



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.

TABLE OF CONTENTS

1.	Introduction	1
2.	Basic Characteristics of Systems Under Study	2
3.	System Features and Evaluation Requirements	5
3.1	Questionnaire with Explanatory Notes	5
3.2	Suggested Procedure for Use	5
4.	Survey Results	14
4.1	Indexes to Systems	14
4.2	The Inventory of Systems.	17

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

5.	Glossary of Common Data Bases.	64
6.	Bibliography	68

A TECHNICAL INDEX OF INTERACTIVE INFORMATION SYSTEMS

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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".

inction 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	1. SYSTEM NAME	Additional names are given for alternative versions. System originator is developer and implementor.
ORIGINATOR TELEPHONE		
2. SOFTWARE AVAILABILITY		Filled in if the computer program package itself is offered for customer installation.
a. FOR PURCHASE AT WHAT COST		
b. FOR LEASE AT WHAT COST		
3. SERVICE AVAILABILITY		Filled in if remote service is offered.
a. SEARCH SERVICE AT WHAT COST		
b. DATA BASES		
c. TAKES CUSTOMER DATA BASES		
4. HISTORY OF SOFTWARE		Filled in where the package itself is offered.
a. FIRST INSTALLATION		
b. SIGNIFICANT INSTALLATIONS		
5. HISTORY OF SERVICE		Filled in where service is offered.
a. SERVICE INITIATION		
b. PRESENT USAGE		
B. COMPUTER ENVIRONMENT		
1. MAIN FRAME		
2. OPERATING SYSTEM		
3. SOURCE LANGUAGE		Used to implement the software.
4. TERMINAL TYPES		
5. TRANSMISSION RATES		
6. RE-ENTRANT FOR MULTIPLE USERS		Identifies systems which can serve multiple users simultaneously through re-entrant code, thus conserving storage.
C. FILE DEFINITION		
1. USER DEFINABLE		Can the remote user define and implement his own data and file structures?
2. VARIABLE LENGTH TEXT		Do individual records accommodate text of any length, or at least as much as a typical bibliographic abstract?
3. REPEATED FIELDS		Is it possible to have a variable number of identically named fields in a record, e.g., keywords or authors?
D. FILE MAINTENANCE		
1. ALLOWS ON-LINE		"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.
a. CREATION		
b. UPDATE		
c. DELETION		
d. EDITING		
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 in the file be optionally ordered with respect to pre-existing elements and records in the file?
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING		Is there a preprogrammed automatic or machine-aided process to scan raw text and develop concept-indicating keywords and phrases?

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?

b. FULL TEXT INVERSION

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", "er", "ers", etc.

d. SYNONYMS

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=Freud"?

b. MAX LIMIT FIELDS

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?

d. BOOLEAN OR

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

e. BOOLEAN NOT

f. NESTING OF BOOLEAN
EXPRESSIONS

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

9. 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?

h. NATURAL ENGLISH

Can the user phrase his search objective in natural English sentences and phrases?

i. RANGE SEARCHING

Is there a capability for specifying a range of numeric values in a search expression, e.g., "...published since 1970"?

4. TUTORIAL FEATURES

a. "HELP" COMMAND

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
ON-LINE

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:

- a. from an index,
- b. by consecutive search of each record in the file,
- c. within a group of records?

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

F. REPORT GENERATION

1. LANGUAGE TYPE

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

How are alternative output formats determined?

Can the user write a program to specify his output format?

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

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
3. RECORD
4. FIELD

Decision to investigate automated service

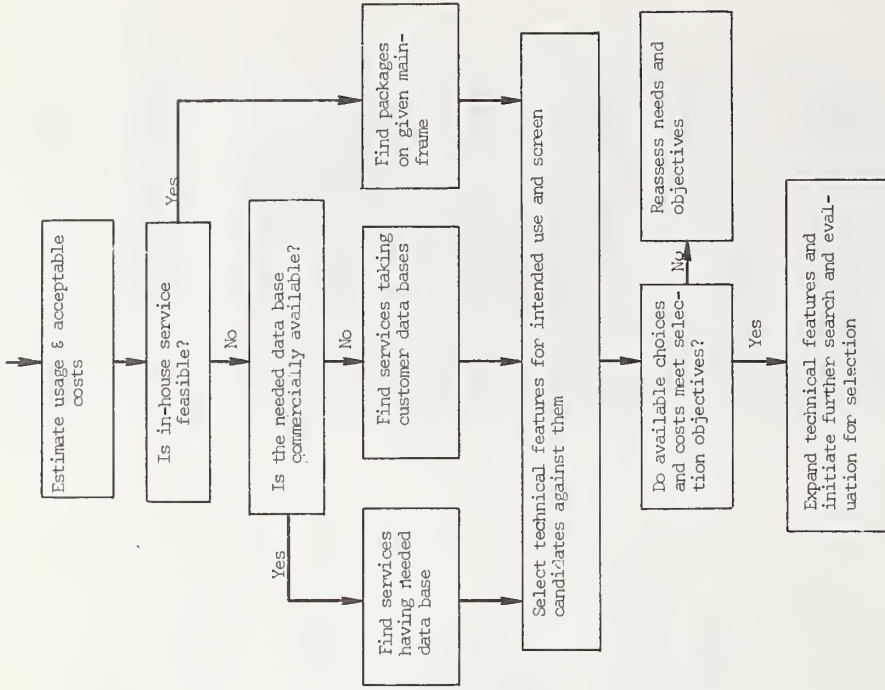


Figure 1. Flow Chart of a Suggested Usage Procedure

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

GENERAL FACTORS	SYSTEMS			
	1	2	3	4
System Name (A.1) Originator Offers required data base (A.3.b) Takes customer data base(A.3.c) Cost (A.2 or A.3.a)				
TECHNICAL FEATURES				
Essential	On-line file maintenance (D.1) Multiple option interaction (E.1.a) Full Boolean capability (E.3.c-f) Optional report format (F.1.b-c) Optional output order (F.3.a) Arithmetic (F.3.c-d)			
Desirable	Repeatable fields (C.3) English-like phrasing (E.1.b) Range searching (E.3.i) Tutorial aid (E.4.a-b) Display of graphs (F.2.b)			

Table 3. Illustrative Worksheet for Structured Text Search Application

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

Table 4. Illustrative Worksheet for Personal Text Handling Application

GENERAL FACTORS	SYSTEMS			
	1	2	3	4
System Name (A.1) Originator Offers required data base (A.3.b) Takes customer data base (A.3.c) Cost (A.2 or A.3.a)				
TECHNICAL FEATURES				
User defined files (C.1) Variable length text (C.2) On-line file maintenance (D.1) Multiple option interaction (E.1.a) English-like language (E.1.b or E.3.h) 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)				
Essential				
Optional ordering of data (D.3) Content searching aids (E.2.c-e, E.3.g)				
Desirable				

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

GENERAL FACTORS	SYSTEMS			
	1	2	3	4
System Name (A.1) Originator Offers required data base (A.3.b) Takes customer data base (A.3.c) Cost (A.2 or A.3.a)	EASIS	LEADER- PART See Section 4 for relevant data	MASTER CONTROL	ORBIT III
TECHNICAL FEATURES				
Variable length text (C.2) English like language (E.1.b or E.3.h) Content description (E.2.a and E.2.f or else E.2.b) Off-line printing (F.2.a) Counting of hits (F.3.c)	Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes	Yes Yes Yes (user supplied) Yes Yes
Optional ordering of data (D.3) Content searching aids (E.2.c-e, E.3.b, E.3.i)	Yes Yes	Yes Yes	Yes Yes	No Yes
Full Boolean capability (E.3.c-f) Tutorial aid (E.4.a-b) Optional report format (F.1.b-c) Optional output order (F.3.a-b)	Yes Yes Yes Yes	No Yes Yes Yes	Yes Little Yes Yes	Yes Yes Yes Yes
Desirable				

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	(Data/Central)																								
Category	BASIS	CMMS	CIRCOL	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS	CMMS
Formatted Data Processing	X																								
Structured Text Searching	X																								
Personal Text Handling	X																								

2. Main Frame Series

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

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	
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

4. Ownership

Public																											
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

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

C. FILE DEFINITION	Yes	3. SEARCH SPECIFICATION	Yes
1. USER DEFINABLE	Yes	a. MUST NAME FIELDS	Yes
2. VARIABLE LENGTH TEXT	Yes	b. MAY LIMIT FIELDS	Yes
3. REPEATED 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
D. FILE MAINTENANCE		4. TUTORIAL FEATURES	No, being developed.
1. ALLOWS ON-LINE		a. "HELP" COMMAND	Yes
a. CREATION	Yes	b. DOCUMENTATION ON-LINE	Yes
b. UPDATE	Yes	5. SEARCH STRATEGY	Yes
c. DELETION	Yes	a. RANDOM	No
d. EDITING	Yes	b. SEQUENTIAL	No
2. PREPROGRAMMED DATA VALIDATION CHECKS	Yes	c. INDEXED SEQUENTIAL	No
3. OPTIONAL ORDERING OF ENTERED DATA	Yes	F. REPORT GENERATION	
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	Yes	1. LANGUAGE TYPE	Yes
		a. STANDARD OUTPUT	Yes
		b. SELECT AMONG OPTIONS	Yes
		c. OWN CODE	Yes
E. QUERY		2. MEDIA FLEXIBILITY	Yes
1. USER-SYSTEM INTERACTION	Yes, prompting plus command	a. OFF-LINE PRINTING	Yes
a. MULTIPLE OPTIONS AT ANY POINT	Yes	b. DISPLAY OF GRAPHS	Plotting on microfilm
b. ENGLISH-LIKE PHRASING	No	c. SPECIAL OUTPUTS	Yes
c. SYSTEM-FORCED DIALOGUE	Yes	3. SPECIAL CAPABILITIES	Yes
2. CONTENT SEARCHING	Yes	a. SORTING	No
a. CONTROLLED VOCABULARY	Yes	b. SEQUENCING	Yes
b. FULL TEXT INVERSION	Yes	c. COUNTING	Yes
c. STEMMING PERMITTED	Yes	d. ARITHMETIC	Yes
d. SYNONYMS	Yes	G. SECURITY PROTECTION	
e. DISPLAY OF RELATED TERMS	Yes	1. TERMINAL	No
f. CHECKING TERM IN CONTROLLED VOCABULARY	Yes	2. DATA BASE	Yes
		3. RECORD	Yes
		4. FIELD	No

A. GENERAL DESCRIPTION

1. SYSTEM NAME

BASIS (Battelle Automated Search Information System)
 Battelle Memorial Institute
 505 King Ave.
 Columbus, Ohio 43201
 614-299-3151

ORIGINATOR

TELEPHONE

2. SOFTWARE AVAILABILITY

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

By special arrangement
 Approx. \$30,000
 Yes.
 \$1,500/mo.

3. SERVICE AVAILABILITY

a. SEARCH SERVICE

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 (\$0.50-0.75/min.)
 AMIC, MCIC, Copper Data, DOT-TRIS, NTIS (3 yrs.), Chemical Condensates (3 yrs.), DOD Cost Data, and 26 others.

AT WHAT COST

b. DATA BASES

c. TAKES CUSTOMER DATA BASES

Yes

4. HISTORY OF SOFTWARE

- a. FIRST INSTALLATION
- b. SIGNIFICANT INSTALLATIONS

July, 1970

Battelle, National Security Agency

5. HISTORY OF SERVICE

- a. SERVICE INITIATION
- b. PRESENT USAGE

July, 1970

Over 900 users, most at Battelle's Information Centers. Government users include EPA, DOI, DOD.

B. COMPUTER ENVIRONMENT

1. MAIN FRAME

CDC 6400, UNIVAC 1108

2. OPERATING SYSTEM

CDC SCOPE 3.2, 3.3, 3.4
 UNIVAC EXEC-8
 95% FORTRAN, 5% Assembler

3. SOURCE LANGUAGE

TTY compatible, CDC 200 series

4. TERMINAL TYPES

terminals

5. TRANSMISSION RATES

110, 150, 300, 2000, 2400, 4800 baud

6. RE-ENTRANT FOR MULTIPLE USERS

No

C. FILE DEFINITION	Yes	No	3. SEARCH SPECIFICATION	Yes	No
1. USER DEFINABLE	Yes		a. MUST NAME FIELDS	Yes	--
2. VARIABLE LENGTH TEXT	No	255 char. max.	b. MAX LIMIT FIELDS	--	
3. REPEATED FIELDS	Yes		c. BOOLEAN AND	Yes	
			d. BOOLEAN OR	Yes	
			e. BOOLEAN NOT	Yes	
			f. NESTING OF BOOLEAN EXPRESSIONS	Yes	
			g. PHRASE AND DISTANCE	No	
			h. NATURAL ENGLISH	No	
			i. RANGE SEARCHING	Yes	
D. FILE MAINTENANCE			4. TUTORIAL FEATURES	Yes	
1. ALLOWS ON-LINE	Yes		a. "HELP" COMMAND	Yes	
a. CREATION	Yes		b. DOCUMENTATION	Yes	
b. UPDATE	Yes				
c. DELETION	Yes		5. SEARCH STRATEGY	Yes	
d. EDITING	Yes		a. RANDOM	No	
2. PREPROGRAMMED DATA	Yes		b. SEQUENTIAL	No	
VALIDATION CHECKS	Yes		c. INDEXED SEQUENTIAL	No	
3. OPTIONAL ORDERING OF ENTERED DATA	Yes		F. REPORT GENERATION		
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	No		1. LANGUAGE TYPE	Yes	
			a. STANDARD OUTPUT	Yes	
E. QUERY			b. SELECT AMONG OPTIONS	Yes	
1. USER-SYSTEM INTERACTION	Yes		c. OWN CODE	Yes	
a. MULTIPLE OPTIONS AT ANY POINT	Yes		2. MEDIA FLEXIBILITY	Yes	
b. ENGLISH-LIKE PHRASING	Yes		a. OFF-LINE PRINTING	No	
c. SYSTEM-FORCED DIALOGUE	No		b. DISPLAY OF GRAPHS	No	
2. CONTENT SEARCHING	Yes, if user defined		c. SPECIAL OUTPUTS	No	
a. CONTROLLED VOCABULARY	Yes, on user designated fields		3. SPECIAL CAPABILITIES	Yes	
b. FULL TEXT INVERSION	No		a. SORTING	No	
c. STEMMING PERMITTED	No		b. SEQUENCING	Yes	
d. SYNONYMS	No		c. COUNTING	Yes	
e. DISPLAY OF RELATED TERMS	No		d. ARITHMETIC	Yes	
f. CHECKING TERM IN CONTROLLED VOCABULARY	Yes		G. SECURITY PROTECTION		
			1. TERMINAL	Yes	
			2. DATA BASE	Yes	
			3. RECORD	No	
			4. FIELD	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
Software service available (including on ARPA network) \$2,100 per month minimum
None public
Yes
- b. DATA BASES
- c. TAKES CUSTOMER DATA BASES
4. HISTORY OF SOFTWARE
a. FIRST INSTALLATION
TDMS (predecessor of CDMS) 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
- b. PRESENT USAGE
2 accounts in Washington area (ARPA network), usage unknown
- B. COMPUTER ENVIRONMENT
1. MAIN FRAME
IBM 360/50, IBM 370/145 and up
2. OPERATING SYSTEM
SDC's TS/EXEC, IBM OS/VS1
3. SOURCE LANGUAGE
JOVIAL
4. TERMINAL TYPES
IBM 2741, TTY models 33, 35
5. TRANSMISSION RATES
10, 15, 30 eps
6. RE-ENTRANT FOR MULTIPLE USERS
NO

A. GENERAL DESCRIPTION			
1. SYSTEM NAME ORIGINATOR	CIRCOL, Foreign Technology Division Air Force Systems Command Wright-Patterson Air Force Base, Ohio 45433 513-257-2603		
TELEPHONE			
2. SOFTWARE AVAILABILITY			
a. FOR PURCHASE AT WHAT COST	NA		
b. FOR LEASE AT WHAT COST			
3. SERVICE AVAILABILITY			
a. SEARCH SERVICE AT WHAT COST	Yes, to government agencies. By arrangement.		
b. DATA BASES	Foreign scientific and technical documents.		
c. TAKES CUSTOMER DATA BASES	No		
4. HISTORY OF SOFTWARE			
a. FIRST INSTALLATION	NA		
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	No		
a. CREATION	No		
b. UPDATE	No		
c. DELETION	No		
d. FITTING	No		
2. PREPROGRAMMED DATA VALIDATION CHECKS	Yes		
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		
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		
C. 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		
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	No		
c. COUNTING	Yes		
d. ARITHMETIC	Yes		
G. SECURITY PROTECTION			
1. TERMINAL	Yes		
2. DATA BASE	No		
3. RECORD	No		
4. FIELD	No		

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR (Data/Central) Mead Technology Laboratories Research Park Dayton, Ohio 45432 (513) 426-3111	1. USER DEFINABLE 2. VARIABLE LENGTH TEXT 3. REPEATED FIELDS	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 a. FOR PURCHASE b. AT WHAT COST c. FOR LEASE d. AT WHAT COST	D. FILE MAINTENANCE 1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	Yes No No Yes Yes Yes Yes Yes No Yes
3. SERVICE AVAILABILITY a. SEARCH SERVICE b. AT WHAT COST c. DATA BASES	2. PREPROGRAMMED DATA VALIDATION CHECKS	tutorials. Yes No Yes
4. TAKES CUSTOMER DATA BASES	3. OPTIONAL ORDERING OF ENTERED DATA	4. TUTORIAL FEATURES a. "HELP" COMMAND b. DOCUMENTATION ON-LINE
5. HISTORY OF SOFTWARE a. FIRST INSTALLATION 1968 b. SIGNIFICANT INSTALLATIONS	4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	5. SEARCH STRATEGY a. RANDOM b. SEQUENTIAL c. INDEXED SEQUENTIAL
6. HISTORY OF SERVICE a. SERVICE INITIATION 1969 b. PRESENT USAGE	E. QUERY 1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS b. AT ANY POINT c. ENGLISH-LIKE PHRASING d. SYSTEM-FORCED DIALOGUE	F. REPORT GENERATION 1. LANGUAGE TYPE a. STANDARD OUTPUT b. SELECT AMONG OPTIONS c. OWN CODE
7. COMPUTER ENVIRONMENT a. MAIN FRAME b. OPERATING SYSTEM c. SOURCE LANGUAGE d. TERMINAL TYPES e. TRANSMISSION RATES f. RE-ENTRANT FOR MULTIPLE USERS	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	2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS Color CRT, photocomposition
IBM 360/40 and up		3. SPECIAL CAPABILITIES a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC
DOS or OS		C. SECURITY PROTECTION 1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD
Assembly, COBOL, FORTRAN		No Yes Yes No
CRT, TTY, all IBM hard copy		
10, 30, 120 cps		
Yes		

