

A PROTOTYPE DATA BASE
FOR COMPUTER SCIENCE
GRADUATE ADMISSIONS

by

ALFONSO C. REBONG JR.

B.S., University of Santo Tomas, RP, 1969

A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Computer Science

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1980

Approved by:


Major Professor

SPEC
COLL
LD
2668
RY
1980
R42
C.2

-1-

TABLE OF CONTENTS

- I. Introduction
 - 1.1 Background
 - 1.2 Objective
 - 1.3 Overview
 - 1.4 Results/Discussion
 - 1.5 Organization
 - 1.6 Extensions

- II. The Data Base Design
 - 2.1 Schema Definition
 - 2.2 Design Consideration
 - 2.2.1 Design A Description
 - 2.2.2 Design B Description
 - 2.2.3 Comparison of Designs

- III. Type of Operation
 - 3.1 User Sign On
 - 3.2 User's Guide to Add, Change and Delete Field Content
 - 3.3 List of Graduates
 - a. all
 - b. area
 - c. date

3.4 List of Applicants

- a. all
- b. area
- c. date

3.5 User Sign Off

Appendix

- A. User's Command
- B. Data Base Generation
- C. Sample Reports

Bibliography

Acknowledgments

CHAPTER I

INTRODUCTION

1.1 BACKGROUND

This report describes the automation of file handling for graduate admissions to the Computer Science Department.

At present the graduate admission system is done manually. A master card is filled out with information from the credentials submitted by the student. The student master cards are kept in four different files:

- a. Pending File - if applicant lacks some of the required papers.
- b. Accepted File - if applicant meets all the requirements for admission.
- c. Rejected File - if applicant fails to meet some of the requirements.
- d. Graduated File - once the student is done with his program.

Student master cards are kept in card boxes and their credentials are stored in filing cabinets. Figure 1.1 shows a sample student master card. The information on the left side of the card pertains mostly to student credentials.

☐ NAME (last) Rebong - Alfonso, Jr.
ADDRESS 1700 N. Manhattan #23
Manhattan, Ks. 66502

NEED ASSISTANCE YES NO ☒

KSU FORM 6-11-78 ☒ NO if no assistance
CS FORM 6-11-78 ☒

TRANSCRIPT (2 copies)
University of Sto. Tomas ☒
()

RECOMMENDATIONS Dulay 5-10-78 ☒
Furtaguo 5-13-78 ☒
Reyes 5-10-78 ☒

UG ☒
GPA BS/EI.E. 3.0
GRE 477, 607, 538
UG COURSES

LOCATION - (KSP) KC LEAV NCR
LEVEL - (MS) PhD Special
STARTING - (FALL) SP SU 1978
STATUS - Missing letter sent 7-15-78
To Committee 7-30-78

To Xerox
To Grad. Sch. 8-3-78
Status letter 8-3-78

TOEFL 550 ☒ HEALTH YES ☒
\$ (6,500) YES ☒

RECOMMENDATION: (Accept) Reject Probation
Special (Provisional)

TA RA
DATE RECEIVED 6-11-78

EXPERIENCE
420, 405, 560

STUDENT MASTER CARD

FIGURE 1.1

The data on the right side deal with application status, committee recommendation, etc. These information are described in detail in Section 2.2.

1.2 OBJECTIVE

To gain practical knowledge in the use of interactive data base system, a study regarding the automation of file handling for graduate admissions to the Computer Science Department was conducted.

It is expected that the knowledge and experience gained from this study will be beneficial for the author's work in the development of different interactive data base systems for the Philippines Ministry of Agriculture.

1.3 Overview

This report shows the design and implementation of a prototype data base management system. Information from the data base may be used by the faculty committee members to keep track of student status and by the department secretary to answer queries about students.

The automated data base system is implemented as an interactive system using low cost software and hardware currently available at the Computer Science Department. The SCAMP data base management system (DBMS) on Interdata 8/32 running under the MTM 8/32 operating system was selected to implement the prototype data base system.

SCAMP is an acronym for "System for Command Accounting and Monitoring of Projects". It is a DBMS designed to provide users with timely and easy access to accurate information. SCAMP comes from the Manpower and Administration Systems Directorate (code 42) of the Navy Regional Data Automation Center, Washinhgton, DC. It was made available at the Computer Science Department free of charge.

SCAMP was chosen to implement the prototype data base design in this report because it is currently available in the Computer Science Department. Another reason for the selection of SCAMP was it is a real DBMS which can support multiple data bases with several desirable capabilities. The following accolades are excerpted from the SCAMP manual:

- a. All data entry and maintenance is performed with a uniform methodology, featuring easy-to-use formatted screens.
- b. A powerful query language features cross-data-set queries, and can be used in conjunction with a variety of the SCAMP commands.
- c. Data bases can be designed to reflect hierarchical, network, and other structures using a unique "common-key" technology.
- d. Authorization is provided at the command, data base, data set, and data item levels, with separate authority possible for list, update, and delete functions.
- e. Deletion features a review option.

1.4 Results/Discussion

Facts:

a. A prototype data base for graduate admissions to the Computer Science Department was implemented using the SCAMP software. The prototype consists of records for fifteen students, which is sufficient to illustrate the different access and reporting features. The data base is composed of sixty entries. Four entries are allotted to each student, i.e. one master and three dependent records. The total information stored for each student master card consists of 440 bytes.

b. The data base resides on four different disk files. The blocksize for each of the files is 256 bytes. The number of blocks in the file and the number of records in the block are determined by the size and number of records in the data set. Figure 1.2A shows the names of the files with corresponding block sizes and number of records. The contents of the files are:

MASALF.DIR - contains the directory for the student master records.

