 8 separate files as follows:

- (1) Selected literature reference on noise abatement and control.
- (2) Selected literature on industrial waste.
- (3) Data and abstracts on on-going EPA contracts and grants research effort.
- (4) Data and abstracts on final reports of EPA contracts and grants research effort.
- (5) Information on oil spills.
- (6) Information on lists of potentially toxic chemicals.
- (7) Information on water quality monitoring stations and parameters.
- (8) Information on administrative records.

ERIC - Educational Resources Information Center is a nation-wide information network for acquiring, selecting, abstracting, indexing, storing, retrieving, and disseminating the most significant and timely educational research reports and projects. It is a project of the U. S. Office of Education, and produces two data bases, RIE (Research in Education) and CIJE (Current Index to Journals in Education).

IAA - See STAR

INSPEC - A data base distributed by England's Institution of Electrical Engineers, it covers the fields of physics, electrical and electronic engineering, computers, and control engineering. Seventy-five percent of the coverage comes from a review of about 2,000 journals. The other 25% are reports, monographs, patents, etc.

MARC II - is a data base containing bibliographic citations prepared by the Library of Congress.

NTIS - is a data base issued by National Technical Information Service of the U. S. Department of Commerce. It consists of unclassified government reports resulting from government-sponsored research. The reports are compiled in a publication now called Government Reports Announcements (GRA). GRA is available in machine readable form from the Department of Commerce.

The tapes contain standard bibliographic information such as author and title, as well as abstracts, descriptor terms, and information on how to order copies. The information consists mainly of science, engineering and mathematics, but also includes reports on behavioral and social sciences.

JURIS - Justice Retrieval and Inquiry System is a data base developed by the U. S. Department of Justice. It is designed to serve lawyers for the Federal government in their research process. The data base contains selected legal periodicals and reported cases, advisory opinions, supreme court briefs, solicitor general's memoranda, selected appellate briefs, selected legal memoranda, legal correspondence, legal memoranda on points of authority, agency general counsel specialized briefs and memoranda, etc.

MEDLINE - MEDLARS On-line data base is a special subset of the MEDLARS file, developed by the National Library of Medicine through their screening and analysis of the world's biomedical literature. MEDLINE covers over 1,100 biomedical journals from 1970 to present, whereas MEDLARS covers 2,400 biomedical journals from 1961 to present. The current file contains 400,000 records, and approximately 12,000 new records are added monthly.

PANDEX - The PANDEX tape contains current index to scientific and technical literatures appearing in more than 2400 journals. The bibliographic information includes the title of the articles, name(s) of the author(s), name of the journal, Coden abbreviation, issue number, page number, and subject heading taken from a PANDEX thesaurus. PANDEX is produced by CCM Information Corporation, New York.

SPIN (Searchable Physics Information Notices) - a data base distributed monthly by the American Institute of Physics, it covers over one-half of the world's physics and astronomy literature. Over 30,000 items are included every year from a journal coverage of 70 journals.

STAR - Scientific And Technical Aerospace Reports and International Aerospace Abstracts - are two data bases issued by NASA. They contain reports and journal articles that the NASA scientific and technical information program has collected. These data bases represent significant findings of Government, industrial, and academic researchers throughout the world on matters of interest to the aerospace community.