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	G. SECURITY PROTECTION	3. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR	1. USER DEFINABLE	1. ALLOWS ON-LINE	1. USER-SYSTEM INTERACTION	1. LANGUAGE TYPE	1. TERMINAL	a. MUST NAME FIELDS
Lockheed Research Lab. 3251 Hanover Palo Alto, Calif. 94304 Dr. Roger Summit 415-493-4411	2. VARIABLE LENGTH TEXT	a. CREATION	a. MULTIPLE OPTIONS	a. STANDARD OUTPUT	2. DATA BASE	b. MAY LIMIT FIELDS
Yes, by Govt. agencies Negotiable	3. REPEATED FIELDS	b. UPDATE	b. ENGLISH-LIKE	b. SELECT AMONG OPTIONS	3. RECORD	c. BOOLEAN AND
Yes, on installation and maintenance basis. Negotiable		c. DELETION	c. SYSTEM-FORCED	c. OWN CODE	4. FIELD	d. BOOLEAN OR
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, COMPENDEX, INSPEC, and others.		d. EDITING				e. BOOLEAN NOT
Yes						f. NESTING OF BOOLEAN
1968 at Lockheed, serving NASA--early version of RECON.						g. PHRASE AND DISTANCE
Lockheed, AEC (Oak Ridge), NASA, European Space Research Organization						h. NATURAL ENGLISH
1971 (ERIC), 1972 (NTIS) Nat. Institute of Education, Dept. of Commerce (NTIS), state, local and education agencies; and commercial users. (More than 1,500 searches, totally, per month)						i. RANGE SEARCHING
IBM 360/370. OS/MVT						
Assembler						
ASCII compatible, IBM 2260, CC 30						
10-480 cps						
Yes						
2. SOFTWARE AVAILABILITY						
a. FOR PURCHASE						
AT WHAT COST						
b. FOR LEASE						
AT WHAT COST						
3. SERVICE AVAILABILITY						
a. SEARCH SERVICE						
2. PREPROGRAMMED DATA VALIDATION CHECKS						
3. OPTIONAL ORDERING OF ENTERED DATA						
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING						
5. SEARCH STRATEGY						
a. RANDOM						
b. SEQUENTIAL						
c. INDEXED SEQUENTIAL						
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						
1. DISPLAY OF RELATED TERMS						
2. CHECKING TERM IN CON- TROLLED VOCABULARY						
3. SAVE feature stores pre-selected terms						
4. NO, but SEARCH STORES pre-selected terms						
5. HISTORY OF SERVICE						
a. SERVICE INITIATION						
b. PRESENT USAGE						
6. COMPUTER ENVIRONMENT						
1. MAIN FRAME						
2. OPERATING SYSTEM						
3. SOURCE LANGUAGE						
4. TERMINAL TYPES						
5. TRANSMISSION RATES						
6. RE-ENTRANT FOR MULTIPLE USERS						

A. GENERAL DESCRIPTION	C. FILE DEFINITION	1. USER DEFINABLE	2. VARIABLE LENGTH TEXT	3. REPEATED FIELDS	D. FILE MAINTENANCE	1. ALLOWS ON-LINE	2. PREPROGRAMMED DATA	3. OPTIONAL ORDERING OF	4. AUTOMATIC OR	E. QUERY	1. USER-SYSTEM INTERACTION	2. CONTENT SEARCHING	3. SECURITY PROTECTION
1. SYSTEM NAME ORIGINATOR	Yes	Yes	Yes	No	a. CREATION	Yes	VALIDATION CHECKS	ENTERED DATA	MACHINE-AIDED CONTENT INDEXING	1. USER-SYSTEM INTERACTION	a. CONTROLLED VOCABULARY	1. TERMINAL	
TELEPHONE	Yes	Yes	No	No	b. UPDATE	Yes				a. MULTIPLE OPTIONS	b. FULL TEXT INVERSION	2. DATA BASE	
2. SOFTWARE AVAILABILITY	Yes	Yes	No	No	c. DELETION	Yes				b. ENGLISH-LIKE PHRASING	c. SYSTEM-FORCED DIALOGUE	3. RECORD	
a. FOR PURCHASE AT WHAT COST	Yes	Yes	No	No	d. EDITING	Yes				c. SYSTEM-FORCED DIALOGUE		4. FIELD	
b. FOR LEASE AT WHAT COST	No	No	No	No									
3. SERVICE AVAILABILITY	Yes	No	No	No									
a. SEARCH SERVICE AT WHAT COST	Yes	No	No	No									
b. DATA BASES	Yes	No	No	No									
c. TAKES CUSTOMER DATA BASES	Yes	No	No	No									
4. HISTORY OF SOFTWARE	Yes	No	No	No									
a. FIRST INSTALLATION	Yes	No	No	No									
b. SIGNIFICANT INSTALLATIONS	Yes	No	No	No									
5. HISTORY OF SERVICE	Yes	No	No	No									
a. SERVICE INITIATION	Yes	No	No	No									
b. PRESENT USAGE	Yes	No	No	No									
B. COMPUTER ENVIRONMENT	Yes	No	No	No									
1. MAIN FRAME	Yes	No	No	No									
2. OPERATING SYSTEM	Yes	No	No	No									
3. SOURCE LANGUAGE	Yes	No	No	No									
4. TERMINAL TYPES	Yes	No	No	No									
5. TRANSMISSION RATES	Yes	No	No	No									
6. RE-ENTRANT FOR MULTIPLE USERS	Yes	No	No	No									

A. GENERAL DESCRIPTION	B. COMPUTER ENVIRONMENT	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	G. SECURITY PROTECTION	H. SEARCH SPECIFICATION
<p>1. SYSTEM NAME ORIGINATOR</p> <p>DML Computer Sciences Corp. Information Network Div. 650 N. Sepulveda Blvd. El Segundo, Ca. 90245 213-678-0311</p> <p>TELEPHONE</p>	<p>1. MAIN FRAME</p> <p>Univac 1108</p>	<p>1. USER DEFINABLE</p> <p>Yes</p>	<p>1. ALLOWS ON-LINE</p> <p>a. CREATION Yes b. UPDATE Yes c. DELETION Yes d. EDITING Yes</p>	<p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS Yes b. ENGLISH-LIKE Yes c. SYSTEM-FORCED No d. DIALOGUE</p>	<p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT Yes b. SELECT AMONG OPTIONS No c. OWN CODE Yes</p>	<p>1. TERMINAL</p> <p>Yes, through operating system</p>	<p>a. MUST NAME FIELDS Yes b. MAY LIMIT FIELDS Yes c. BOOLEAN AND arithmetic comparisons Yes d. BOOLEAN OR No e. NESTING OF BOOLEAN EXPRESSIONS Yes f. PHRASE AND DISTANCE SEARCHING No g. NATURAL ENGLISH No h. RANGE SEARCHING Yes</p>
<p>2. SOFTWARE AVAILABILITY</p> <p>NA</p> <p>a. FOR PURCHASE AT WHAT COST</p> <p>b. FOR LEASE AT WHAT COST</p>	<p>2. OPERATING SYSTEM</p> <p>CSTS</p>	<p>2. VARIABLE LENGTH TEXT</p> <p>No, 128 char/field max.</p>	<p>2. PREPROGRAMMED DATA</p> <p>VALIDATION CHECKS</p>	<p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY b. FULL TEXT INVERSION c. STEMMING PERMITTED d. SYNONYMS e. DISPLAY OF RELATED TERMS f. CHECKING TERM IN CONTROLLED VOCABULARY</p>	<p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING Yes b. DISPLAY OF GRAPHS No c. SPECIAL OUTPUTS No</p>	<p>2. DATA BASE</p> <p>Yes</p>	
<p>3. SERVICE AVAILABILITY</p> <p>a. SEARCH SERVICE</p> <p>AT WHAT COST</p> <p>b. DATA BASES</p> <p>c. TAKES CUSTOMER DATA BASES</p>	<p>3. SOURCE LANGUAGE</p> <p>Assembler</p>	<p>3. REPEATED FIELDS</p> <p>Yes</p>	<p>3. OPTIONAL ORDERING OF ENTERED DATA</p> <p>Yes</p>	<p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING Yes b. SEQUENCING Yes c. COUNTING Yes d. ARITHMETIC Yes</p>	<p>3. SECURITY PROTECTION</p> <p>1. TERMINAL Yes, through operating system 2. DATA BASE Yes 3. RECORD No 4. FIELD No</p>	<p>3. RECORD</p> <p>No</p>	
<p>4. HISTORY OF SOFTWARE</p> <p>a. FIRST INSTALLATION</p> <p>b. SIGNIFICANT INSTALLATIONS</p>	<p>4. TERMINAL TYPES</p> <p>TTY models 33, 35, 37; IBM 2741; CRT devices.</p>	<p>4. FILE MAINTENANCE</p> <p>1. ALLOWS ON-LINE</p> <p>a. CREATION Yes b. UPDATE Yes c. DELETION Yes d. EDITING Yes</p>	<p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING</p> <p>Yes</p>	<p>4. HISTORY OF SERVICE</p> <p>a. SERVICE INITIATION March 1972 b. PRESENT USAGE Approx. 30 Government and commercial users.</p>	<p>4. TUTORIAL FEATURES</p> <p>a. "HELP" COMMAND No b. DOCUMENTATION ON-LINE No</p>	<p>4. FIELD</p> <p>No</p>	

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR DRS (Data Retrieval System) A.R.A.P., Inc. 50 Washington Rd. Princeton, N.J. 08540 609-452-2950	1. USDR DEFINABLE Yes	a. MUST NAME FIELDS Yes
TELEPHONE	2. VARIABLE LENGTH TEXT No, 1000 char./field limit	b. MAY LIMIT FIELDS Yes
2. SOFTWARE AVAILABILITY	3. REPEATED FIELD No	c. BOOLEAN AND Yes
a. FOR PURCHASE \$2300 (8K IBM 1130 version), \$2800 (16K IBM 1130 version), \$9500 base for IBM 360/370 version.	D. FILE MAINTENANCE	d. BOOLEAN OR Yes
b. FOR LEASE \$115-140/mo. (2 Yr. payout for IBM 1130 versions.)	1. ALLOWS ON-LINE No	e. TESTING OF BOOLEAN EXPRESSIONS Yes
3. SERVICE AVAILABILITY	a. CREATION Yes	9. PHRASE AND DISTANCE SEARCHING Yes, phrases only in one field
a. SEARCH SERVICE By arrangement	b. UPDATE Yes	4. TUTORIAL FEATURES a. "HELP" COMMAND b. DOCUMENTATION ON-LINE None
b. DATA BASES None of wide interest.	c. DELETION No	5. SEARCH STRATEGY a. RANDOM No
c. TAKES CUSTOMER DATA BASES Yes	d. EDITING No	b. SEQUENTIAL Yes
4. HISTORY OF SOFTWARE a. FIRST INSTALLATION 1970 (IBM 1130), 1973 (IBM 370)	2. PREPROGRAMMED DATA VALIDATION CHECKS Yes	c. INDEXED SEQUENTIAL No
b. SIGNIFICANT INSTALLATIONS Over 40 installations of IBM 1130 version.	3. OPTIONAL ORDERING OF ENTERED DATA Yes	F. REPORT GENERATION
5. HISTORY OF SERVICE a. SERVICE INITIATION NA	4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No	1. LANGUAGE TYPE a. STANDARD OUTPUT No
b. PRESENT USAGE About 12 users	E. QUERY	b. SELECT AMONG OPTIONS Yes
B. COMPUTER ENVIRONMENT	1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS Yes	c. OVR CODE Yes
1. MAIN FRAME IBM 1130, IBM 360/370	2. CONTENT SEARCHING	2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING Yes
2. OPERATING SYSTEM OS/1130 version 2, OS/360,370	a. CONTROLLED VOCABULARY keyword field defined for a file No	b. DISPLAY OF GRAPHS No
3. SOURCE LANGUAGE FORTRAN	b. FULL TEXT INVERSION No	c. SPECIAL OUTPUTS Yes, mag tape and hard copy
4. TERMINAL TYPES IBM 2741, 1050, ASR-33 TTY (with adaptor)	c. STEERING PERMITTED No	3. SPECIAL CAPABILITIES a. SORTING Yes
5. TRANSMISSION RATES 10-120 cps	d. SYNONYMS No	b. SEQUENCING Yes
6. RE-ENTRANT FOR MULTIPLE USERS No	e. DISPLAY OF RELATED TERMS No	c. COUNTING Yes
	f. CHECKING TERM* IN CON- TROLLED VOCABULARY No	d. ARITHMETIC Yes
		C. SECURITY PROTECTION
		1. TERMINAL Yes
		2. DATA BASE Yes
		3. RECORD Yes
		4. FIELD Yes

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	3. SEARCH SPECIFICATION	G. SECURITY PROTECTION
<p>1. SYSTEM NAME: DS/3</p> <p>ORIGINATOR: System Development Corp. 2500 Colorado Ave Santa Monica, Calif. 90406</p> <p>TELEPHONE: 213-343-9411</p>	<p>1. USER DEFINABLE Yes</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS Yes</p>	<p>1. ALLOWS ON-LINE No</p> <p>a. CREATION Yes</p> <p>b. UPDATE No</p> <p>c. DELETION No</p> <p>d. EDITING No</p>	<p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS AT ANY POINT Yes</p> <p>b. ENGLISH-LIKE PHRASING Yes</p> <p>c. SYSTEM-FORCED DIALOGUE No</p>	<p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT Yes, 3 kinds</p> <p>b. SELECT AMONG OPTIONS Yes</p> <p>c. OUR CODE Yes</p>	<p>a. MUST HAVE FIELDS Yes</p> <p>b. MAY HAVE FIELDS Yes</p> <p>c. BOOLEAN AND Yes</p> <p>d. BOOLEAN OR Yes</p> <p>e. BOOLEAN NOT No</p> <p>f. TESTING OF BOOLEAN EXPRESSIONS Yes</p> <p>g. PHRASE AND DISTANCE SPACING No</p> <p>h. NATURAL ENGLISH No</p> <p>i. RANGE SEARCHING Yes</p>	<p>1. TERMINAL Yes</p> <p>2. DATA BASE Yes</p> <p>3. RECORD No</p> <p>4. FILED Yes</p>
<p>2. SOFTWARE AVAILABILITY</p> <p>a. FOR PURCHASE Terminal version-\$35,000. Batch/TSO version-\$30,000 Yes</p> <p>b. FOR LEASE Terminal version-\$1000/mo. Patch/TSO version-\$900/mo.</p>	<p>2. REPEATED FIELDS Yes</p>	<p>2. VALIDATION CHECKS No</p>	<p>2. CONTEXT SEARCHING</p> <p>a. CONTROLLED VOCABULARY None</p> <p>b. FULL TEXT INPUT No</p> <p>c. SPELLING PERMITTED No</p> <p>d. SYNONYMS No</p> <p>e. DISPLAY OF RELATED TERMS No</p> <p>f. CHECKING TERMS IN CONTROLLED VOCABULARY No</p>	<p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING Yes</p> <p>b. DISPLAY OF GRAPHS Yes</p> <p>c. SPECIAL OUTPUTS Yes</p>	<p>9. PHRASE AND DISTANCE SPACING No</p> <p>h. NATURAL ENGLISH No</p> <p>i. RANGE SEARCHING Yes</p>	
<p>3. SERVICE AVAILABILITY</p> <p>a. SEARCH SERVICE Run on SDC's 370/158</p> <p>b. DATA BASES Prices available on request. None</p> <p>c. TAKES CUSTOMER DATA BASES Uses customer-supplied data bases only.</p>	<p>3. OPTIONAL ORDERING OF ENTRIES No</p>	<p>3. OPTIONAL ORDERING OF ENTRIES No</p>	<p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No</p>	<p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING Yes</p> <p>b. SPOUTING Yes</p> <p>c. COUNTING Yes</p> <p>d. ARITHMETIC Yes</p>	<p>4. TUTORIAL FEATURES Yes (EXPLAIN)</p> <p>a. "HELP" COMMAND No</p> <p>b. DOCUMENTATION No</p>	
<p>4. HISTORY OF SOFTWARE</p> <p>a. FIRST INSTALLATION April 1960</p> <p>b. SIGNIFICANT INSTALLATIONS Dept. of Health, Education & Welfare, Coast Community College District, Los Angeles Police Dept.</p>	<p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No</p>	<p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No</p>	<p>E. QUERY</p>	<p>F. REPORT GENERATION</p>	<p>5. SEARCH STATISTICS</p> <p>a. RANDOM No</p> <p>b. SEQUENTIAL Yes</p> <p>c. INDEXED SEQUENTIAL Yes</p>	
<p>5. HISTORY OF SERVICE</p> <p>a. SERVICE INITIATION May, 1973</p> <p>b. PRESENT USAGE Under service agreements: National Commission on the Financing of Post Secondary Education, UCLA Vocational Education</p>	<p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS AT ANY POINT Yes</p> <p>b. ENGLISH-LIKE PHRASING Yes</p> <p>c. SYSTEM-FORCED DIALOGUE No</p>	<p>2. VALIDATION CHECKS No</p>	<p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS AT ANY POINT Yes</p> <p>b. ENGLISH-LIKE PHRASING Yes</p> <p>c. SYSTEM-FORCED DIALOGUE No</p>	<p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT Yes, 3 kinds</p> <p>b. SELECT AMONG OPTIONS Yes</p> <p>c. OUR CODE Yes</p>	<p>4. TUTORIAL FEATURES Yes (EXPLAIN)</p> <p>a. "HELP" COMMAND No</p> <p>b. DOCUMENTATION No</p>	
<p>B. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME IBM 360, model 40 and up, 370/145 and up</p> <p>2. OPERATING SYSTEM OS</p> <p>3. SOURCE LANGUAGE BAL and FORTRAN</p> <p>4. TERMINAL TYPES TTY model 33, IBM 2741 or compatible devices; TSO version-whatever devices TSO supports.</p> <p>5. TRANSMISSION RATES 10, 120, 240, 300 cps</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS Yes</p>	<p>2. CONTEXT SEARCHING</p> <p>a. CONTROLLED VOCABULARY None</p> <p>b. FULL TEXT INPUT No</p> <p>c. SPELLING PERMITTED No</p> <p>d. SYNONYMS No</p> <p>e. DISPLAY OF RELATED TERMS No</p> <p>f. CHECKING TERMS IN CONTROLLED VOCABULARY No</p>	<p>2. VALIDATION CHECKS No</p>	<p>2. CONTEXT SEARCHING</p> <p>a. CONTROLLED VOCABULARY None</p> <p>b. FULL TEXT INPUT No</p> <p>c. SPELLING PERMITTED No</p> <p>d. SYNONYMS No</p> <p>e. DISPLAY OF RELATED TERMS No</p> <p>f. CHECKING TERMS IN CONTROLLED VOCABULARY No</p>	<p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING Yes</p> <p>b. DISPLAY OF GRAPHS Yes</p> <p>c. SPECIAL OUTPUTS Yes</p>	<p>5. SEARCH STATISTICS</p> <p>a. RANDOM No</p> <p>b. SEQUENTIAL Yes</p> <p>c. INDEXED SEQUENTIAL Yes</p>	

A. GENERAL DESCRIPTION	C. FILE DEFINITION	Yes	3. SEARCH SPECIFICATION	No
1. SYSTEM NAME ORIGINATOR	1. USER DEFINABLE	Yes	a. MUST NAME FIELDS	No
EMISARI Mathematics and Computation Laboratory Office of Emergency Preparedness 7706 Old Springhouse Rd. McLean, Va. 22101 703-893-7710	2. VARIABLE LENGTH TEXT	Yes	b. MAY LIMIT FIELDS	Yes
2. SOFTWARE AVAILABILITY	3. REPEATED FIELDS	No	c. BOOLEAN AND	Yes
Source free to government users; compiler is proprietary (see B.3)	D. FILE MAINTENANCE		d. BOOLEAN OR	Yes
a. FOR PURCHASE AT WHAT COST	1. ALLOWS ON-LINE:	Yes	e. BOOLEAN NOT	Yes
b. FOR LEASE AT WHAT COST	a. CREATION	Yes	f. NESTING OF BOOLEAN EXPRESSIONS	Yes
3. SERVICE AVAILABILITY	b. UPDATE	Yes	g. PHRASE AND DISTANCE	Yes
a. SEARCH SERVICE	c. DELETION	Yes	h. NATURAL ENGLISH	Yes, for phrases.
b. AT WHAT COST	d. EDITING	Yes	i. RANGE SEARCHING	No
c. TAKES CUSTOMER DATA BASES	2. PREPROGRAMMED DATA VALIDATION CHECKS	Yes	4. TUTORIAL FEATURES	Yes
4. HISTORY OF SOFTWARE INSTALLATIONS	3. OPTIONAL ORDERING OF ENTERED DATA	No	a. "HELP" COMMAND	Yes
a. FIRST INSTALLATION b. SIGNIFICANT INSTALLATIONS	4. AUTOMATIC OR "MACHINE-AIDED" CONTENT INDEXING	No	b. DOCUMENTATION ON-LINE	Yes
Internal Revenue Service, Office of Emergency Preparedness	5. QUERY		5. SEARCH STRATEGY	Yes
5. HISTORY OF SERVICE a. SERVICE INITIATION b. PRESENT USAGE	1. USER-SYSTEM INTERACTION:	Yes	a. RANDOM	Yes
NA	a. "MULTIPLE OPTIONS AT ANY POINT	Yes	b. SEQUENTIAL	Yes
6. COMPUTER ENVIRONMENT	b. ENGLISH-LIKE PHRASING	No	c. INDEXED SEQUENTIAL	No
UNIVAC 1108	c. SYSTEM-FORCED DIALOGUE	No	F. REPORT GENERATION	
EXFC 8	2. CONTENT SEARCHING		1. LANGUAGE TYPE	Yes
REASIC (proprietary compiler; vendor- Language and System Development, Silver Spring, Md.)	a. CONTROLLED VOCABULARY	Yes	a. STANDARD OUTPUT	Yes
ASCII compatible	b. FULL TEXT INVERSION	No	b. SELECT AMONG OPTIONS	No
10 or 30 cps	c. STEMMING PERMITTED	No	c. OWN CODE	No
Yes	d. SYNONYMS	No	2. MEDIA FLEXIBILITY	No
	e. DISPLAY OF RELATED TERMS	No	a. OFF-LINE PRINTING	No
	f. CHECKING TERM IN CON- TROLLED VOCABULARY	Yes	b. DISPLAY OF GRAPHS	No
			c. SPECIAL OUTPUTS	No
			3. SPECIAL CAPABILITIES	No
			a. SORTING	No
			b. SPONDING	No
			c. COUNTING	Yes
			d. ARITHMETIC	Yes
			C. SECURITY PROTECTION	
			1. TERMINAL	Yes
			2. DATA BASE	Yes, on text blocks
			3. RECORD	No
			4. FIELD	No

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	G. SECURITY PROTECTION	Yes	No
1. SYSTEM NAME ENFORM Engineering Numerics Corp. 8585 N. Stemmons Fwy. Dallas, Tx. 75247	1. USER DEFINABLE Yes	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING No on-line capability	1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS b. AT ANY POINT c. ENGLISH-LIKE PHRASING d. SYSTEM-FORCED DIALOGUE No	1. LANGUAGE TYPE a. STANDARD OUTPUT b. SELECT AMONG OPTIONS c. OWN CODE Yes	1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD Yes (through dictionary)	Yes	Yes
TELEPHONE 214-630-0640	2. VARIABLE LENGTH TEXT Yes	2. PREPROGRAMMED DATA VALIDATION CHECKS Yes	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	2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS None		Yes	Yes
2. SOFTWARE AVAILABILITY a. FOR PURCHASE Minimum software \$25,000 b. FOR LEASE Two-year lease, approx. \$1250/mo.	3. REPEATED FIELDS Yes	3. OPTIONAL ORDERING OF ENTERED DATA No		3. SPECIAL CAPABILITIES a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC None		Yes	Yes
3. SERVICE AVAILABILITY a. SEARCH SERVICE AT WHAT COST b. DATA BASES c. TAKES CUSTOMER DATA BASES		4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No				Yes	Yes
4. HISTORY OF SOFTWARE a. FIRST INSTALLATION About 1968 b. SIGNIFICANT INSTALLATIONS						Yes	Yes
5. HISTORY OF SERVICE a. SERVICE INITIATION b. PRESENT USAGE						Yes	Yes
B. COMPUTER ENVIRONMENT						Yes	Yes
1. MAIN FRAME CDC 6000 series						Yes	Yes
2. OPERATING SYSTEM SCOPE or KRONOS						Yes	Yes
3. SOURCE LANGUAGE FORTRAN, COBOL						Yes	Yes
4. TERMINAL TYPES CDC 200 terminal, TTY-compatible						Yes	Yes
5. TRANSMISSION RATES 10 eps to 2400 baud						Yes	Yes
6. RE-ENTRANT FOR MULTIPLE USERS No						Yes	Yes

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	E. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR	1. USER DEFINABLE	1. USER DEFINABLE	1. MUST NAME FIELDS
2. SOFTWARE AVAILABILITY NA	2. VARIABLE LENGTH TEXT	2. VARIABLE LENGTH TEXT	2. MAY LIMIT FIELDS
3. SERVICE AVAILABILITY	3. REPEATED FIELDS	3. REPEATED FIELDS	3. BOOLEAN AND
4. HISTORY OF SOFTWARE	4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	4. BOOLEAN OR
5. HISTORY OF SERVICE	5. OPTIONAL ORDERING OF ENTERED DATA	5. OPTIONAL ORDERING OF ENTERED DATA	5. BOOLEAN NOT
6. COMPUTER ENVIRONMENT	6. QUERY	6. QUERY	6. NESTING OF BOOLEAN EXPRESSIONS
1. MAIN FRAME	1. USER-SYSTEM INTERACTION	1. USER-SYSTEM INTERACTION	7. PHRASE AND DISTANCE
2. OPERATING SYSTEM	2. CONTROLLED VOCABULARY	2. CONTROLLED VOCABULARY	8. SEARCHING
3. SOURCE LANGUAGE	3. FULL TEXT INVERSION	3. FULL TEXT INVERSION	9. NATURAL ENGLISH
4. TERMINAL TYPES	4. STEMMING PERMITTED	4. STEMMING PERMITTED	10. RANGE SEARCHING
5. TRANSMISSION RATES	5. DISPLAY OF RELATED TERMS	5. DISPLAY OF RELATED TERMS	11. TUTORIAL FEATURES
6. RE-ENTRANT FOR MULTIPLE USERS	6. CHECKING TERM IN CONTROLLED VOCABULARY	6. CHECKING TERM IN CONTROLLED VOCABULARY	12. "HELP" COMMAND
			13. DOCUMENTATION ON-LINE
			14. SEARCH STRATEGY
			15. RANDOM
			16. SEQUENTIAL
			17. INDEXED SEQUENTIAL
			18. REPORT GENERATION
			19. LANGUAGE TYPE
			20. STANDARD OUTPUT
			21. SELECT AMONG
			22. OPTIONS
			23. OWN CODE
			24. MEDIA FLEXIBILITY
			25. OFF-LINE PRINTING
			26. DISPLAY OF GRAPHS
			27. SPECIAL CAPABILITIES
			28. SORTING
			29. SEQUENCING
			30. COUNTING
			31. ARITHMETIC
			32. SECURITY PROTECTION
			33. TERMINAL
			34. DATA BASE
			35. RECORD
			36. FIELD

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME ORIGINATOR</p> <p>TRW Systems Group 7600 Colshire Dr. McLean, Va. 22101</p> <p>TELEPHONE</p> <p>703-893-2000</p>	<p>1. USER DEFINABLE</p> <p>Yes</p>	<p>a. MUST NAME FIELDS</p> <p>Yes</p>
<p>2. SOFTWARE AVAILABILITY</p> <p>a. FOR PURCHASE</p> <p>AT WHAT COST</p> <p>b. FOR LEASE</p> <p>AT WHAT COST</p> <p>Initial installation price \$12,500; monthly lease price \$1,750 to commercial users. Available to Government agencies by contract.</p>	<p>2. VARIABLE LENGTH TEXT</p> <p>No, approx. 600 char/field max. Longer text handled indirectly.</p>	<p>b. MAY LIMIT FIELDS</p> <p>Yes</p> <p>c. BOOLEAN AND</p> <p>Yes</p> <p>d. BOOLEAN OR</p> <p>Yes</p> <p>e. BOOLEAN NOT</p> <p>Yes</p> <p>f. NESTING OF BOOLEAN EXPRESSIONS</p> <p>Yes</p> <p>g. PHRASE AND DISTANCE</p> <p>SEARCHING</p> <p>No</p> <p>h. NATURAL ENGLISH</p> <p>No</p> <p>i. RANGE SEARCHING</p> <p>Yes</p>
<p>3. SERVICE AVAILABILITY</p> <p>a. SEARCH SERVICE</p> <p>Planned for Sept., 1973 under Computer Sciences Corp. INFONET time-sharing service.</p> <p>AT WHAT COST</p> <p>b. DATA BASES</p> <p>c. TAKES CUSTOMER DATA BASES</p>	<p>3. REPEATED FIELDS</p> <p>Yes</p>	<p>4. TUTORIAL FEATURES</p> <p>a. "HELP" COMMAND</p> <p>No</p> <p>b. DOCUMENTATION</p> <p>ON-LINE</p> <p>No</p>
<p>4. HISTORY OF SOFTWARE</p> <p>a. FIRST INSTALLATION</p> <p>January 1968</p> <p>b. SIGNIFICANT INSTALLATIONS</p> <p>Department of Agriculture's Forest Service, NASA's Manned Space Flight Center</p>	<p>4. FILE MAINTENANCE</p> <p>Yes</p>	<p>5. SEARCH STRATEGY</p> <p>a. RANDOM</p> <p>Yes</p> <p>b. SEQUENTIAL</p> <p>No</p> <p>c. INDEXED SEQUENTIAL</p> <p>No</p>
<p>5. HISTORY OF SERVICE</p> <p>a. SERVICE INITIATION</p> <p>b. PRESENT USAGE</p> <p>(2 versis is exist; corresponding data on separate lines)</p>	<p>5. PREPROGRAMMED DATA VALIDATION CHECKS</p> <p>Yes</p>	<p>F. REPORT GENERATION</p> <p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT</p> <p>Yes</p> <p>b. SELECT AMONG OPTIONS</p> <p>Yes</p> <p>c. OWN CODE</p> <p>Yes</p>
<p>B. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME</p> <p>IBM 360 series</p> <p>Univac 1100 series</p> <p>2. OPERATING SYSTEM</p> <p>OS, PCP/MFT or MVT, TSO EXEC 8, EXEC 2</p> <p>3. SOURCE LANGUAGE</p> <p>Assembler F</p> <p>Univac Assembler</p> <p>4. TERMINAL TYPES</p> <p>IBM 1050, 2740, 2741, 2780, TTY, Uniscope, 1005</p> <p>5. TRANSMISSION RATES</p> <p>30 cps</p> <p>120 cps</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS</p> <p>Yes</p>	<p>6. QUERY</p> <p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS AT ANY POINT</p> <p>Yes</p> <p>b. ENGLISH-LIKE PHRASING</p> <p>Yes</p> <p>c. SYSTEM-FORCED DIALOGUE</p> <p>No</p> <p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY</p> <p>Yes</p> <p>b. FULL TEXT INVERSION</p> <p>No</p> <p>c. STEMMING PERMITTED</p> <p>No</p> <p>d. SYNONYMS</p> <p>Yes</p> <p>e. DISPLAY OF RELATED TERMS</p> <p>No</p> <p>f. CHECKING TERM IN CONTROLLED VOCABULARY</p> <p>No</p>	<p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING</p> <p>Yes</p> <p>b. DISPLAY OF GRAPHS</p> <p>Yes</p> <p>c. SPECIAL OUTPUTS</p> <p>No</p> <p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING</p> <p>Yes</p> <p>b. SEQUENCING</p> <p>Yes</p> <p>c. COUNTING</p> <p>Yes</p> <p>d. ARITHMETIC</p> <p>Yes</p> <p>G. SECURITY PROTECTION</p> <p>1. TERMINAL</p> <p>Yes</p> <p>2. DATA BASE</p> <p>Yes</p> <p>3. RECORD</p> <p>No</p> <p>4. FIELD</p> <p>Yes</p>

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME ORIGINATOR</p> <p>GIPIY University of Oklahoma, Office of Research Admin., 1808 Newton Drive, Norman, Oklahoma, 73069 405-321-6812</p>	<p>1. USER DEFINABLE</p> <p>Yes</p>	<p>a. MUST NAME FIELDS</p> <p>Yes</p>
<p>2. SOFTWARE AVAILABILITY</p> <p>a. FOR PURCHASE</p> <p>Yes, federal government and non-profit organizations. \$8,000 + \$550 per month during first year; includes training, installation, and maintenance. Monthly charge reduced after one year.</p> <p>b. FOR LEASE</p> <p>No</p>	<p>2. VARIABLE LENGTH TEXT</p> <p>Yes</p>	<p>b. MAY LIMIT FIELDS</p> <p>Yes</p>
<p>3. SERVICE AVAILABILITY</p> <p>a. SEARCH SERVICE</p> <p>Yes, through Univ. of Oklahoma Computing Center By arrangement</p> <p>b. AT WHAT COST</p> <p>U.S. Geological Survey and American Petroleum Institute data bases, by special arrangement.</p> <p>c. TAKES CUSTOMER DATA BASES</p> <p>Yes</p>	<p>3. REPEATED FIELDS</p> <p>No</p>	<p>c. BOOLEAN AND</p> <p>Yes</p>
<p>4. HISTORY OF SOFTWARE</p> <p>a. FIRST INSTALLATION</p> <p>Operational at University of Oklahoma since July 1968</p> <p>b. SIGNIFICANT INSTALLATIONS</p> <p>Department of Interior (USGS), University of Missouri, Oklahoma State Univ., U.S. Dept. of Commerce (NOAA)</p>	<p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING</p> <p>Yes, via a separate program</p>	<p>d. BOOLEAN OR</p> <p>Yes</p>
<p>5. HISTORY OF SERVICE</p> <p>a. SERVICE INITIATION</p> <p>1973</p> <p>b. PRESENT USAGE</p> <p>Not available</p>	<p>5. QUERY</p> <p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS</p> <p>AT ANY POINT</p> <p>b. ENGLISH-LIKE PHRASING</p> <p>c. SYSTEM-FORCED DIALOGUE</p> <p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY</p> <p>b. FULL TEXT INVERSION</p> <p>c. STEMMING PERMITTED</p> <p>d. SYNONYMS</p> <p>e. DISPLAY OF RELATED TERMS</p> <p>f. CHECKING TERM IN CONTROLLED VOCABULARY</p>	<p>e. EXPRESSIONS</p> <p>Yes</p>
<p>6. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME</p> <p>IBM 360 series, minimum of two 2311 disk drives, 90K bytes storage</p> <p>2. OPERATING SYSTEM</p> <p>OS/360</p> <p>3. SOURCE LANGUAGE</p> <p>360 Assembler</p> <p>4. TERMINAL TYPES</p> <p>IBM 1050, 2741, and TTY terminals</p> <p>5. TRANSMISSION RATES</p> <p>110 to 150 Baud</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS</p> <p>No</p>	<p>6. SECURITY PROTECTION</p> <p>1. TERMINAL</p> <p>2. DATA BASE</p> <p>3. RECORD</p> <p>4. FIELD</p>	<p>f. RANGE SEARCHING</p> <p>Yes</p>

A. GENERAL DESCRIPTION

- 1. SYSTEM NAME ORIGINATOR
 IHARS
 Interactive Sciences Corp.
 60 Brooks Dr.
 Braintree, Mass. 02184
 617-848-2660
 - TELEPHONE
 No
 - 2. SOFTWARE AVAILABILITY
 - a. FOR PURCHASE AT WHAT COST
 Yes, on perpetual license
 \$5k
 - b. FOR LEASE AT WHAT COST
 Yes
 Surcharge for use over normal time-sharing cost (\$3,75/connect hour + \$.0025/resource unit)
 - 3. SERVICE AVAILABILITY
 - a. SEARCH SERVICE AT WHAT COST
 NA
 - b. DATA BASES
 Yes
 - c. TAKES CUSTOMER DATA BASES
 NA
 - 4. HISTORY OF SOFTWARE
 - a. FIRST INSTALLATION
 4th quarter, 1972
 - b. SIGNIFICANT INSTALLATIONS
 Data not available
 - 5. HISTORY OF SERVICE
 - a. SERVICE INITIATION
 DECSYSTEM 10
 - b. PRESENT USAGE
 TSM
- B. COMPUTER ENVIRONMENT
- 1. MAIN FRAME
 FORTRAN + MACRO-10
 - 2. OPERATING SYSTEM
 ASCI1, IBM Correspondence code terminals
 - 3. SOURCE LANGUAGE
 10, 15, 30 cps
 - 4. TERMINAL TYPES
 Yes
 - 5. TRANSMISSION RATES
 - 6. RE-ENTRANT FOR MULTIPLE USERS

C. FILE DEFINITION

- 1. USER DEFINABLE
 Yes
 - 2. VARIABLE LENGTH TEXT
 Yes, up to 2,000 characters long.
 - 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

- 4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING
 No

E. QUERY

- 1. USER-SYSTEM INTERACTION
 - a. MULTIPLE OPTIONS
 Yes
 - b. ENGLISH-LIKE PHRASING
 Yes
 - c. SYSTEM-FORCED DIALOGUE
 Partial; some modules are dialogue driven
- 2. CONTENT SEARCHING
 - a. CONTROLLED VOCABULARY
 No
 - b. FULL TEXT INVERSION
 No
 - c. STEMMING PERMITTED
 Yes (character string search)
 - d. SYNONYM'S
 No
 - e. DISPLAY OF RELATED TERMS
 No
 - f. CHECKING TERM IN CONTROLLED VOCABULARY
 No

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS
 Yes
- b. MAY LIMIT FIELDS
 Yes
- c. BOOLEAN AND
 Yes
- d. BOOLEAN OR
 Yes
- e. BOOLEAN NOT
 No
- f. NESTING OF BOOLEAN EXPRESSIONS
 No
- g. PHRASE AND DISTANCE SEARCHING
 Yes, by character string search

h. NATURAL ENGLISH

- i. RANGE SEARCHING
 Yes
- 4. TUTORIAL FEATURES
 - a. "HELP" COMMAND
 Yes
 - b. DOCUMENTATION ON-LINE
 No

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
- 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
 Yes
- 3. RECORD
 No
- 4. FIELD
 No

A. GENERAL DESCRIPTION

1. SYSTEM NAME
 ORIGINATOR
 TELEPHONE

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
 b. PRESENT USAGE

6. COMPUTER ENVIRONMENT
 1. MAIN FRAME
 2. OPERATING SYSTEM
 3. SOURCE LANGUAGE
 4. TERMINAL TYPES
 5. TRANSMISSION RATES
 6. RE-ENTRANT FOR
 MULTIPLE USERS

IMS of Office of Emergency Preparedness
 Executive Office of the President
 Office of Emergency Preparedness
 Washington, D.C. 20504
 202-395-4831

Yes
 Free for government users
 NA
 NA

NA
 NA

The random access version was operational since 1971

None

NA

UNIVAC 1108
 EXEC 8
 VULCAN (a string processing language) plus assembly language plus FORTRAN interface

Any TTY and CRT terminals in use on the 1108

10,15,30 cps

Yes, due to property of VULCAN MULTIPLE USERS

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
 3. VALIDATION CHECKS

3. OPTIONAL ORDERING OF ENTERED DATA

4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING

E. QUERY
 1. USER-SYSTEM INTERACTION
 a. MULTIPLE OPTIONS
 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

Yes
 Yes
 No

Yes
 Yes
 Yes
 Yes

Yes
 No

Yes
 No
 No

No

Yes
 Yes
 Yes
 Yes

Yes
 No

Yes
 No

Yes
 No

3. SEARCH SPECIFICATION

a. MUST HAVE 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
 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

Yes
 Yes
 Yes
 Yes
 Yes
 Yes

No
 No
 No

Yes
 Yes
 Yes
 Yes

Yes
 Yes
 Yes
 Yes

Yes
 No
 Yes
 Yes

Yes, but runs off-line
 No
 Yes
 Yes

No
 Yes
 No
 No

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

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	G. SECURITY PROTECTION	H. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR IMS-8 SPERRY RAND Corp. UNIVAC Div. 2121 Wisconsin Ave., N.W. Washington, D.C. 20007 202-338-8500	1. USER DEFINABLE 2. VARIABLE LENGTH TEXT 3. REPEATED FIELDS	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS b. ENGLISH-LIKE PHRASING c. SYSTEM-FORCED DIALOGUE	1. LANGUAGE TYPE a. STANDARD OUTPUT b. SELECT AMONG OPTIONS c. OWN CODE	1. SORTING 2. DATA BASE 3. RECORD 4. FIELD	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						
3. SERVICE AVAILABILITY NA a. SEARCH SERVICE AT WHAT COST b. DATA BASES c. TAKES CUSTOMER DATA BASES	2. PREPROGRAMMED DATA VALIDATION CHECKS 3. OPTIONAL ORDERING OF ENTERED DATA		4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS		
4. HISTORY OF SOFTWARE 1969-1970 a. FIRST INSTALLATION b. SIGNIFICANT INSTALLATIONS			F. QUERY 1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS b. ENGLISH-LIKE PHRASING c. SYSTEM-FORCED DIALOGUE	3. SPECIAL CAPABILITIES a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC		
5. HISTORY OF SERVICE About 45, incl. HUD, NASA, SSA, other Government agencies. a. SERVICE INITIATION b. PRESENT USAGE				1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD		
B. COMPUTER ENVIRONMENT 1. MAIN FRAME UNIVAC 1108 2. OPERATING SYSTEM EXEC 8 3. SOURCE LANGUAGE COBOL, Assembler 4. TERMINAL TYPES TTY-compatible 5. TRANSMISSION RATES 10-30 cps 6. RE-ENTRANT FOR MULTIPLE USERS Yes						