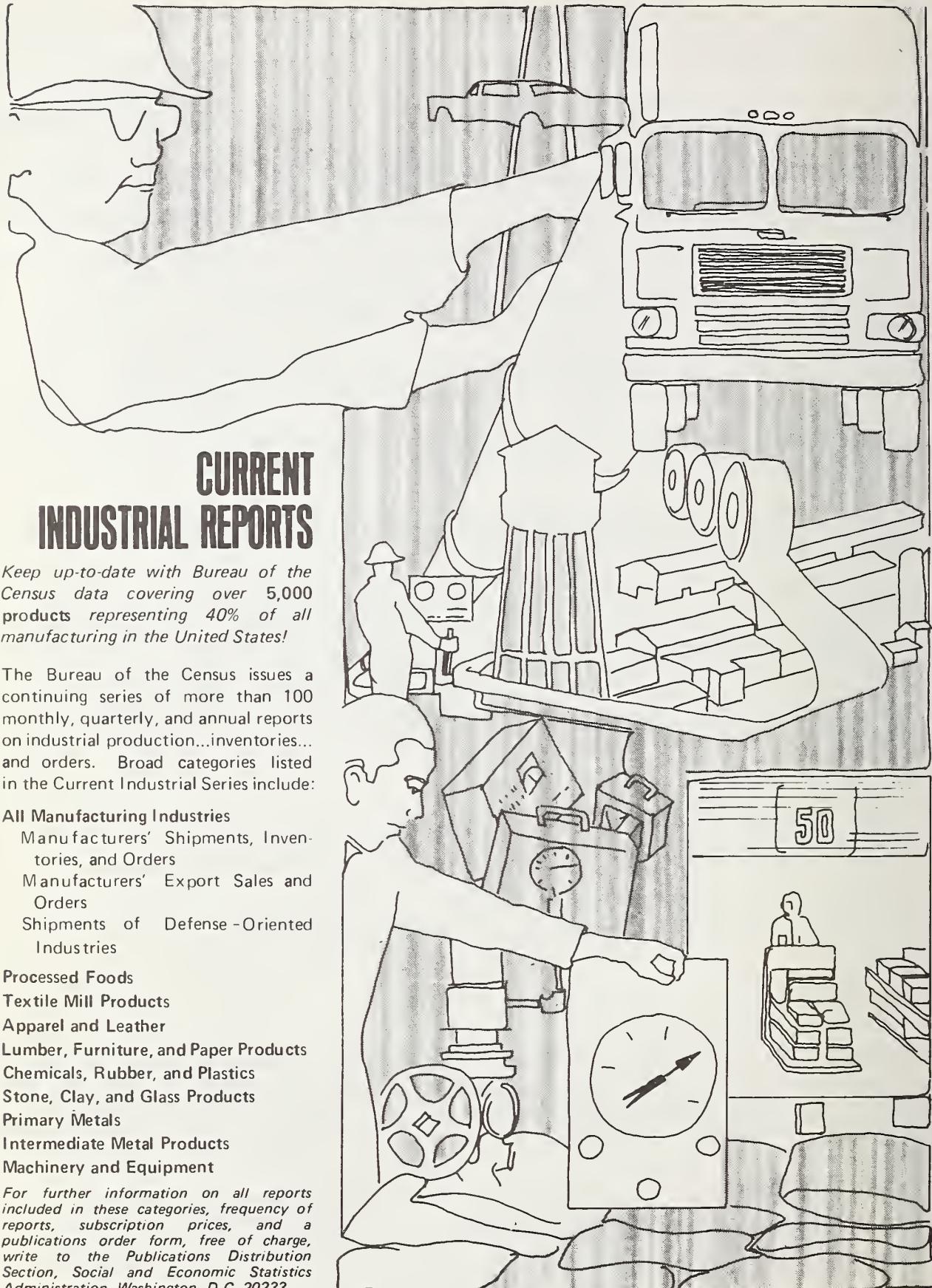
TOXICON - A data base collected by the Toxicology Information Program, National Library of Medicine of the Department of Health, Education and Welfare. It contains bibliographic citations of literature primarily in the area of toxicology, pharmacology and environmental health. The citations include all the principal components of a literature reference; namely, author, title, journal, journal coden, volume, issue, pagination and year. Most references are annotated with index terms, an abstract or both. Where possible and appropriate, Chemical Abstracts Service Registry Numbers are made part of the annotation.

6. BIBLIOGRAPHY

There have been a number of surveys and other works done in recent years which are similar in intent to ours but not identical in scope or form. A selective bibliography is now presented.

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16. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.) This report constitutes a reference to technical features and operational status of interactive information systems, i.e. those providing a 'conversational' usage mode to a 'non-programmer' through a data terminal device. It is aimed at the ADP service manager, for his use in the state-of-the-art assessments preparatory to a detailed system selection process. It contains an index that describes 46 systems in terms of a list of over 50 technical features plus descriptive, identification, and background information. In addition, there are aids and examples contributing to the intended use of the index.				
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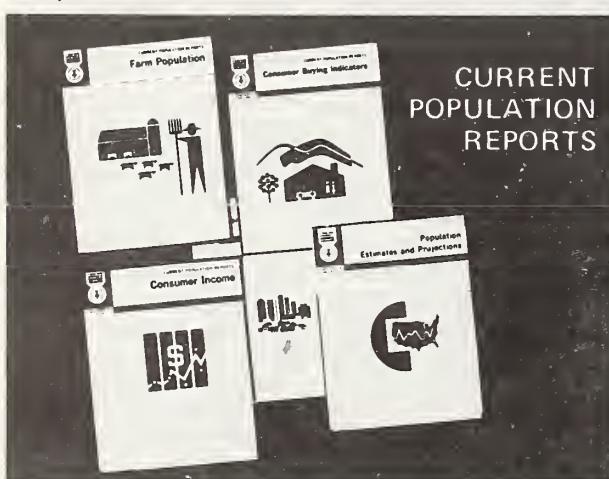
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