C. FILE DEFINITION	Yes	No
1. USER DEFINABLE	Yes	No
2. VARIABLE LENGTH TEXT	Yes	Yes
3. REPEATED FIELDS	Yes	Yes
D. FILE MAINTENANCE		
1. ALLOWS ON-LINE	Yes	Yes
a. CREATION	Yes	No
b. UPDATE	Yes	Yes
c. DELETION	Yes	Yes
d. EDITING	Yes	Yes
2. PREPROGRAMMED DATA VALIDATION CHECKS	Yes	Yes
3. OPTIONAL ORDERING OF ENTERED DATA	Updates indices, new records appended	
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	No	
E. QUERY		
1. USER-SYSTEM INTERACTION	Yes	Yes
a. MULTIPLE OPTIONS AT ANY POINT	Yes	Yes
b. ENGLISH-LIKE PHRASING	Yes	No
c. SYSTEM-FORCED DIALOGUE	Optional	Yes
2. CONTROLLED VOCABULARY	Yes, via AVOCON, an associated thesaurus handling package	Yes
a. FULL TEXT INVERSION	Yes	Yes
b. STEMMING PERMITTED	with AVOCON	Yes
c. SYNONYMS	with AVOCON	Yes
d. DISPLAY OF RELATED TERMS	with AVOCON	Yes, if requested
e. CHECKING TERM IN CONTROLLED VOCABULARY	Yes	Yes, if requested
F. REPORT GENERATION		
1. LANGUAGE TYPE		
a. STANDARD OUTPUT	Yes	Yes
b. SELECT ALONG OPTIONS	Yes	Yes
c. OFF CODE	Yes	Yes
2. MEDIA FLEXIBILITY	Yes	Yes
a. OFF-LINE PRINTING	Yes	No
b. DISPLAY OF GRAPHIC SPECIAL OUTPUTS	No	No
c. SPECIAL CAPABILITIES		
a. SORTING	Yes	Yes
b. SEQUENCING	Yes	Yes
c. COUNTING	Yes	Yes
d. ARITHMETIC	Yes	Yes
G. SECURITY PROTECTION		
1. TERMINAL	Yes	Yes
2. DATA BASE	Yes	Yes
3. RECORD	Yes, if requested	Yes, if requested
4. FIELD	Yes	Yes, if requested

A. GENERAL DESCRIPTION	INQUIRE	Yes	No
1. SYSTEM NAME	Infodata Systems, Inc.	Yes	
ORIGINATOR	1901 N. Fort Myer Dr. Arlington, Va. 22209	Yes	
TELEPHONE	703-524-6700		
2. SOFTWARE AVAILABILITY			
a. FOR PURCHASE	\$38,500		
b. FOR LEASE			
AT WHAT COST	\$1,325/mo.		
3. SERVICE AVAILABILITY	NA		
a. SEARCH SERVICE			
AT WHAT COST			
b. DATA BASES			
c. TAKES CUSTOMER DATA BASES			
4. HISTORY OF SOFTWARE	July, 1969		
a. FIRST INSTALLATION			
b. SIGNIFICANT INSTALLATIONS	E. R. Squibb & Sons, State of Ohio, LEAA, ESSO		
5. HISTORY OF SERVICE	NA		
a. SERVICE INITIATION			
b. PRESENT USAGE	IBM 360, 370, mod 40 & up		
B. COMPUTER ENVIRONMENT			
1. MAIN FRAME	OS		
2. OPERATING SYSTEM	PL/1		
3. SOURCE LANGUAGE	TTY, IBM 2741, or compatible		
4. TERMINAL TYPES	As supplied by particular environment		
5. TRANSMISSION RATES	No		
6. RE-ENTRANT FOR MULTIPLE USERS			

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME INSYTE (Information Systems Technology)</p> <p>ORIGINATOR Response Technology, Inc 4064 S W Donovan Seattle, Washington 98136</p> <p>TELEPHONE 206-937-7845</p>	<p>1. USER DEFINABLE Yes</p> <p>2. VARIABLE LENGTH TEXT No</p> <p>3. REPEATED FIELDS No</p>	<p>a. MUST NAME FIELDS Yes</p> <p>b. MAY LIMIT FIELDS Yes</p> <p>c. BOOLEAN AND Yes</p> <p>d. BOOLEAN OR Yes</p> <p>e. BOOLEAN NOT Yes</p> <p>f. NESTING OF BOOLEAN EXPRESSIONS Yes</p> <p>g. PHRASE AND DISTANCE SEARCHING Yes</p> <p>h. NATURAL ENGLISH Yes</p> <p>i. RANGE SEARCHING Yes</p>
<p>2. SOFTWARE AVAILABILITY</p> <p>a. FOR PURCHASE AT WHAT COST \$27,000</p> <p>b. FOR LEASE AT WHAT COST \$12,500 + \$425 month</p>	<p>D. FILE MAINTENANCE</p> <p>1. ALLOWS ON-LINE a. CREATION Yes b. UPDATE Yes c. DELETION Yes d. EDITING Yes</p>	<p>4. TUTORIAL FEATURES a. "HELP" COMMAND No b. DOCUMENTATION No c. INDEXED SEQUENTIAL ON-LINE No</p>
<p>3. SERVICE AVAILABILITY</p> <p>May be available on time-sharing services</p>	<p>2. PREPROGRAMMED DATA VALIDATION CHECKS Yes</p>	<p>5. SEARCH STRATEGY a. RANDOM No b. SEQUENTIAL No c. INDEXED SEQUENTIAL No</p>
<p>4. HISTORY OF SOFTWARE a. FIRST INSTALLATION 1970</p> <p>b. SIGNIFICANT INSTALLATIONS Remote Computing Corp., Univ. of Washington</p>	<p>3. OPTIONAL ORDERING OF ENTERED DATA Yes</p>	<p>F. REPORT GENERATION</p> <p>1. LANGUAGE TYPE a. STANDARD OUTPUT Yes b. SELECT AMONG OPTIONS Yes c. OWN CODE No</p>
<p>5. HISTORY OF SERVICE a. SERVICE INITIATION</p> <p>b. PRESENT USAGE</p>	<p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No</p>	<p>2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING Yes b. DISPLAY OF GRAPHS No c. SPECIAL OUTPUTS No</p>
<p>B. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME Burroughs B-5500</p> <p>2. OPERATING SYSTEM Burroughs Time-sharing</p> <p>3. SOURCE LANGUAGE COBOL</p> <p>4. TERMINAL TYPES TTY compatible</p> <p>5. TRANSMISSION RATES 10, 15, 30 cps</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS Yes</p>	<p>E. QUERY</p> <p>1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS AT ANY POINT No b. ENGLISH-LIKE PHRASING Yes c. SYSTEM-FORCED DIALOGUE No</p> <p>2. CONTENT SEARCHING a. CONTROLLED VOCABULARY Yes b. FULL TEXT INVERSION Yes c. STEMMING PERMITTED Yes d. SYNONYMS Yes e. DISPLAY OF RELATED TERMS No f. CHECKING TERM IN CONTROLLED VOCABULARY No</p>	<p>3. SPECIAL CAPABILITIES a. SORTING Yes b. SEQUENCING Yes c. COUNTING Yes d. ARITHMETIC Yes</p> <p>G. SECURITY PROTECTION</p> <p>1. TERMINAL No 2. DATA BASE Yes 3. RECORD Yes 4. FIELD Yes</p>

A. GENERAL DESCRIPTION

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

B. COMPUTER ENVIRONMENT

1. MAIN FRAME
CDC 6400
2. OPERATING SYSTEM
SCOPE 3.3, INTERCOM 3.0
3. SOURCE LANGUAGE
Primarily FORTRAN
4. TERMINAL TYPES
TTY and CRT
5. TRANSMISSION RATES
110, 300, 1200, 2400 baud
6. RE-ENTRANT FOR
MULTIPLE USERS
No

C. FILE DEFINITION

1. USPR DEFINABLE
Yes, with
assistance
 2. VARIABLE LENGTH TEXT
Yes
 3. REPEATED FIELDS
Yes
- 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
Yes, merge records
into file, but not
fields into record
 4. AUTOMATIC OR
MACHINE-AIDED
CONTENT INDEXING
Yes, a separate
package exists
- E. QUERY
1. USER-SYSTEM INTERACTION
 - a. MULTIPLE OPTIONS
Yes
 - b. AT ANY POINT
Yes
 - c. ENGLISH-LIKE
PHRASING
Yes
 - d. SYSTEM-FORCED
DIALOGUE
No
 2. CONTENT SEARCHING
 - a. CONTROLLED VOCABULARY
No
 - b. FULL TEXT INVERSION
Yes
 - c. STEMMING PERMITTED
Yes
 - d. SYNONYMS
Yes
 - e. DISPLAY OF
RELATED TERMS
Yes
 - f. CHECKING TERM IN CON-
TROLLED VOCABULARY
NA

3. SEARCH SPECIFICATION

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

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

G. SECURITY PROTECTION

1. TERMINAL
Yes
2. DATA BASE
Yes
3. RECORD
Yes
4. FIELD
Yes

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	G. SECURITY PROTECTION
<p>1. SYSTEM NAME MARK IV (with on-line special feature) INFORMATICS, Inc. MARK IV Systems Co. 21050 Vanowen St. Canoga Park, CA 91303 (213) 887-9121</p>	<p>1. USER DEFINABLE Yes</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS Yes</p>	<p>1. ALLOWS ON-LINE a. CREATION Yes b. UPDATE Yes c. DELETION Yes d. EDITING Yes</p> <p>2. PREPROGRAMMED DATA VALIDATION CHECKS Yes</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA Yes (automatic with appropriate file structure)</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No</p>	<p>1. USER-SYSTEM INTERACTION EDIT IV is only interactive part of system; query is remote batch or time-shared execution with on-line preparation Yes</p> <p>2. CONTENT SEARCHING a. CONTROLLED VOCABULARY Special Feature b. FULL-TEXT INVERSION can be used to program text c. STEMMING PERMITTED search procedures d. SYNONYMS e. DISPLAY OF RELATED TERMS f. CHECKING TERM IN CONTROLLED VOCABULARY</p>	<p>1. LANGUAGE TYPE a. STANDARD OUTPUT Yes b. SELECT AMONG OPTIONS Yes c. OWN CODE Yes</p> <p>2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING Yes b. DISPLAY OF GRAPHS No, but user may program them No</p> <p>3. SPECIAL CAPABILITIES a. SORTING Yes b. SEQUENCING NO c. COUNTING Yes d. ARITHMETIC Yes</p>	<p>1. SECURITY PROTECTION 1. TERMINAL Yes 2. DATA BASE Yes 3. RECORD NO 4. FIELD NO</p>
<p>2. SOFTWARE AVAILABILITY a. FOR PURCHASE \$37,000 + \$10,000 for on-line feature b. FOR LEASE Many plans, including installment purchase</p>					
<p>3. SERVICE AVAILABILITY a. SEARCH SERVICE Yes, through commercial time-sharing companies. b. DATA BASES Machine utilization costs plus surcharge. c. TAKES CUSTOMER DATA BASES N/A Yes</p>					
<p>4. HISTORY OF SOFTWARE a. FIRST INSTALLATION 1968 b. SIGNIFICANT INSTALLATIONS U.S. House of Representatives, HEW, Federal Reserve Board, GM, EXXON, Eastern Airlines</p>					
<p>5. HISTORY OF SERVICE a. SERVICE INITIATION 1972 b. PRESENT USAGE Not available</p>					
<p>6. 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/VS1 Assembler 3. SOURCE LANGUAGE Any standard device 4. TERMINAL TYPES Any standard rate 5. TRANSMISSION RATES Any standard rate 6. RE-ENTRANT FOR MULTIPLE USERS No</p>					

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME MARS III CONTROL DATA Corp. 5272 River Rd. Washington, D.C. 20016</p> <p>TELEPHONE 301-652-2268</p>	<p>1. USER DEFINABLE Yes</p> <p>2. VARIABLE LENGTH TEXT No, but field length is defined by user</p> <p>3. REPEATED FIELDS Yes</p>	<p>a. MUST NAME FIELDS Yes</p> <p>b. MAY LIMIT FIELDS Yes</p> <p>c. BOOLEAN AND Yes</p> <p>d. BOOLEAN OR Yes</p> <p>e. BOOLEAN NOT Yes (ANDNOT)</p> <p>f. NESTING OF BOOLEAN EXPRESSIONS Yes, one level</p>
<p>2. SOFTWARE AVAILABILITY</p> <p>a. FOR PURCHASE At WHAT COST No</p> <p>b. FOR LEASE At WHAT COST \$500 initial + \$300/mo. royalty</p>	<p>D. FILE MAINTENANCE</p> <p>1. ALLOWS ON-LINE a. CREATION No on-line maintenance</p> <p>b. UPDATE</p> <p>c. DELETION</p> <p>d. EDITING</p>	<p>4. TUTORIAL FEATURES a. "HELP" COMMAND None</p> <p>b. DOCUMENTATION ON-LINE</p>
<p>3. SERVICE AVAILABILITY</p> <p>a. SEARCH SERVICE At WHAT COST NA</p> <p>b. DATA BASES</p> <p>c. TAKES CUSTOMER DATA BASES</p>	<p>2. PREPROGRAMMED DATA VALIDATION CHECKS Yes</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA Yes, automatic</p>	<p>5. SEARCH STRATEGY</p> <p>a. RANDOM No</p> <p>b. SEQUENTIAL No</p> <p>c. INDEXED SEQUENTIAL Yes</p>
<p>4. HISTORY OF SOFTWARE</p> <p>a. FIRST INSTALLATION April, 1970</p> <p>b. SIGNIFICANT INSTALLATIONS U.S. Coast Guard, New York Dept. of Education, Hughes Aircraft Corp.</p>	<p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No</p> <p>E. QUERY</p> <p>1. USER-SYSTEM INTERACTION Query input on-line executed in batch</p>	<p>F. REPORT GENERATION</p> <p>1. LANGUAGE TYPE a. STANDARD OUTPUT Yes</p> <p>b. SELECT AMONG OPTIONS No</p> <p>c. OWN CODE Yes</p>
<p>5. HISTORY OF SERVICE</p> <p>a. SERVICE INITIATION NA</p> <p>b. PRESENT USAGE CDC 3300, 3500</p>	<p>2. CONTENT SEARCHING a. CONTROLLED VOCABULARY None</p> <p>b. FULL TEXT INVERSION</p> <p>c. STEMMING PERMITTED</p> <p>d. SYNONYMS</p> <p>e. DISPLAY OF RELATED TERMS</p> <p>f. CHECKING TERM IN CONTROLLED VOCABULARY</p>	<p>2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING Yes</p> <p>b. DISPLAY OF GRAPHS No</p> <p>c. SPECIAL OUTPUTS No</p>
<p>B. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME MASTER</p> <p>2. OPERATING SYSTEM COMPASS (90%), American National Standards Institute COBOL (10%)</p>	<p>3. SYSTEM-FORCED DIALOGUE</p> <p>2. CONTENT SEARCHING a. CONTROLLED VOCABULARY None</p> <p>b. FULL TEXT INVERSION</p> <p>c. STEMMING PERMITTED</p> <p>d. SYNONYMS</p> <p>e. DISPLAY OF RELATED TERMS</p> <p>f. CHECKING TERM IN CONTROLLED VOCABULARY</p>	<p>3. SPECIAL CAPABILITIES a. SORTING Yes</p> <p>b. SEQUENCING No</p> <p>c. COUNTING Yes</p> <p>d. ARITHMETIC Yes</p>
<p>3. SOURCE LANGUAGE CRT, TTY</p> <p>4. TERMINAL TYPES Up to 4800 baud</p> <p>5. TRANSMISSION RATES RE-ENTRANT FOR MULTIPLE USERS No</p>		<p>G. SECURITY PROTECTION</p> <p>1. TERMINAL Yes</p> <p>2. DATA BASE Yes</p> <p>3. RECORD Yes</p> <p>4. FIELD Yes</p>

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME ORIGINATOR</p> <p>MARS VI Control Data Corp. 5272 River Rd. Washington, D.C. 20016 301-652-2268</p> <p>TELEPHONE</p>	<p>1. USER DEFINABLE</p> <p>Yes</p> <p>2. VARIABLE LENGTH TEXT</p> <p>No</p> <p>3. REPEATED FIELDS</p> <p>Yes</p>	<p>a. MUST NAME FIELDS</p> <p>Yes</p> <p>b. MAY LIMIT FIELDS</p> <p>Yes</p> <p>c. BOOLEAN AND</p> <p>Yes</p> <p>d. BOOLEAN OR</p> <p>Yes</p> <p>e. BOOLEAN NOT</p> <p>Yes</p> <p>f. NESTING OF BOOLEAN EXPRESSIONS</p> <p>Yes</p>
<p>2. SOFTWARE AVAILABILITY</p> <p>a. FOR PURCHASE</p> <p>No, but perpetual license available for \$18K</p> <p>b. FOR LEASE</p> <p>Yes</p> <p>c. AT WHAT COST</p> <p>\$600/mo. (commercial royalty)</p>	<p>D. FILE MAINTENANCE</p> <p>1. ALLOWS ON-LINE</p> <p>a. CREATION</p> <p>Yes</p> <p>b. UPDATE</p> <p>Yes</p> <p>c. DELETION</p> <p>Yes</p> <p>d. EDITING</p> <p>Yes</p> <p>2. PREPROGRAMMED DATA</p> <p>Yes</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA</p> <p>Automatic</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING</p> <p>No</p>	<p>g. PHRASE AND DISTANCE SEARCHING</p> <p>No</p> <p>h. NATURAL ENGLISH</p> <p>No</p> <p>i. RANGE SEARCHING</p> <p>Yes</p> <p>4. TUTORIAL FEATURES</p> <p>a. "HELP" COMMAND</p> <p>None</p> <p>b. DOCUMENTATION ON-LINE</p> <p>5. SEARCH STRATEGY</p> <p>a. RANDOM</p> <p>No</p> <p>b. SEQUENTIAL</p> <p>Yes</p> <p>c. INDEXED SEQUENTIAL</p> <p>Yes</p>
<p>3. SERVICE AVAILABILITY</p> <p>a. SEARCH SERVICE</p> <p>AT WHAT COST</p> <p>b. DATA BASES</p> <p>c. TAKES CUSTOMER DATA BASES</p>	<p>E. QUERY</p> <p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS AT ANY POINT</p> <p>Yes</p> <p>b. ENGLISH-LIKE PHRASING</p> <p>Yes</p> <p>c. SYSTEM-FORCED DIALOGUE</p> <p>No</p> <p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY</p> <p>Yes</p> <p>b. FULL TEXT INVERSION</p> <p>No</p> <p>c. STEERING PERMITTED</p> <p>Yes</p> <p>d. SYNONYMS</p> <p>Yes</p> <p>e. DISPLAY OF RELATED TERMS</p> <p>Yes</p> <p>f. CHECKING TERM IN CONTROLLED VOCABULARY</p> <p>No</p>	<p>F. REPORT GENERATION</p> <p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT</p> <p>Yes</p> <p>b. SELECT AMONG OPTIONS</p> <p>No</p> <p>c. OWN CODE</p> <p>Yes</p> <p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING</p> <p>None</p> <p>b. DISPLAY OF GRAPHS</p> <p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING</p> <p>Yes</p> <p>b. SEQUENCING</p> <p>No</p> <p>c. COUNTING</p> <p>Yes</p> <p>d. ARITHMETIC</p> <p>Yes</p>
<p>4. HISTORY OF SOFTWARE</p> <p>a. FIRST INSTALLATION</p> <p>late 1969</p> <p>b. SIGNIFICANT INSTALLATIONS</p> <p>About 10 incl. NSRDC, Univ. of Texas, Michigan State Univ.</p>	<p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY</p> <p>Yes</p> <p>b. FULL TEXT INVERSION</p> <p>No</p> <p>c. STEERING PERMITTED</p> <p>Yes</p> <p>d. SYNONYMS</p> <p>Yes</p> <p>e. DISPLAY OF RELATED TERMS</p> <p>Yes</p> <p>f. CHECKING TERM IN CONTROLLED VOCABULARY</p> <p>No</p>	<p>G. SECURITY PROTECTION</p> <p>1. TERMINAL</p> <p>Yes</p> <p>2. DATA BASE</p> <p>Yes</p> <p>3. RECORD</p> <p>No</p> <p>4. FIELD</p> <p>No</p>
<p>5. HISTORY OF SERVICE</p> <p>a. SERVICE INITIATION</p> <p>b. PRESENT USAGE</p>	<p>3. SOURCE SEARCHING</p> <p>FORTRAN, COMPASS</p> <p>TTY 33, 35; CRT</p>	
<p>6. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME</p> <p>2. OPERATING SYSTEM</p> <p>3. SOURCE LANGUAGE</p> <p>4. TERMINAL TYPES</p> <p>5. TRANSMISSION RATES</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS</p>	<p>CDC CYBER/70, 6000 series</p> <p>SCOPE 3, INTERCOM 4</p> <p>FORTRAN, COMPASS</p> <p>TTY 33, 35; CRT</p> <p>10-30 cps, 100 cps, 2400 baud</p> <p>No</p>	

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	3. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR MASTER CONTROL (Version 3) Information Research Group Lawrence Livermore Laboratory University of California P.O. Box 808 Livermore, California 94550 415-447-1100, X3132	1. USER DEFINABLE Yes	1. ALLOWS ON-LINE a. CREATION Yes b. UPDATE Yes c. DELETION Yes d. EDITING Yes	1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS Yes b. ENGLISH-LIKE PHRASING Yes c. SYSTEM-FORCED DIALOGUE No	1. LANGUAGE TYPE a. STANDARD OUTPUT No b. SELECT AMONG OPTIONS No c. OWN CODE Yes	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 Yes
2. SOFTWARE AVAILABILITY a. FOR PURCHASE AT WHAT COST Information available on request No b. FOR LEASE AT WHAT COST No	2. VARIABLE LENGTH TEXT Yes	2. PREPROGRAMMED DATA VALIDATION CHECKS Yes	2. CONTENT SEARCHING a. CONTROLLED VOCABULARY Optional b. FULL TEXT INVERSION Yes c. STEMMING PERMITTED Yes, also arbitrary string matching d. SYNONYMS Yes e. DISPLAY OF RELATED TERMS Yes, if provided by user f. CHECKING TERM IN CONTROLLED VOCABULARY Optional	2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING Yes b. DISPLAY OF GRAPHS Yes c. SPECIAL OUTPUTS Microfiche, 16 and 35 mm film	h. NATURAL ENGLISH Yes i. RANGE SEARCHING Yes
3. SERVICE AVAILABILITY a. SEARCH SERVICE AT WHAT COST Information available on request Yes b. DATA BASES 44 major data bases, including Nuclear Science Abstracts, SPIN, Chemical titles, and Engineering Index Yes, if programmatically related to Lawrence Livermore Laboratory c. TAKES CUSTOMER DATA BASES Yes, if programmatically related to Lawrence Livermore Laboratory	3. REPEATED FIELDS Yes	3. OPTIONAL ORDERING OF ENTERED DATA Yes	3. SYSTEM-FORCED DIALOGUE No	3. OWN CODE Yes	4. TUTORIAL FEATURES a. "HELP" COMMAND Some prompting, error correction No b. DOCUMENTATION ON-LINE No c. INDEXED SEQUENTIAL Yes, optional Yes, optional
4. HISTORY OF SOFTWARE a. FIRST INSTALLATION December, 1968 b. SIGNIFICANT INSTALLATIONS Lawrence Livermore Laboratory	4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Optional	4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Optional	4. CONTENT SEARCHING a. CONTROLLED VOCABULARY Optional b. FULL TEXT INVERSION Yes c. STEMMING PERMITTED Yes, also arbitrary string matching	4. OWN CODE Yes	5. SEARCH STRATEGY a. RANDOM Yes b. SEQUENTIAL Yes c. INDEXED SEQUENTIAL Yes, optional
5. HISTORY OF SERVICE a. SERVICE INITIATION December, 1968 b. PRESENT USAGE 1,400 searches per month	5. QUERY	5. PREPROGRAMMED DATA VALIDATION CHECKS Yes	5. CHECKING TERM IN CONTROLLED VOCABULARY Optional	5. OWN CODE Yes	6. REPORT GENERATION 1. LANGUAGE TYPE a. STANDARD OUTPUT No b. SELECT AMONG OPTIONS No c. OWN CODE Yes
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	6. SECURITY PROTECTION 1. TERMINAL Yes 2. DATA BASE Yes 3. RECORD No 4. FIELD No	6. SECURITY PROTECTION 1. TERMINAL Yes 2. DATA BASE Yes 3. RECORD No 4. FIELD No	6. CHECKING TERM IN CONTROLLED VOCABULARY Optional	6. OWN CODE Yes	7. REPORT GENERATION 1. LANGUAGE TYPE a. STANDARD OUTPUT No b. SELECT AMONG OPTIONS No c. OWN CODE Yes

3. SEARCH SPECIFICATION
 a. MUST NAME FIELDS
 b. MAY LIMIT FIELDS

No
 Yes, may
 limit to
 pre-established
 text segments
 or to given
 lines of text
 Yes
 Yes
 No
 Yes
 Yes
 No
 No
 No
 No
 Yes

c. BOOLEAN AND
 d. BOOLEAN OR
 e. BOOLEAN NOT
 f. TESTING 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. OMR 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

Provided by TSO
 Yes
 No
 No
 No

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
 Yes
 Yes
 Yes
 Yes

2. PREPROGRAMMED DATA
 VALIDATION CHECKS
 No

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
 b. ENGLISH-LIKE
 PHRASING
 c. SYSTEM-FORCED
 DIALOGUE
 Yes
 Yes
 No

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
 No
 Yes
 Yes, left,
 right, or
 both
 Yes (user
 definable)
 No
 No

A. GENERAL DESCRIPTION

1. SYSTEM NAME
 ORIGINATOR
 TELEPHONE
 MICROTEXT
 MITRE Corp.
 Bedford, Mass. 01730
 Contact: Henry A. Eayard
 617-271-2592

2. SOFTWARE AVAILABILITY
 a. FOR PURCHASE
 AT WHAT COST
 b. FOR LEASE
 AT WHAT COST
 Yes
 By arrangement with MITRE Corp.
 None

3. SERVICE AVAILABILITY
 a. SEARCH SERVICE
 AT WHAT COST
 b. DATA BASES
 c. TAKES CUSTOMER
 DATA BASES
 Yes
 By arrangement with MITRE Corp.
 None
 Yes

4. HISTORY OF SOFTWARE
 a. FIRST INSTALLATION
 b. SIGNIFICANT
 INSTALLATIONS
 1972
 None, other than MITRE

5. HISTORY OF SERVICE
 a. SERVICE INITIATION
 b. PRESENT USAGE

B. COMPUTER ENVIRONMENT

1. MAIN FRAME
 IBM 360/370 (MICROTEXT requires
 200K bytes of core)

2. OPERATING SYSTEM
 OS/VT with TSO

3. SOURCE LANGUAGE
 PL/I

4. TERMINAL TYPES
 Any terminals supported by TSO

5. TRANSMISSION RATES
 From 10 (Teletype) to 800,000
 (IBM 3270 displays) cps

6. RE-ENTRANT FOR
 MULTIPLE USERS
 No-relies on TSO to support
 multiple users

A. GENERAL DESCRIPTION

1. SYSTEM NAME
 ORIGINATOR
 TELEPHONE
 MINIDATA (for small data bases)
 United Computing Systems
 3130 Broadway
 Kansas City, Mo. 64106
 816-753-4500

2. SOFTWARE AVAILABILITY
 a. FOR PURCHASE
 AT WHAT COST
 b. FOR LEASE
 AT WHAT COST
 Yes (limited license)
 Approx. \$10,000
 Yes
 Approx. \$400-\$500/mo.

3. SERVICE AVAILABILITY
 a. SEARCH SERVICE
 AT WHAT COST
 b. DATA BASES
 c. TAKES CUSTOMER
 DATA BASES
 Yes
 \$17.50 (10 cps), \$21.00 (30
 cps) /connect hour
 None
 Yes

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; CDC
 200 USER terminal compatible

5. TRANSMISSION RATES
 10-30 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
 a. CREATION
 b. UPDATE
 c. DELETION
 d. EDITING
 Yes
 Yes
 Yes
 Yes

3. OPTIONAL ORDERING OF
 ENTERED DATA
 Yes

D. HISTORY OF SOFTWARE

a. FIRST INSTALLATION
 Aug., 1971

b. SIGNIFICANT
 INSTALLATIONS
 Only UCS

5. HISTORY OF SERVICE
 a. SERVICE INITIATION
 b. PRESENT USAGE
 Aug., 1971
 More than 500 users

E. QUERY

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

2. CONTENT SEARCHING
 a. CONTROLLED VOCABULARY
 b. FULL TEXT INVERSTION
 c. STEMMING PERMITTED
 d. SYNONYMS
 e. DISPLAY OF
 RELATED TERMS
 f. CHECKING TERM IN CON-
 TROLLED VOCABULARY
 None

F. REPORT GENERATION

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

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

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

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

A. GENERAL DESCRIPTION

1. SYSTEM NAME
 ORIGINATOR
 MIRADS
 Data Center Division
 NASA
 Marshall Space Flight Center,
 Alabama 35812
 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

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. FIRST INSTALLATION
 late 1971
- b. SIGNIFICANT
 INSTALLATIONS

Federal Communication
 Commission, University of
 Alabama, Huntsville

5. HISTORY OF SERVICE
 a. SERVICE INITIATION
 b. PRESENT USAGE

NA

B. COMPUTER ENVIRONMENT

- 1. MAIN FRAME
 UNIVAC 1108
- 2. OPERATING SYSTEM
 EXEC 8
- 3. SOURCE LANGUAGE
 80% COBOL, 19% FORTRAN, 1%
 Assembler
- 4. TERMINAL TYPES
 UNISCOPE CRT, DCT 500 hard
 copy, DCT 2000, TTY, UNIVAC
 9300, UNIVAC 1004
- 5. TRANSMISSION RATES
 Device dependent
- 6. RE-ENTRANT FOR
 MULTIPLE USERS
 No

C. FILE DEFINITION

- 1. USER DEFINABLE
 Yes
- 2. VARIABLE LENGTH TEXT
 Yes, abstract
 length only
- 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, for
 records in
 file but not
 fields within
 record

4. AUTOMATIC OR
 MACHINE-AIDED
 CONTENT INDEXING
 No

F. QUERY

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

- 2. CONTENT SEARCHING
 a. CONTROLLED VOCABULARY
 Open-ended
- b. FULL TEXT INVERSION
 No
- c. STEMMING PERMITTED
 Yes, any word
 or portion of
 a word
- d. SYNONYMS
 Yes
- e. DISPLAY OF
 RELATED TERMS
 No
- f. CHECKING TERM IN CON-
 TROLLED VOCABULARY
 Yes

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. EXPRESSIONS OF BOOLEAN
 EXPRESSIONS
 Yes, to
 level 3
- g. PHRASE AND DISTANCE
 SEARCHING
 No
- h. NATURAL ENGLISH
 No
- i. RANGE SEARCHING
 Yes

4. TUTORIAL FEATURES
 a. "HELP" COMMAND
 None
 b. DOCUMENTATION
 ON-LINE

5. SEARCH STRATEGY
 a. RANDOM
 Yes (inverted
 list)

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
 Yes
 c. SPECIAL OUTPUTS
 Yes, magnetic
 tape

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

G. SECURITY PROTECTION

- 1. TERMINAL
 Yes
- 2. DATA BASE
 Yes
- 3. RECORD
 Yes
- 4. FIELD
 Yes

3. SPARC SPECIFICATION

Natural language input

Yes No

1. USER DEFINABLE Yes

2. VARIABLE LENGTH TEXT No

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. OFFICIAL 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 PHRASING Yes

c. SYSTEM-FORCED DIALOGUE No

2. CONTROLLED VOCABULARY

a. DICTIONARY USED TO UNDERSTAND NATURAL LANGUAGE QUERIES, NOT FOR INDEXING

b. FULL TEXT INVERSION No

c. SPELLING PERMITTED No

d. SYNONYMS No

e. DISPLAY OF RELATED TERMS No

f. CHECKING TERM IN CONTROLLED VOCABULARY No

3. SECURITY PROTECTION:

1. TERMINAL No

2. DATA BASE Yes

3. RECORD No

4. FIELD No

C. FILE DEFINITION

1. USER DEFINABLE Yes

2. VARIABLE LENGTH TEXT No

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. OFFICIAL 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 PHRASING Yes

c. SYSTEM-FORCED DIALOGUE No

2. CONTROLLED VOCABULARY

a. DICTIONARY USED TO UNDERSTAND NATURAL LANGUAGE QUERIES, NOT FOR INDEXING

b. FULL TEXT INVERSION No

c. SPELLING PERMITTED No

d. SYNONYMS No

e. DISPLAY OF RELATED TERMS No

f. CHECKING TERM IN CONTROLLED VOCABULARY No

3. SECURITY PROTECTION:

1. TERMINAL No

2. DATA BASE Yes

3. RECORD No

4. FIELD No

A. GENERAL DESCRIPTION

1. SYSTEM NAME

MUST

Meta Language Products Inc.

635 E 14 Street Apt 9-4

New York, New York, 10009

212-437-4924

Contact: George Potts

TELEPHONE

2. SOFTWARE AVAILABILITY

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 Tymshare

a. SEARCH SERVICE AT WHAT COST Yes

b. DATA BASES

c. TAKES CUSTOMER DATA BASES

4. HISTORY OF SOFTWARE

a. FIRST INSTALLATION

Installed briefly at Department of Commerce. No current installations.

b. SIGNIFICANT INSTALLATIONS

Xerox Corp.

5. HISTORY OF SERVICE

NA

a. SERVICE INITIATION

b. PRESENT USAGE

B. COMPUTER ENVIRONMENT

1. MAIN FRAME

XDS-940

2. OPERATING SYSTEM

940 Time-sharing System

3. SOURCE LANGUAGE

ARPA - assembly language for 940

4. TERMINAL TYPES

Any TTY compatible terminal

5. TRANSMISSION RATES

10, 15, 30 eps

6. RE-ENTRANT FOR MULTIPLE USERS

Yes

A. GENERAL DESCRIPTION		C. FILE DEFINITION		3. SEARCH SPECIFICATION	
1. SYSTEM NAME	NASIS	1. USER DEFINABLE	Yes	a. MUST NAME FIELDS	Yes
ORIGINATOR	Computing Services Division NASA, Lewis Research Center Cleveland, Ohio 44135	2. VARIABLE LENGTH TEXT	Yes	b. MAY LIMIT FIELDS	Yes
TELEPHONE	216-433-4000, X795	3. REPEATED FIELDS	Yes	c. BOOLEAN AND	Yes
				d. BOOLEAN OR	Yes
				e. BOOLEAN NOT	Yes
				f. NESTING OF BOOLEAN EXPRESSIONS	Yes
2. SOFTWARE AVAILABILITY	Yes	D. FILE MAINTENANCE		9. PHRASE AND DISTANCE SEARCHING	No
a. FOR PURCHASE	Available to government	1. ALLOWS ON-LINE		h. NATURAL ENGLISH	No
AT WHAT COST	agencies	a. CREATION	Yes	i. RANGE SEARCHING	Yes
b. FOR LEASE	No	b. UPDATE	Yes		
AT WHAT COST		c. DELETION	Yes	4. TUTORIAL FEATURES	Yes
		d. EDITING	Yes	a. "HELP" COMMAND	
3. SERVICE AVAILABILITY	No	2. PREPROGRAMMED DATA		b. DOCUMENTATION	Yes
a. SEARCH SERVICE	NA	VALIDATION CHECKS	Yes	ON-LINE	Yes
AT WHAT COST		3. OPTIONAL ORDERING OF		5. SEARCH STRATEGY	
b. DATA BASES	NA	ENTERED DATA	Yes	a. RANDOM	Yes
c. TAKES CUSTOMER	No			b. SEQUENTIAL	Yes
DATA BASES		4. AUTOMATIC OR		c. INDEXED SEQUENTIAL	Yes
4. HISTORY OF SOFTWARE	September 1970	MACHINE-AIDED			
a. FIRST INSTALLATION		CONTENT INDEXING		F. REPORT GENERATION	
b. SIGNIFICANT	Carnegie Mellon University			1. LANGUAGE TYPE	
INSTALLATIONS				a. STANDARD OUTPUT	Yes
5. HISTORY OF SERVICE	NA			b. SELECT AMONG	Yes
a. SERVICE INITIATION				OPTIONS	Yes
b. PRESENT USAGE				c. OWN CODE	Yes
B. COMPUTER ENVIRONMENT		E. QUERY			
1. MAIN FRAME	IBM 360 or 370	1. USER-SYSTEM INTERACTION		2. MEDIA FLEXIBILITY	
2. OPERATING SYSTEM	OS/MVT	a. MULTIPLE OPTIONS	Yes	a. OFF-LINE PRINTING	Yes
3. SOURCE LANGUAGE	Mostly PL/I, some Assembler	AT ANY POINT	Yes	b. DISPLAY OF GRAPHS	Yes
4. TERMINAL TYPES	IBM 2741/1050 and TTY compatible devices	b. ENGLISH-LIKE	Yes	c. SPECIAL OUTPUTS	No
5. TRANSMISSION RATES	110, 150, 300 or 1200 baud	c. SYSTEM-FORCED	No		
6. RP-ENTRANT FOR	Yes	DIALOGUE		3. SPECIAL CAPABILITIES	
MULTIPLE USERS				a. SORTING	Not on-line
		2. CONTENT SEARCHING		b. SEQUENCING	Yes
		a. CONTROLLED VOCABULARY	Yes	c. COUNTING	Yes
		b. FULL TEXT INVERSION	Yes	d. ARITHMETIC	Yes
		c. STEMMING PERMITTED	Yes		
		d. SYNONYMS	No	G. SECURITY PROTECTION	
		e. DISPLAY OF	Yes	1. TERMINAL	No
		RELATED TERMS	Yes	2. DATA BASE	Yes
		f. CHECKING TERM IN CON-	Yes	3. RECORD	Yes
		TROLLED VOCABULARY	Yes	4. FIELD	Yes

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME 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</p> <p>2. SOFTWARE AVAILABILITY a. FOR PURCHASE AT WHAT COST b. FOR LEASE AT WHAT COST</p> <p>3. SERVICE AVAILABILITY a. SEARCH SERVICE AT WHAT COST b. DATA BASES</p> <p>c. TAKES CUSTOMER DATA BASES</p> <p>4. HISTORY OF SOFTWARE a. FIRST INSTALLATION b. SIGNIFICANT INSTALLATIONS</p> <p>5. HISTORY OF SERVICE a. SERVICE INITIATION b. PRESENT USAGE</p> <p>6. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME IBM 370/145</p> <p>2. OPERATING SYSTEM DOS</p> <p>3. SOURCE LANGUAGE PL/1, IBM 370 BAL, COBOL</p> <p>4. TERMINAL TYPES Incoterm SPD-10/20 CRT terminal for outside subscribers</p> <p>5. TRANSMISSION RATES 2000 or 2400 bps</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS Yes</p>	<p>1. USER DEFINABLE No</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS Yes, for index terms and certain bibliographic elements</p> <p>1. ALLOWS ON-LINE a. CREATION Yes, to establish temporary file; permanent file established via later batch run b. UPDATE Yes, in temporary file c. DELETION Yes, in temporary file d. EDITING Yes</p> <p>2. PREPROGRAMMED DATA VALIDATION CHECKS No, with certain exceptions</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA Not relevant to users</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No</p> <p>E. QUERY</p> <p>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</p> <p>2. CONTENT SEARCHING a. CONTROLLED VOCABULARY Yes, open-ended vocabulary now contains about 200,000 terms No b. FULL TEXT INVERSION Yes c. STEMMING PERMITTED Yes d. SYNONYMS Yes e. DISPLAY OF RELATED TERMS Yes f. CHECKING TERM IN CONTROLLED VOCABULARY Yes</p>	<p>1. USER DEFINABLE No</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS Yes, for index terms and certain bibliographic elements</p> <p>1. ALLOWS ON-LINE a. CREATION Yes, to establish temporary file; permanent file established via later batch run b. UPDATE Yes, in temporary file c. DELETION Yes, in temporary file d. EDITING Yes</p> <p>2. PREPROGRAMMED DATA VALIDATION CHECKS No, with certain exceptions</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA Not relevant to users</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No</p> <p>E. QUERY</p> <p>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</p> <p>2. CONTENT SEARCHING a. CONTROLLED VOCABULARY Yes, open-ended vocabulary now contains about 200,000 terms No b. FULL TEXT INVERSION Yes c. STEMMING PERMITTED Yes d. SYNONYMS Yes e. DISPLAY OF RELATED TERMS Yes f. CHECKING TERM IN CONTROLLED VOCABULARY Yes</p>	<p>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 No g. PHRASE AND DISTANCE SEARCHING No h. NATURAL ENGLISH No i. RANGE SEARCHING Yes, for date of publication</p> <p>4. TUTORIAL FEATURES a. "HELP" COMMAND Not needed because of tutorial sequence b. DOCUMENTATION ON-LINE Yes, with abbreviation optional</p> <p>5. SEARCH STRATEGY a. RANDOM Yes b. SEQUENTIAL No c. INDEXED SEQUENTIAL Yes</p> <p>F. REPORT GENERATION</p> <p>1. LANGUAGE TYPE a. STANDARD OUTPUT Yes b. SELECT AMONG OPTIONS Yes c. OWN CODE No</p> <p>2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING Yes b. DISPLAY OF GRAPHS No c. SPECIAL OUTPUTS Yes, microfilm, microfiche</p> <p>3. SPECIAL CAPABILITIES a. SORTING Yes, by date b. SEQUENCING Yes c. COUNTING Yes d. ARITHMETIC No</p> <p>G. SECURITY PROTECTION</p> <p>1. TERMINAL Yes 2. DATA BASE Yes 3. RECORD No 4. FIELD No</p>

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME OLIVER</p> <p>ORIGINATOR On-Line Systems, Inc. 115 Evergreen Heights Dr. Pittsburgh, Pa. 15229</p> <p>TELEPHONE 412-931-7600</p> <p>2. SOFTWARE AVAILABILITY By arrangement</p> <p>a. FOR PURCHASE</p> <p>b. AT WHAT COST</p> <p>FOR LEASE</p> <p>AT WHAT COST</p> <p>3. SERVICE AVAILABILITY</p> <p>a. SPARCH SERVICE</p> <p>AT WHAT COST</p> <p>Yes \$10.00/connect hour + \$0.05/computer processing unit + \$1.50/psu/mo. Standard & Poor's Daily Report</p> <p>b. DATA BASES</p> <p>c. TAKES CUSTOMER DATA BASES</p> <p>Yes</p> <p>4. HISTORY OF SOFTWARE</p> <p>a. FIRST INSTALLATION</p> <p>b. SIGNIFICANT INSTALLATIONS</p> <p>NA</p> <p>5. HISTORY OF SERVICE</p> <p>a. SERVICE INITIATION</p> <p>b. PRESENT USAGE</p> <p>1970 About 50 companies, 10-20 users each</p> <p>6. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME</p> <p>DFCSYSTEM 10</p> <p>2. OPERATING SYSTEM</p> <p>TOPS-10 Monitor (variant)</p> <p>3. SOURCE LANGUAGE</p> <p>MACRO-10 (assembler)</p> <p>4. TERMINAL TYPES</p> <p>TTY-compatible, 2741-compatible</p> <p>5. TRANSMISSION RATES</p> <p>10-120 cps</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS</p> <p>Yes</p>	<p>1. USER DEFINABLE</p> <p>Yes</p> <p>2. VARIABLE LENGTH TEXT</p> <p>Yes</p> <p>3. REPEATED FIELDS</p> <p>Yes</p> <p>D. FILE MAINTENANCE</p> <p>1. ALLOWS ON-LINE</p> <p>a. CREATION</p> <p>b. UPDATE</p> <p>c. DELETION</p> <p>d. EDITING</p> <p>Yes Yes Yes Yes</p> <p>2. PREPROGRAMMED DATA</p> <p>VALIDATION CHECKS</p> <p>Yes</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA</p> <p>New records are appended or else go into holes left by deletions</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING</p> <p>No</p> <p>E. QUERY</p> <p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS</p> <p>b. AT ANY POINT</p> <p>c. ENGLISH-LIKE PHRASING</p> <p>d. SYSTEM-FORCED DIALOGUE</p> <p>No Yes Yes</p> <p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY</p> <p>b. FULL TEXT INVERSION</p> <p>c. SPINNING PERMITTED</p> <p>d. SYNONYMS</p> <p>e. DISPLAY OF RELATED TERMS</p> <p>f. CHECKING TERM IN CON- TROLLED VOCABULARY</p> <p>No Yes Yes Yes Yes</p>	<p>a. MUST NAME FIELDS</p> <p>Yes</p> <p>b. MAY LIMIT FIELDS</p> <p>Yes</p> <p>c. BOOLEAN AND</p> <p>d. BOOLEAN OR</p> <p>e. BOOLEAN NOT</p> <p>Yes Yes Yes others</p> <p>f. NESTING OF BOOLEAN EXPRESSIONS</p> <p>Yes</p> <p>g. PHRASE AND DISTANCE SEARCHING</p> <p>No</p> <p>h. NATURAL ENGLISH</p> <p>No</p> <p>i. RANGE SEARCHING</p> <p>Yes</p> <p>4. TUTORIAL FEATURES</p> <p>a. "HELP" COMMAND</p> <p>b. DOCUMENTATION ON-LINE</p> <p>None</p> <p>5. SEARCH STRATEGY</p> <p>a. RANDOM</p> <p>b. SEQUENTIAL</p> <p>c. INDEXED SEQUENTIAL</p> <p>No Yes Yes</p> <p>F. REPORT GENERATION</p> <p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT</p> <p>b. SELECT AMONG OPTIONS</p> <p>c. OWN CODE</p> <p>Yes Yes Yes</p> <p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING</p> <p>b. DISPLAY OF GRAPHS</p> <p>Yes, limited capability through own code</p> <p>c. SPECIAL OUTPUTS</p> <p>!o</p> <p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING</p> <p>b. SEQUENCING</p> <p>c. COUNTING</p> <p>d. ARITHMETIC</p> <p>Yes No Yes Yes</p> <p>G. SECURITY PROTECTION</p> <p>1. TERMINAL</p> <p>2. DATA BASE</p> <p>3. RECORD</p> <p>4. FIELD</p> <p>Yes Yes Yes Yes</p>

C. FILE DEFINITION	Yes, with assistance Yes	No
1. USER DEFINABLE	Yes, with assistance	No
2. VARIABLE LENGTH TEXT	Yes	Yes
3. REPEATED FIELDS	Yes	Yes
D. FILE MAINTENANCE		
1. ALLOWS ON-LINE	No	No
a. CREATION	Yes	Yes
b. UPDATE	Yes	Yes
c. DELETION	Yes	Yes
d. EDITING	Yes	Yes
2. PREPROGRAMMED DATA VALIDATION CHECKS	No	Yes
3. OPTIONAL ORDERING OF ENTERED DATA	No	Yes
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	Yes, via an optional separate package	No
E. QUERY		
1. USER-SYSTEM INTERACTION		
a. MULTIPLE OPTIONS AT ANY POINT	Yes	Yes
b. ENGLISH-LIKE PHRASING	Yes	Yes
c. SYSTEM-FORCED DIALOGUE	No	No
2. CONTENT SEARCHING		
a. CONTROLLED VOCABULARY	Yes, if user supplied	No
b. FULL TEXT INVERSION	No	Yes
c. STOPPING PERMITTED	Yes	Yes
d. SYNONYMS	Yes, if established at file creation	No
e. DISPLAY OF RELATED TERMS	Yes, with special programming	No
f. CHECKING TERM IN CONTROLLED VOCABULARY	Yes, if user supplied	No
A. GENERAL DESCRIPTION		
1. SYSTEM NAME ORIGINATOR	ORBIT III System Development Corp. 2500 Colorado Ave. Santa Monica, Calif. 90406 213-393-9411	
TELEPHONE		
2. SOFTWARE AVAILABILITY	Yes	
a. FOR PURCHASE	\$47,500	
b. FOR LEASE	\$950 per month plus \$2,000 startup charges	
c. TAKES CUSTOMER DATA BASES	Yes	
3. SERVICE AVAILABILITY	\$22.00 to \$35.00 per hour. ERIC, CA Condensates, and CAIN. MEDLINE available to a restricted customer set.	
a. SEARCH SERVICE AT WHAT COST		
b. DATA BASES		
c. TAKES CUSTOMER DATA BASES	Yes	
4. HISTORY OF SOFTWARE	1970	
a. FIRST INSTALLATION		
b. SIGNIFICANT INSTALLATIONS	National Library of Medicine, SDC, Carolinska Institute of Stockholm, Dept. State, SUNY (Syracuse)	
5. HISTORY OF SERVICE	1972	
a. SERVICE INITIATION	Over 50 organizations	
b. PRESENT USAGE		
B. COMPUTER ENVIRONMENT		
1. MAIN FRAME	IBM Series 360, 370	
2. OPERATING SYSTEM	OS/MFT, OS/MVT, VS/2	
3. SOURCE LANGUAGE	PL/1	
4. TERMINAL TYPES	TTY, IBM 2741, and others	
5. TRANSMISSION RATES	10, 15, 30 gps	
6. RE-ENTRANT FOR MULTIPLE USERS	Yes	
3. SEARCH SPECIFICATION		
a. MUST NAME FIELDS	Yes	No
b. MAY LIMIT FIELDS	Yes	Yes
c. BOOLEAN AND	Yes	Yes
d. BOOLEAN OR	Yes	Yes
e. BOOLEAN NOT	Yes	Yes
f. NESTING OF BOOLEAN EXPRESSIONS	Yes	Yes
g. PHRASE AND DISTANCE SEARCHING	No	No
h. NATURAL ENGLISH	No	No
i. RANGE SEARCHING	Yes	Yes, for one category
4. TUTORIAL FEATURES		
a. "HELP" COMMAND	Yes	Yes
b. DOCUMENTATION	Yes	Yes
c. ON-LINE	Yes	Yes
5. SEARCH STRATEGY		
a. RANDOM	Yes	Yes
b. SEQUENTIAL	No	No
c. INDEXED SEQUENTIAL	No	No
F. REPORT GENERATION		
1. LANGUAGE TYPE		
a. STANDARD OUTPUT	Yes	Yes
b. SELECT AMONG OPTIONS	Yes	Yes
c. OWN CODE	No	No
2. MEDIA FLEXIBILITY		
a. OFF-LINE PRINTING	Yes	Yes
b. DISPLAY OF GRAPHS	No	No
c. SPECIAL OUTPUTS	No	No
3. SPECIAL CAPABILITIES		
a. SORTING	No	No
b. SEQUENCING	Yes	Yes, for number of hits
c. COUNTING	Yes	Yes
d. ARITHMETIC	No	No
G. SECURITY PROTECTION		
1. TERMINAL	No	No
2. DATA BASE	Yes	Yes
3. RECORD	Yes, using security at print level	Yes
4. FIELD	Yes, if user supplied	No

C. FILE DEFINITION	Yes	No
1. USER DEFINABLE	Yes	No
2. VARIABLE LENGTH TEXT	Yes	Yes
3. REPEATED FIELDS	Yes	Yes
D. FILE MAINTENANCE		
1. ALLOWS ON-LINE	Yes, by conversion of (card or text) input file	No
a. CREATION	Yes, source file	No
b. UPDATE	Yes, source file	No
c. DELETION	Yes, source file	No
d. EDITING	Yes, source file	No
2. PREPROGRAMMED DATA	Yes	Yes, via separate tutorial package
VALIDATION CHECKS	Yes	
3. OPTIONAL ORDERING OF ENTERED DATA	No	No
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	No (full text inversion for search on words and phrases)	No
E. QUERY		
1. USER-SYSTEM INTERACTION	Yes, via system controlled dialogue	Yes
a. MULTIPLE OPTIONS AT ANY POINT	Yes	Yes
b. ENGLISH-LIKE PHRASING	Yes	Yes
c. SYSTEM-FORCED DIALOGUE	Yes	Yes
2. CONTENT SEARCHING		
a. CONTROLLED VOCABULARY	No	No
b. FULL TEXT INVERSION	Yes (truncation)	No
c. STEERING PERMITTED	Yes	No
d. SYNONYMS	No	No
e. DISPLAY OF RELATED TERMS	No	No
f. CHECKING TERM IN CONTROLLED VOCABULARY	No	No
A. GENERAL DESCRIPTION		
1. SYSTEM NAME	PIRETS (Pittsburgh Information Retrieval System)	
ORIGINATOR	Knowledge Availability Systems Center University of Pittsburgh Pittsburgh, Pa. 15213 Contacts: Mr. Edmond Howic, Prof. Dale Isncr (system designer) 412-624-5211	
TELEPHONE		
2. SOFTWARE AVAILABILITY	A copy of the program and of the documentation are available for reproduction costs.	
a. FOR PURCHASE		
AT WHAT COST		
b. FOR LEASE		
AT WHAT COST		
3. SERVICE AVAILABILITY	Search services on approximately 10 data bases are available. For prices, contact Associate Director of KASC.	
a. SEARCH SERVICE		
AT WHAT COST		
b. DATA BASES		
c. TAKES CUSTOMER DATA BASES		
4. HISTORY OF SOFTWARE	Only implemented at Pittsburgh	
a. FIRST INSTALLATION		
b. SIGNIFICANT INSTALLATIONS		
5. HISTORY OF SERVICE	Aug., 1972	
a. SERVICE INITIATION	U. of Pitt. campus + over 100 outside clients	
b. PRESENT USAGE		
B. COMPUTER ENVIRONMENT		
1. MAIN FRAME	PDP10	
2. OPERATING SYSTEM	TSM	
3. SOURCE LANGUAGE	MACRO-10	
4. TERMINAL TYPES	ASR-33 TTY compatible	
5. TRANSMISSION RATES	10-30 cps.	
6. RE-ENTRANT FOR MULTIPLE USERS	Yes	
3. SEARCH SPECIFICATION:		
a. "JUST NAME FIELDS"	Yes	No
b. "RAY LIMIT FIELDS"	Yes	Yes
c. "BOOLEAN AND"	Yes	Yes
d. "BOOLEAN OR"	Yes	Yes
e. "BOOLEAN NOT"	Yes	Yes
f. "NESTING OF BOOLEAN EXPRESSIONS"	No	No
g. "PHRASE AND DISTANCE SEARCHING"	Yes	Yes (phrases)
h. "NATURAL ENGLISH RANGE SEARCHING"	No	No
i. "TUTORIAL FEATURES"	No	No
a. "HELP" COMMAND	Yes, via separate tutorial package	
b. DOCUMENTATION ON-LINE	Yes, via separate tutorial package	
5. SEARCH STRATEGY		
a. "RANDOM"	No	No
b. "SEQUENTIAL"	Yes	Yes
c. "INDEXED SEQUENTIAL"	No	No
F. REPORT GENERATION		
1. LANGUAGE TYPE		
a. "STANDARD OUTPUT"	Yes	Yes
b. "SELECT AMONG OPTIONS"	Yes	Yes
c. "OWN CODE"	Yes	Yes
2. "MEDIA FLEXIBILITY"		
a. "OFF-LINE PRINTING"	Yes	Yes
b. "DISPLAY OF GRAPHS"	No	No
c. "SPECIAL OUTPUTS"	No	No
3. SPECIAL CAPABILITIES		
a. "SORTING"	No	No
b. "SEQUENCING"	No	No
c. "COUNTING"	Yes	Yes
d. "ARITHMETIC"	No	No
G. SECURITY PROTECTION		
1. "TERMINAL"	Yes	Yes
2. "DATA BASE"	Yes	Yes
3. "RECORD"	No	No
4. "FIELD"	No	No

A. GENERAL DESCRIPTION

1. SYSTEM NAME
ORIGINATOR
TELEPHONE

QUERY UPDATE (version 1)
Control Data Corp.
5272 River Rd.
Washington, D.C. 20016
301-652-2268

2. SOFTWARE AVAILABILITY
a. FOR PURCHASE
AT WHAT COST
b. FOR LEASE
AT WHAT COST

No
Yes
\$100/mo. royalty

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

NA

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

late 1972
No extensive use yet

5. HISTORY OF SERVICE
a. SERVICE INITIATION
b. PRESENT USAGE

NA

B. COMPUTER ENVIRONMENT

1. MAIN FRAME
2. OPERATING SYSTEM
3. SOURCE LANGUAGE

CDC CYBER/70, 6000 series
SCOPE 3, INTERCOM 3
SYMP

4. TERMINAL TYPES
5. TRANSMISSION RATES
6. RE-ENTRANT FOR
MULTIPLE USERS

TTY 33, 35; CRT
10-30 cps, 100 cps, 2400 baud
No

C. FILE DEFINITION

Uses files
prepared
externally

1. USER DEFINABLE

Via a
separate
program

2. VARIABLE LENGTH TEXT

Yes

3. REPEATED FIELDS

Yes

D. FILE MAINTENANCE

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

No (see C.)
Yes
Yes
Yes
Yes

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

b. ENGLISH-LIKE
PHRASING

c. SYSTEM-FORCED
DIALOGUE

Yes
Yes
No

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

None

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

Yes
Yes
Yes
Yes
No (Exclusive
OR instead)
Yes
No
No
Yes

4. TUTORIAL FEATURES

Yes
Yes
Yes

5. SEARCH STRATEGY

a. RANDOM
b. SEQUENTIAL
c. INDEXED SEQUENTIAL

Yes
Yes
Yes

F. REPORT GENERATION

1. LANGUAGE TYPE

a. STANDARD OUTPUT

b. SELECT AMONG
OPTIONS

c. OWN CODE

Yes
No
No

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

None

Yes
No
Yes
Yes

G. SECURITY PROTECTION

1. TERMINAL

2. DATA BASE

3. RECORD

4. FIELD

Yes
Yes
No
No

A. GENERAL DESCRIPTION	B. COMPUTER ENVIRONMENT	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	G. SECURITY PROTECTION	3. SEARCH SPECIFICATION		
<p>1. SYSTEM NAME ORIGINATOR</p> <p>RAMIS MATHEMATICA, Inc. Princeton Station Office Park P.O. Box 2392 Princeton, N.J. 08540</p> <p>TELEPHONE 609-799-2600</p>	<p>1. MAIN FRAME IBM 360, 370</p> <p>2. OPERATING SYSTEM OS (TSO), CPCMS/VM 370</p> <p>3. SOURCE LANGUAGE Assembler + FORTRAN</p> <p>4. TERMINAL TYPES All kinds</p> <p>5. TRANSMISSION RATES All rates</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS No</p>	<p>1. USER DEFINABLE</p> <p>2. VARIABLE LENGTH TEXT</p> <p>3. REPEATED FIELDS</p>	<p>1. ALLOWS ON-LINE</p> <p>a. CREATION b. UPDATE c. DELETION d. EDITING</p> <p>2. PREPROGRAMMED DATA VALIDATION CHECKS</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING</p>	<p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS AT ANY POINT</p> <p>b. ENGLISH-LIKE PHRASING</p> <p>c. SYSTEM-FORCED DIALOGUE</p> <p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY</p> <p>b. FULL TEXT INVERSION</p> <p>c. STEMMING PERMITTED</p> <p>d. SYNONYMS Yes (group names)</p> <p>e. DISPLAY OF RELATED TERMS No</p> <p>f. CHECKING TERM IN CON- TROLLED VOCABULARY Yes</p>	<p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT No</p> <p>b. SELECT AMONG OPTIONS No</p> <p>c. OWN CODE Yes (embedded in query specification)</p> <p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING Yes</p> <p>b. DISPLAY OF GRAPHS Yes</p> <p>c. SPECIAL OUTPUTS No</p> <p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING Yes</p> <p>b. SEQUENCING Yes</p> <p>c. COUNTING Yes, very complete</p> <p>d. ARITHMETIC Yes, very complete</p> <p>3. SECURITY PROTECTION</p> <p>1. TERMINAL Yes</p> <p>2. DATA BASE Yes</p> <p>3. RECORD Yes</p> <p>4. FIELD Yes</p>	<p>1. USER DEFINABLE Yes</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS Yes</p>	<p>1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING Yes</p> <p>2. PREPROGRAMMED DATA VALIDATION CHECKS Yes</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA Yes</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING NA</p>	<p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT No</p> <p>b. SELECT AMONG OPTIONS No</p> <p>c. OWN CODE Yes (embedded in query specification)</p> <p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING Yes</p> <p>b. DISPLAY OF GRAPHS Yes</p> <p>c. SPECIAL OUTPUTS No</p> <p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING Yes</p> <p>b. SEQUENCING Yes</p> <p>c. COUNTING Yes, very complete</p> <p>d. ARITHMETIC Yes, very complete</p> <p>3. SECURITY PROTECTION</p> <p>1. TERMINAL Yes</p> <p>2. DATA BASE Yes</p> <p>3. RECORD Yes</p> <p>4. FIELD Yes</p>	
<p>2. SOFTWARE AVAILABILITY</p> <p>a. FOR PURCHASE \$21,000-\$36,000</p> <p>b. FOR LEASE \$840-\$1300/mo.</p> <p>3. SERVICE AVAILABILITY</p> <p>a. SEARCH SERVICE Approx. 33% over raw computer time</p> <p>b. DATA BASES None</p> <p>c. TAKES CUSTOMER DATA BASES Yes</p> <p>4. HISTORY OF SOFTWARE</p> <p>a. FIRST INSTALLATION 1967</p> <p>b. SIGNIFICANT INSTALLATIONS Standard Oil of California, Bell Telephone Labs, Nabisco, Inc.</p> <p>5. HISTORY OF SERVICE</p> <p>a. SERVICE INITIATION 1967</p> <p>b. PRESENT USAGE 75 major corporation users</p>	<p>1. MAIN FRAME IBM 360, 370</p> <p>2. OPERATING SYSTEM OS (TSO), CPCMS/VM 370</p> <p>3. SOURCE LANGUAGE Assembler + FORTRAN</p> <p>4. TERMINAL TYPES All kinds</p> <p>5. TRANSMISSION RATES All rates</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS No</p>	<p>1. USER DEFINABLE Yes</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS Yes</p>	<p>1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING Yes</p> <p>2. PREPROGRAMMED DATA VALIDATION CHECKS Yes</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA Yes</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING NA</p>	<p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS AT ANY POINT</p> <p>b. ENGLISH-LIKE PHRASING</p> <p>c. SYSTEM-FORCED DIALOGUE</p> <p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY</p> <p>b. FULL TEXT INVERSION</p> <p>c. STEMMING PERMITTED</p> <p>d. SYNONYMS Yes (group names)</p> <p>e. DISPLAY OF RELATED TERMS No</p> <p>f. CHECKING TERM IN CON- TROLLED VOCABULARY Yes</p>	<p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT No</p> <p>b. SELECT AMONG OPTIONS No</p> <p>c. OWN CODE Yes (embedded in query specification)</p> <p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING Yes</p> <p>b. DISPLAY OF GRAPHS Yes</p> <p>c. SPECIAL OUTPUTS No</p> <p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING Yes</p> <p>b. SEQUENCING Yes</p> <p>c. COUNTING Yes, very complete</p> <p>d. ARITHMETIC Yes, very complete</p> <p>3. SECURITY PROTECTION</p> <p>1. TERMINAL Yes</p> <p>2. DATA BASE Yes</p> <p>3. RECORD Yes</p> <p>4. FIELD Yes</p>	<p>1. USER DEFINABLE Yes</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS Yes</p>	<p>1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING Yes</p> <p>2. PREPROGRAMMED DATA VALIDATION CHECKS Yes</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA Yes</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING NA</p>	<p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS AT ANY POINT</p> <p>b. ENGLISH-LIKE PHRASING</p> <p>c. SYSTEM-FORCED DIALOGUE</p> <p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY</p> <p>b. FULL TEXT INVERSION</p> <p>c. STEMMING PERMITTED</p> <p>d. SYNONYMS Yes (group names)</p> <p>e. DISPLAY OF RELATED TERMS No</p> <p>f. CHECKING TERM IN CON- TROLLED VOCABULARY Yes</p>	<p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT No</p> <p>b. SELECT AMONG OPTIONS No</p> <p>c. OWN CODE Yes (embedded in query specification)</p> <p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING Yes</p> <p>b. DISPLAY OF GRAPHS Yes</p> <p>c. SPECIAL OUTPUTS No</p> <p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING Yes</p> <p>b. SEQUENCING Yes</p> <p>c. COUNTING Yes, very complete</p> <p>d. ARITHMETIC Yes, very complete</p> <p>3. SECURITY PROTECTION</p> <p>1. TERMINAL Yes</p> <p>2. DATA BASE Yes</p> <p>3. RECORD Yes</p> <p>4. FIELD Yes</p>

A. GENERAL DESCRIPTION

1. SYSTEM NAME
 RECON/STIMS, JURIS, ENVIRON,
 TOXICON (same system);
 Lockheed's DIALOC is
 technically the same.

ORIGINATOR
 NASA
 Science & Tech. Information
 Division
 Washington, D.C.
 301-755-3465

TELEPHONE
 Available via COSMIC. Extended
 version available by late 1973

2. SOFTWARE AVAILABILITY
 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
 b. PRESENT USAGE
 NA

B. COMPUTER ENVIRONMENT
 1. MAIN FRAME
 IBM 360/50

2. OPERATING SYSTEM
 OS/HVT and MFT

3. SOURCE LANGUAGE
 RECON (the interactive
 subsystem) is all assembler;
 STIMS (the batch file
 maintenance subsystem) is PL/I
 + 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
 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
 None

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
 PHRASING
 Yes

c. SYSTEM-FORCED
 DIALOGUE
 No

2. CONTENT SEARCHING
 a. CONTROLLED VOCABULARY
 b. FULL TEXT INVERSION
 Yes
 Yes

c. STEMMING PERMITTED
 Yes

d. SYNONYMS
 c. DISPLAY OF
 RELATED TERMS
 Yes, via
 EXPAND

f. CHECKING TERM IN CON-
 TROLLED VOCABULARY
 Yes

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
 RANGE SEARCHING
 No

i. RANGE SEARCHING
 Yes

4. TUTORIAL FEATURES
 a. "HELP" COMMAND
 Yes, via
 EXPLAIN

b. DOCUMENTATION
 ON-LINE
 Yes

5. SEARCH STRATEGY
 a. RANDOM
 No

b. SEQUENTIAL
 No

c. INDEXED SEQUENTIAL
 Yes

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
 No

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

1. SYSTEM NAME RFI (Remote File Inquiry System)
 ORIGINATOR NASA
 John F. Kennedy Space Center
 Automatic Data Processing
 Center
 Kennedy Space Center, Fla.
 32899
 305-867-4166

2. SOFTWARE AVAILABILITY Available to government agencies

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

3. SERVICE AVAILABILITY

- a. SEARCH SERVICE No, in-house use only
- b. AT WHAT COST NASA technical data on parts reliability, financial management, master personnel, etc.

c. TAKES CUSTOMER DATA BASES NA

5

4. HISTORY OF SOFTWARE

- a. FIRST INSTALLATION 1969
- b. SIGNIFICANT INSTALLATIONS NASA Headquarters, NASA Space Center

5. HISTORY OF SERVICE

- a. SERVICE INITIATION 1969
- b. PRESENT USAGE See 4.b.; supplied to Army Safeguard Command and House of Representatives, but usage there unknown

B. COMPUTER ENVIRONMENT

1. MAIN FRAME Minimum 360/40

2. OPERATING SYSTEM OS/MFT(OTAM), 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

1. USER-SYSTEM INTERACTION

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

2. CONTENT SEARCHING

- a. CONTROLLED VOCABULARY Yes
- b. FULL TEXT INVERSION No
- c. STEMMING PERMITTED No
- d. SYNONYMS Yes, of keywords
- e. DISPLAY OF RELATED TERMS No
- f. CHECKING TERM IN CONTROLLED VOCABULARY No

3. SEARCH SPECIFICATION

- a. MUST NAME FIELDS Yes
- b. MAY 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

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

5. SEARCH STRATEGY

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

F. REPORT GENERATION

- 1. LANGUAGE TYPE a. STANDARD OUTPUT No
 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 No, but automatic total for arithmetic fields

G. SECURITY PROTECTION

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

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME: ORIGINATOR</p> <p>RIQS Vogelback Computing Center Northwestern Univ. Evanston, Ill. 60201 312-492-3741</p> <p>2. SOFTWARE AVAILABILITY</p> <p>a. FOR PURCHASE By arrangement</p> <p>b. AT WHAT COST</p> <p>c. FOR LEASE</p> <p>d. AT WHAT COST</p> <p>3. SERVICE AVAILABILITY</p> <p>a. SEARCH SERVICE</p> <p>To non-profit or educational organisations Cost-reimbursable</p> <p>b. DATA BASES</p> <p>Mostly bibliographies (Computer science, physics, etc.), journal abstracts for social sciences, others</p> <p>c. TAKES CUSTOMER DATA BASES</p> <p>Yes</p> <p>4. HISTORY OF SOFTWARE</p> <p>a. FIRST INSTALLATION</p> <p>Sept. 1969</p> <p>b. SIGNIFICANT INSTALLATIONS</p> <p>5. HISTORY OF SERVICE</p> <p>a. SERVICE INITIATION</p> <p>Sept., 1969 (demonstration of prototype) Heavy usage, over 50 data bases in Chicago area.</p> <p>b. PRESENT USAGE</p>	<p>1. USER DEFINABLE</p> <p>Yes</p> <p>2. VARIABLE LENGTH TEXT</p> <p>Yes</p> <p>3. REPEATED FIELDS</p> <p>Yes</p>	<p>1. ALLOWS ON-LINE</p> <p>No on-line capability</p> <p>a. CREATION</p> <p>b. UPDATE</p> <p>c. DELETION</p> <p>d. EDITING</p> <p>2. PREPROGRAMMED DATA VALIDATION CHECKS</p> <p>Yes (user specified)</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA</p> <p>Yes</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING</p> <p>Yes</p>	<p>1. USER-SYSTEM INTERACTION</p> <p>a. MULTIPLE OPTIONS</p> <p>Yes</p> <p>b. ENGLISH-LIKE PHRASING</p> <p>Yes</p> <p>c. SYSTEM-FORCED DIALOGUE</p> <p>No</p> <p>2. CONTENT SEARCHING</p> <p>a. CONTROLLED VOCABULARY</p> <p>No</p> <p>b. FULL TEXT INVERSION</p> <p>Yes, user may request inverted index, or else full text search occurs on all items</p> <p>c. STEMMING PERMITTED</p> <p>No</p> <p>d. SYNONYMS</p> <p>No</p> <p>e. DISPLAY OF RELATED TERMS</p> <p>No</p> <p>f. CHECKING TERM IN CONTROLLED VOCABULARY</p> <p>No</p>	<p>1. LANGUAGE TYPE</p> <p>a. STANDARD OUTPUT</p> <p>Yes</p> <p>b. SELECT AMONG OPTIONS</p> <p>No</p> <p>c. OWN CODE</p> <p>Yes</p> <p>2. MEDIA FLEXIBILITY</p> <p>a. OFF-LINE PRINTING</p> <p>Yes</p> <p>b. DISPLAY OF GRAPHS</p> <p>Yes</p> <p>c. SPECIAL OUTPUTS</p> <p>No</p> <p>3. SPECIAL CAPABILITIES</p> <p>a. SORTING</p> <p>Yes, batch mode only</p> <p>b. SPOUENCING</p> <p>No</p> <p>c. COUNTING</p> <p>Yes</p> <p>d. ARITHMETIC</p> <p>Yes</p> <p>C. SECURITY PROTECTION</p> <p>1. TERMINAL</p> <p>No</p> <p>2. DATA BASE</p> <p>Yes</p> <p>3. RECORD</p> <p>No</p> <p>4. FIELD</p> <p>No</p>	<p>a. MUST NAME FIELDS</p> <p>No</p> <p>b. MAY LIMIT FIELDS</p> <p>Yes</p> <p>c. BOOLEAN AND</p> <p>Yes</p> <p>d. BOOLEAN OR</p> <p>Yes</p> <p>e. BOOLEAN NOT</p> <p>Yes</p> <p>f. NESTING OF BOOLEAN EXPRESSIONS</p> <p>Yes</p> <p>g. PHRASE AND DISTANCE SEARCHING</p> <p>No distance search</p> <p>h. NATURAL ENGLISH</p> <p>No</p> <p>i. RANGE SEARCHING</p> <p>Yes</p> <p>4. TUTORIAL FEATURES</p> <p>a. "HELP" COMMAND</p> <p>Yes</p> <p>b. DOCUMENTATION ON-LINE</p> <p>Yes</p> <p>5. SEARCH STRATEGY</p> <p>a. RANDOM</p> <p>Yes, for specified records or subsets</p> <p>b. SEQUENTIAL</p> <p>Yes, for full file</p> <p>c. INDEXED SEQUENTIAL</p> <p>Yes</p>
<p>B. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME</p> <p>CDC 6400</p> <p>2. OPERATING SYSTEM</p> <p>SCOPE 3.3 + in-house built interactive front-end (on-line subsystem)</p> <p>3. SOURCE LANGUAGE</p> <p>FORTRAN + COMPASS</p> <p>4. TERMINAL TYPES</p> <p>TTY-compatible; IMLAC graphics terminal (15k baud, local connection)</p> <p>5. TRANSMISSION RATES</p> <p>10, 15, 30 cps</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS</p> <p>No</p>					

3. SEARCH SPECIFICATION
 a. MUST NAME FIELDS No
 b. MAY LIMIT FIELDS Yes, limit to preestablished text segments or to given lines of text
 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 No
 i. RANGE SEARCHING Yes
 4. TUTORIAL FEATURES
 a. "HELP" COMMAND No
 b. DOCUMENTATION ON-LINE No, but complex commands entered via explanatory questionnaire
 5. SEARCH STRATEGY
 a. RANDOM No
 b. SEQUENTIAL Yes
 c. INDEXED SEQUENTIAL No
 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 No
 c. SPECIAL OUTPUTS Yes (punched cards)
 3. SPECIAL CAPABILITIES
 a. SORTING Yes
 b. SEQUENCING No
 c. COUNTING Yes
 d. ARITHMETIC No
 G. SECURITY PROTECTION
 1. TERMINAL No
 2. DATA BASE Yes
 3. RECORD No
 4. FIELD No

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 No
 3. VALIDATION CHECKS Yes
 4. OPTIONAL ORDERING OF ENTERED DATA Yes
 5. 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
 c. SYSTEM-FORCED DIALOGUE No
 2. CONTENT SEARCHING
 a. CONTROLLED VOCABULARY No
 b. FULL TEXT INVERSION Yes, left, right, or both
 c. STEMMING PERMITTED Yes (uscr definable)
 d. SYNONYMS No
 e. DISPLAY OF RELATED TERMS No
 f. CHECKING TERM IN CONTROLLED VOCABULARY No

A. GENERAL DESCRIPTION
 1. SYSTEM NAME SHOEBOX
 ORIGINATOR MITRE Corp.
 Bedford, Mass. 01730
 Contact: Henry A. Bayard
 617-271-2582
 TELEPHONE
 2. SOFTWARE AVAILABILITY
 a. FOR PURCHASE Yes
 AT WHAT COST By arrangement; probably at reproduction cost to government users
 b. FOR LEASE None
 AT WHAT COST None
 3. SERVICE AVAILABILITY
 a. SEARCH SERVICE Yes
 AT WHAT COST By arrangement with MITRE Corp.
 b. DATA BASES None
 c. TAKES CUSTOMER DATA BASES Yes
 4. HISTORY OF SOFTWARE
 a. FIRST INSTALLATION 1970
 b. SIGNIFICANT INSTALLATIONS None, other than MITRE
 5. HISTORY OF SERVICE
 a. SERVICE INITIATION None, other than MITRE
 b. PRESENT USAGE
 B. COMPUTER ENVIRONMENT
 1. MAIN FRAME IBM 360 or 370 (SHOEBOX requires 186 K bytes of core)
 2. OPERATING SYSTEM OS/PCP, MFT, MVT
 3. SOURCE LANGUAGE TREE (LISP derivative)
 4. TERMINAL TYPES IBM 2260 alphanumeric display
 5. TRANSMISSION RATES 2500 cps (in local configuration)
 6. RE-ENTRANT FOR MULTIPLE USERS Yes (Up to 8 concurrent users)

A. GENERAL DESCRIPTION	C. FILE DEFINITION	D. FILE MAINTENANCE	E. QUERY	F. REPORT GENERATION	G. SECURITY PROTECTION	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME Washington State University Pullman, Washington, 99163</p> <p>2. SOFTWARE AVAILABILITY a. FOR PURCHASE Yes b. FOR LEASE Not established</p> <p>3. SERVICE AVAILABILITY a. SEARCH SERVICE Yes b. DATA BASES \$500 annual subscription plus costs per demand searches subset of CBAC plus local literatures</p> <p>4. HISTORY OF SOFTWARE a. FIRST INSTALLATION Since 1971 b. SIGNIFICANT INSTALLATIONS None yet</p> <p>5. HISTORY OF SERVICE a. SERVICE INITIATION Since 1971 for internal use only b. PRESENT USAGE Very infrequent, about ten times per month</p>	<p>1. USER DEFINABLE No</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS No</p>	<p>1. ALLOWS ON-LINE No</p> <p>a. CREATION No</p> <p>b. UPDATE No</p> <p>c. DELETION No</p> <p>d. EDITING No</p> <p>2. PREPROGRAMMED DATA Yes</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA No</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Yes, in batch-mode only</p>	<p>1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS Yes b. ENGLISH-LIKE Yes c. SYSTEM-FORCED DIALOGUE No</p> <p>2. CONTENT SEARCHING Yes, special vocabulary for use in the CBAC data base</p> <p>b. FULL TEXT INVERSION Yes c. STEMMING PERMITTED Yes d. SYNONYMS Yes e. DISPLAY OF RELATED TERMS Yes, separate dictionary used on-line in browse mode</p> <p>f. CHECKING TERM IN CONTROLLED VOCABULARY No</p>	<p>1. LANGUAGE TYPE Yes</p> <p>a. STANDARD OUTPUT Yes</p> <p>b. SELECT AMONG OPTIONS No</p> <p>c. OWN CODE No</p> <p>2. MEDIA FLEXIBILITY Yes</p> <p>a. OFF-LINE PRINTING No</p> <p>b. DISPLAY OF GRAPHS No</p> <p>c. SPECIAL OUTPUTS No</p> <p>3. SPECIAL CAPABILITIES No</p> <p>a. SORTING No</p> <p>b. SEQUENCING No</p> <p>c. COUNTING No</p> <p>d. ARITHMETIC No</p>	<p>1. TERMINAL No</p> <p>2. DATA BASE No</p> <p>3. RECORD No</p> <p>4. FIELD No</p>	<p>a. MUST NAME FIELDS Yes</p> <p>b. MAY LIMIT FIELDS Yes</p> <p>c. BOOLEAN AND Yes</p> <p>d. BOOLEAN OR Yes</p> <p>e. BOOLEAN NOT Yes</p> <p>f. NESTING OF BOOLEAN EXPRESSIONS Yes</p> <p>g. PHRASE AND DISTANCE SEARCHING No</p> <p>h. NATURAL ENGLISH Yes</p> <p>i. RANGE SEARCHING No</p> <p>4. TUTORIAL FEATURES Yes</p> <p>a. "HELP" COMMAND Yes</p> <p>b. DOCUMENTATION ON-LINE No</p> <p>5. SEARCH STRATEGY Yes</p> <p>a. RANDOM No</p> <p>b. SEQUENTIAL No</p> <p>c. INDEXED SEQUENTIAL No</p> <p>F. REPORT GENERATION</p>
<p>B. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME IBM 360/67 operating as a 65</p> <p>2. OPERATING SYSTEM OS MVT</p> <p>3. SOURCE LANGUAGE PL/1 plus assembly</p> <p>4. TERMINAL TYPES Any TTY compatible with IBM 1050, and 2741</p> <p>5. TRANSMISSION RATES 10, 14.7 and 15 cps</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS Yes</p>						

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR	1. USER DEFINABLE	a. JUST NAME FIELDS
2. SOFTWARE AVAILABILITY	2. VARIABLE LENGTH TEXT	b. MAY LIMIT FIELDS
a. FOR PURCHASE	3. REPEATED FIELDS	c. BOOLEAN AND
b. FOR LEASE	D. FILE MAINTENANCE	d. BOOLEAN OR
c. TAKES CUSTOMER	1. ALLOWS ON-LINE	e. BOOLEAN NOT
d. DATA BASES	a. CREATION	f. TESTING OF BOOLEAN
e. SIGNIFICANT	b. UPDATE	g. EXPRESSIONS
f. INSTALLATIONS	c. DELETION	h. PHRASE AND DISTANCE
g. HISTORY OF SERVICE	d. EDITING	i. RANGE SEARCHING
h. SERVICE INITIATION	2. PREPROGRAMMED DATA	4. TUTORIAL FEATURES
i. PRESENT USAGE	VALIDATION CHECKS	a. "HELP" COMMAND
1. MAIN FRAME	3. OPTIONAL ORDERING OF	b. DOCUMENTATION
2. OPERATING SYSTEM	ENTERED DATA	ON-LINE
3. SOURCE LANGUAGE	4. AUTOMATIC OR	5. SEARCH STRATEGY
4. TERMINAL TYPES	MACHINE-AIDED	a. RANDOM
5. TRANSMISSION RATES	CONTENT INDEXING	b. SEQUENTIAL
6. RE-ENTRANT FOR	E. QUERY	c. INDEXED SEQUENTIAL
MULTIPLE USERS	1. USER-SYSTEM INTERACTION	F. REPORT GENERATION
	a. MULTIPLE OPTIONS	1. LANGUAGE TYPE
	b. AT ANY POINT	a. STANDARD OUTPUT
	c. SYSTEM-FORCED	b. SELECT AMONG
	DIALOGUE	OPTIONS
	2. CONTENT SEARCHING	c. OWN CODE
	a. CONTROLLED VOCABULARY	2. MEDIA FLEXIBILITY
	b. FULL TEXT INVERSION	a. OFF-LINE PRINTING
	c. STEMMING PERMITTED	b. DISPLAY OF GRAPHS
	d. SYNONYMS	c. SPECIAL OUTPUTS
	e. DISPLAY OF	3. SPECIAL CAPABILITIES
	f. CHECKING TERMS IN CON-	a. SORTING
	TROLLED VOCABULARY	b. SEQUENCING
		c. COUNTING
		d. ARITHMETIC
		G. SECURITY PROTECTION
		1. TERMINAL
		2. DATA BASE
		3. RECORD
		4. FIELD

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
<p>1. SYSTEM NAME ORIGINATOR</p> <p>STAIRS IBM Corporation Data Processing Division 1133 Westchester Ave. White Plains, N.Y. 10604 Local representative</p>	<p>1. USER DEFINABLE Yes</p> <p>2. VARIABLE LENGTH TEXT Yes</p> <p>3. REPEATED FIELDS No</p> <p>D. FILE MAINTENANCE</p> <p>1. ALLOWS ON-LINE a. CREATION No b. UPDATE No c. DELETION Yes (marked for deletion during batch update)</p> <p>d. EDITING No</p> <p>2. PREPROGRAMMED DATA VALIDATION CHECKS No</p> <p>3. OPTIONAL ORDERING OF ENTERED DATA Yes, merge records into file, but not fields within record</p> <p>4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING No</p>	<p>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 (in formatted fields)</p> <p>4. TUTORIAL FEATURES a. "HELP" COMMAND Yes b. DOCUMENTATION ON-LINE Yes</p> <p>5. SEARCH STRATEGY a. RANDOM Yes b. SEQUENTIAL Yes c. INDEXED SEQUENTIAL Yes</p> <p>F. REPORT GENERATION</p> <p>1. LANGUAGE TYPE a. STANDARD OUTPUT Yes b. SELECT AMONG OPTIONS Yes c. OWN CODE Yes</p> <p>2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING Yes b. DISPLAY OF GRAPHS No c. SPECIAL OUTPUTS No</p> <p>3. SPECIAL CAPABILITIES a. SORTING Yes b. SEQUENCING Yes c. COUNTING Yes d. ARITHMETIC No</p> <p>G. SECURITY PROTECTION</p> <p>1. TERMINAL Yes 2. DATA BASE Yes 3. RECORD Yes 4. FIELD Yes</p>
<p>2. SOFTWARE AVAILABILITY a. FOR PURCHASE No b. FOR LEASE Yes AT WHAT COST \$500.00 per month</p> <p>3. SERVICE AVAILABILITY a. SEARCH SERVICE NA b. AT WHAT COST c. TAKES CUSTOMER DATA BASES</p> <p>4. HISTORY OF SOFTWARE a. FIRST INSTALLATION July, 1972 b. SIGNIFICANT INSTALLATIONS Not available</p> <p>5. HISTORY OF SERVICE a. SERVICE INITIATION NA b. PRESENT USAGE</p> <p>B. COMPUTER ENVIRONMENT</p> <p>1. MAIN FRAME IBM 360, 370 Series</p> <p>2. OPERATING SYSTEM OS/MFT or MVT (with CICS)</p> <p>3. SOURCE LANGUAGE Assembly, with some PL/I</p> <p>4. TERMINAL TYPES IBM 2741, 2260, 2265</p> <p>5. TRANSMISSION RATES 15, 120 or 240 cps</p> <p>6. RE-ENTRANT FOR MULTIPLE USERS Yes</p>	<p>E. QUERY</p> <p>1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS AT ANY POINT Yes b. ENGLISH-LIKE PHRASING Yes c. SYSTEM-FORCED DIALOGUE No</p> <p>2. CONTENT SEARCHING a. CONTROLLED VOCABULARY No b. FULL TEXT INVERSION Yes c. STEMMING PERMITTED Yes d. SYNONYMS Yes e. DISPLAY OF RELATED TERMS No f. CHECKING TERM IN CONTROLLED VOCABULARY NA</p>	

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
1. SYSTEM NAME MRI Systems Corp. P.O. Box 9968 Austin, Tx. 78766 512-258-5171	1. USER DEFINABLE	a. MUST NAME FIELDS b. MAY LIMIT FIELDS
2. SOFTWARE AVAILABILITY a. FOR PURCHASE \$25,000 (minimum package) b. FOR LEASE \$740 or \$960/mo. with option to buy (minimum package)	2. VARIABLE LENGTH TEXT	c. BOOLEAN AND d. BOOLEAN OR e. BOOLEAN NOT f. NESTING OF BOOLEAN EXPRESSIONS
3. SERVICE AVAILABILITY a. SEARCH SERVICE Arrange with data center b. DATA BASES None c. TAKES CUSTOMER DATA BASES Yes, with help from MRI and data centers	3. REPEATED FIELDS	g. PHRASE AND DISTANCE SEARCHING h. NATURAL ENGLISH i. RANGE SEARCHING
4. HISTORY OF SOFTWARE a. FIRST INSTALLATION July, 1970 b. SIGNIFICANT INSTALLATIONS Control Data data center, St. Paul Insurance Co. (IBM version), INFONET	D. FILE MAINTENANCE	4. TUTORIAL FEATURES a. "HELP" COMMAND b. DOCUMENTATION c. ON-LINE
5. HISTORY OF SERVICE a. SERVICE INITIATION July, 1970 b. PRESENT USAGE Approx. 200 users.	1. ALLOWS ON-LINE a. CREATION b. UPDATE c. DELETION d. EDITING	5. SEARCH STRATEGY a. RANDOM b. SEQUENTIAL c. INDEXED SEQUENTIAL
B. COMPUTER ENVIRONMENT	2. PREPROGRAMMED DATA VALIDATION CHECKS	F. REPORT GENERATION
1. MAIN FRAME IBM 360,370 UNIVAC 1100 series CDC 6000 and CYBER 70 series	3. OPTIONAL ORDERING OF ENTERED DATA	1. LANGUAGE TYPE a. STANDARD OUTPUT b. SELECT AMONG c. OPTIONS
2. OPERATING SYSTEM OS/MVT, MFT, TSO, VS/1 EXEC 8, CTS SCOPE, KRONOS	4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING	2. MEDIA FLEXIBILITY a. OFF-LINE PRINTING b. DISPLAY OF GRAPHS c. SPECIAL OUTPUTS
3. SOURCE LANGUAGE FORTRAN + Assembler	E. QUERY	3. SPECIAL CAPABILITIES a. SORTING b. SEQUENCING c. COUNTING d. ARITHMETIC
4. TERMINAL TYPES TTY 33, 35, IBM 2741, 2260	1. USER-SYSTEM INTERACTION a. MULTIPLE OPTIONS AT ANY POINT b. ENGLISH-LIKE PHRASING c. SYSTEM-FORCED DIALOGUE	G. SECURITY PROTECTION
5. TRANSMISSION RATES 10, 15, 120, 240 cps	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	1. TERMINAL 2. DATA BASE 3. RECORD 4. FIELD
6. RE-ENTRANT FOR MULTIPLE USERS Only IBM version		

A. GENERAL DESCRIPTION

1. SYSTEM NAME
TICON (Timeshared Information Control System)
Advanced Computer Systems, Inc.
3131 S. Dixie Dr.
Dayton, Ohio 45439
513-294-0586
2. SOFTWARE AVAILABILITY
a. FOR PURCHASE Yes
b. AT WHAT COST Basic system is \$50 K.
c. FOR LEASE Yes
d. AT WHAT COST By arrangement
3. SERVICE AVAILABILITY NA
a. SEARCH SERVICE NA
b. DATA BASES NA
c. TAKES CUSTOMER DATA BASES NA
4. HISTORY OF SOFTWARE
a. FIRST INSTALLATION Available and operational, but none installed yet.
b. SIGNIFICANT INSTALLATIONS NA
5. HISTORY OF SERVICE
a. SERVICE INITIATION NA
b. PRESENT USAGE NA

B. COMPUTER ENVIRONMENT

1. MAIN FRAME IBM 360, 370
2. OPERATING SYSTEM OS
3. SOURCE LANGUAGE Assembler
4. TERMINAL TYPES CRT, TTY, any BRAM or GRAPHIC supported terminal.
5. TRANSMISSION RATES 80 cps, 10 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
a. CREATION No
b. UPDATE Yes (optional with arithmetic data only)
c. DELETION No
d. EDITING Yes
2. PREPROGRAMMED DATA
3. VALIDATION CHECKS Yes
3. OPTIONAL ORDERING OF ENTERED DATA Yes
4. AUTOMATIC OR MACHINE-AIDED CONTENT INDEXING Yes

E. QUERY

1. USER-SYSTEM INTERACTION
a. MULTIPLE OPTIONS Yes
b. AT ANY POINT PHRASING Yes
c. SYSTEM-FORCED DIALOGUE No
2. CONTENT SEARCHING
a. CONTROLLED VOCABULARY No
b. FULL TEXT INVERSION Yes
c. STEMMING PERMITTED No
d. SYNONYMS No
e. DISPLAY OF RELATED TERMS No
f. CHECKING TERM IN CONTROLLED VOCABULARY Yes

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 SEARCHING Yes
- h. NATURAL ENGLISH Yes
- i. RANGE SEARCHING Yes

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

5. SEARCH STRATEGY

- Inverted file for each word, searching via indices
- a. RANDOM Yes
 - b. SEQUENTIAL No
 - 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
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 Yes
3. RECORD Yes
4. FIELD Yes

A. GENERAL DESCRIPTION	C. FILE DEFINITION	3. SEARCH SPECIFICATION
1. SYSTEM NAME ORIGINATOR TELEPHONE	1. USER DEFINABLE	a. MUST NAME FIELDS
UNIDATA	2. VARIABLE LENGTH TEXT	b. MAY LIMIT FIELDS
United Computing Systems	3. REPEATED FIELDS	c. BOOLEAN AND
3130 Broadway	D. FILE MAINTENANCE	d. BOOLEAN OR
Kansas City, Mo. 64106	1. ALLOWS ON-LINE	e. BOOLEAN NOT
816-753-4500	a. CREATION	f. NESTING OF BOOLEAN
2. SOFTWARE AVAILABILITY	b. UPDATE	EXPRESSIONS
a. FOR PURCHASE	c. DELETION	g. PHRASE AND DISTANCE
By arrangement	d. EDITING	h. SEARCHING
b. FOR LEASE	2. PREPROGRAMMED DATA	i. NATURAL ENGLISH
By arrangement	VALIDATION CHECKS	j. RANGE SEARCHING
3. SERVICE AVAILABILITY	3. OPTIONAL ORDERING OF	4. TUTORIAL FEATURES
a. SEARCH SERVICE	ENTERED DATA	a. "HELP" COMMAND
Variable, ave. \$25-\$35/connect	4. AUTOMATIC OR	b. DOCUMENTATION
hour	MACHINE-AIDED	ON-LINE
None	CONTENT INDEXING	5. SEARCH STRATEGY
c. TAKES CUSTOMER	E. QUERY	a. RANDOM
DATA BASES	1. USER-SYSTEM INTERACTION	b. SEQUENTIAL
4. HISTORY OF SOFTWARE	a. MULTIPLE OPTIONS	c. INDEXED SEQUENTIAL
a. FIRST INSTALLATION	AT ANY POINT	F. REPORT GENERATION
b. SIGNIFICANT	b. ENGLISH-LIKE	1. LANGUAGE TYPE
INSTALLATIONS	PHRASING	a. STANDARD OUTPUT
5. HISTORY OF SERVICE	c. SYSTEM-FORCED	b. SELECT AMONG
a. SERVICE INITIATION	DIALOGUE	c. OWN CODE
b. PRESENT USAGE	2. CONTENT SEARCHING	2. MEDIA FLEXIBILITY
6. COMPUTER ENVIRONMENT	a. CONTROLLED VOCABULARY	a. OFF-LINE PRINTING
1. MAIN FRAME	b. FULL TEXT INVERSION	b. DISPLAY OF GRAPHS
2. OPERATING SYSTEM	c. SPELLING PERMITTED	c. SPECIAL OUTPUTS
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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.

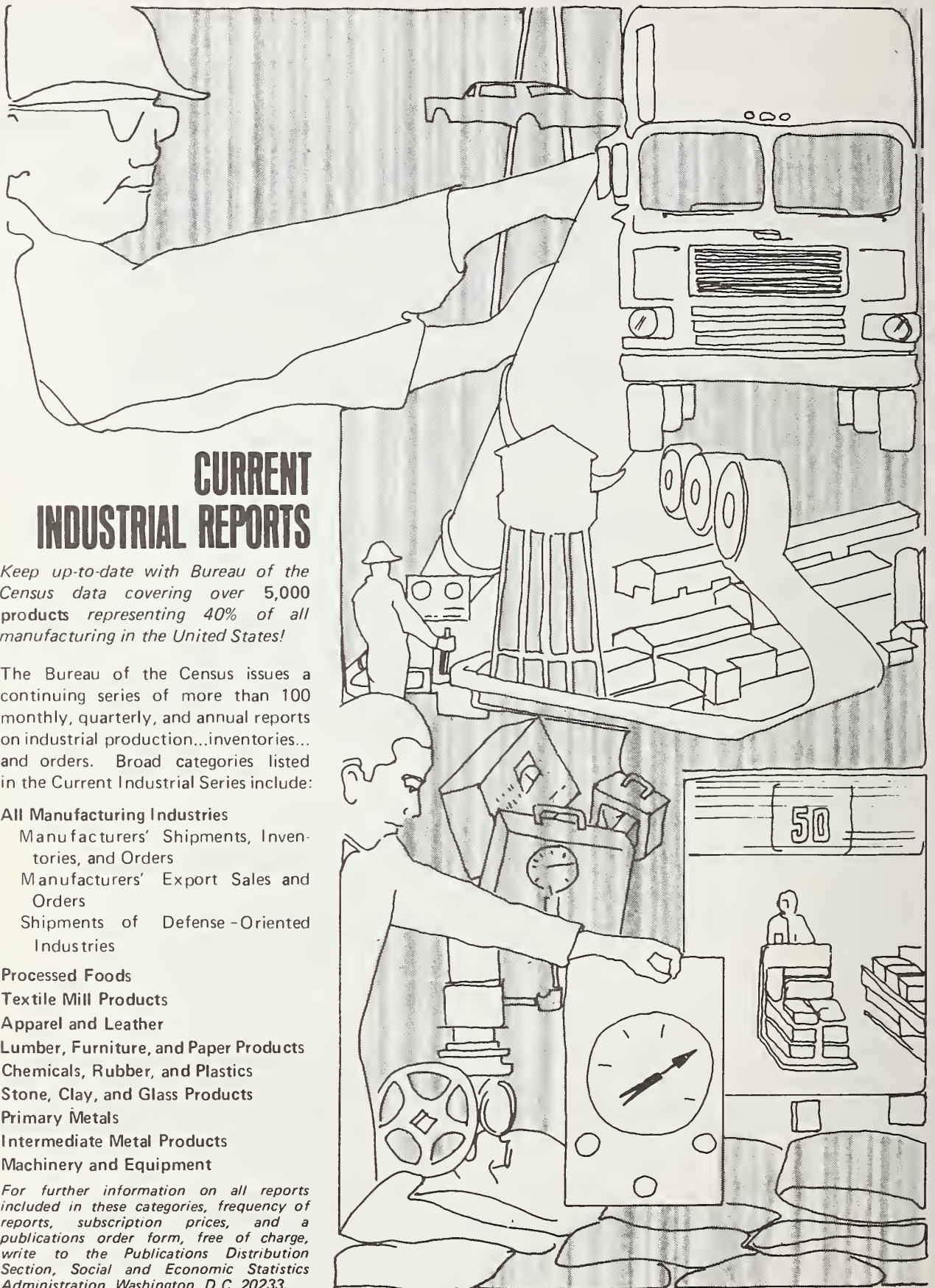
TOXICON - A data base collected by the Toxicology Information Program, National Library of Medicine of the Department of Health, Education and Welfare. It contains bibliographic citations of literature primarily in the area of toxicology, pharmacology and environmental health. The citations include all 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.

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<p>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.)</p> <p>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.</p>			
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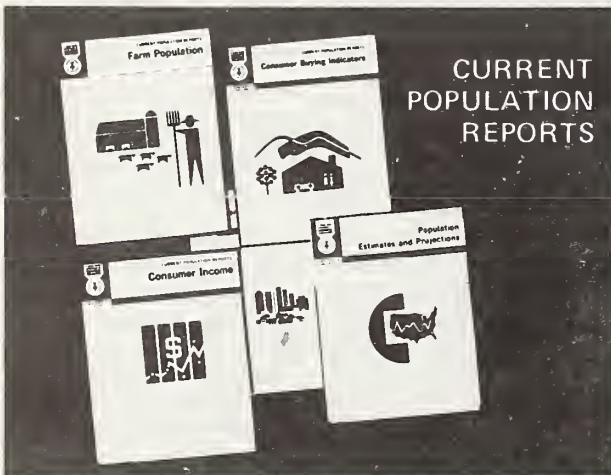
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