MASALF.REC - contains the student master records.

DEPALF.DIR - contains the directory for the dependent records.

DEPALF.REC - contains records for dependent data

sets.

Figure 1.2B shows a comparison table for the number of blocks allocated for MASALF.DIR and MASALF.REC disk files. Column 1 shows the initial block allocation. Column 3 depicts the number of blocks allocated as the first five students are added. Column 4 and 5 shows the number of blocks contained in the files as the number of students are doubled and tripled. The number of blocks allocated for MASALF.DIR in figure 1.2B is six blocks less than the number of blocks allotted to the same file in figure 1.2A. The six blocks difference between the two figures is due to the tables and pointers provided by SCAMP to MASALF.DIR to link the master data set to the dependent data sets stored in DEPALF.DIR and DEPALF.REC files.

The number of blocks allotted for the directory file is greater than that for the record file because of the following:

1. The directory file is an inverted list which contain pointers and tables for each of the data items.
2. The data in the record file is replicated to the directory file.
3. When a directory block is filled up and more information are to be stored, the second half content of that block is duplicated to the first half of the next block. This technique improves the access time

but results in poor disk memory utilization.

Figure 1.2C shows an access time comparison chart for five, ten and fifteen students respectively. The command:

```
IF SMCLAS = "REJECTED"  
LIST SMNAME
```

was used to measure the three access time. Since SCAMP data structure is configured on lists and pointers, searching for a particular record is done at random. The difference in access time for the three data base sizes as shown in the figure is negligible. If the data base is to be expanded to contain one hundred students, there would be a noticeable increase in access time, but their difference is to the minimal. For other commands, like SET, LIST, BASE, etc., which do not require searching before printing the output, the response time is three seconds. The access time in this report were measured by a stopwatch when the graduate admission data base was the only job on the machine.

c. The SCAMP software that supports the data base is composed of several components. Figure 1.3 lists the components with corresponding sizes. The following describes the components:

SCAMP.LIB - a collection of routines that all tasks may need to access.

TSKCOM.TCM - an area which tasks can use to

communicate with each other.

SCAMP.TSK - the task that controls the terminals and determines which task to load, P01 or P02.

SCBDL.TSK - the actual data base task.

P01 and P02 are the tasks loaded for up to two concurrent processes. Their sizes vary up to 15 k, depending on which task is loaded from the library to either P01 or P02.

<u>FILENAME</u>	<u>BLOCKSIZE</u>	<u>NO. OF BLOCKS</u>
MASALF.DIR	256	14
MASALF.REC	256	4
DEPALF.DIR	256	62
DEPALF.REC	256	19
TOTAL NO. OF BLOCKS		99

$$\text{FILESIZE} = 99 \times 256 = 25,344 \text{ BYTES}$$

FIGURE 1.2A

**THIS BOOK
CONTAINS
NUMEROUS PAGES
WITH DIAGRAMS
THAT ARE CROOKED
COMPARED TO THE
REST OF THE
INFORMATION ON
THE PAGE.**

**THIS IS AS
RECEIVED FROM
CUSTOMER.**

		<u>NO. OF STUDENT MASTER</u>			
		0	5	10	15
NO. OF BLOCKS	MASALF.DIR	4	4	4	8
	MASALF.REC	1	2	3	4

FIGURE 1.2B

<u>NO. OF STUDENT MASTER</u>			
	5	10	15
ACCESS TIME	6 sec	6 sec	6 sec

FIGURE 1.2C

<u>MODULE NAME</u>	<u>MODULE SIZE</u>
SCAMP.LIB	3.0 K
TSKCOM.TCM	15.25 K
SCAMP.TSK	4.5 K
SCBDL.TSK	41.0 K
PØ1	15 K
PØ2	15 K

SIZE OF SCAMP = 93.75 K

FIGURE 1.3

The dbgenfile or schema involves the structuring and formatting of the data, i.e. determining the number of data sets in the data base, at what files the data set will reside and identifying the items in the data sets among other things.

Building the dbgenfile is time consuming and difficult. It involves thorough and careful analysis of the problem. In the schema lies the efficiency, integrity and reliability of the data base. Constructing the schema is usually done by an experienced programmer or analyst. The user needs not concern about its development.

Once the dbgenfile is created, entering and maintaining the data are easy and simple using the SCAMP formatted screens. The data base was designed to reflect a hierarchical structure using the master and dependent data sets concept. Cross data set queries are used to access data and generate reports.

SCAMP implementation at the Computer Science Department is fine and easy to use. The user would find satisfaction working with it, except for the following:

- a. The system is not robust when executing a command under the format mode. Command termination involves hitting too many "keys". Sometimes the procedure to terminate a command would not work and SCAMP has to be restarted.
- b. There is no move command. To transfer a record requires that the record be deleted from a data set

and be added to another data set. These are both time consuming and error prone.

- c. The records in the data set are sorted by the primary key. To sort the records by any other fields, an algorithm has to be developed.
- d. There is no flexible way of producing appropriate headings to describe reports.

1.5 Organization

The first chapter is a summary of what this report is all about. The chapter presents the following:

- a. overview of existing procedures for graduate admissions to the Computer Science Department.
- b. Purpose of the report.
- c. Brief discussion of the prototype data base system and the SCAMP software used to implement the automated system.
- d. Results of the implementation and comments about the automated system.

The second chapter describes the organization of the data base. Two types of design are analysed and contrasted to implement the automated system. This chapter is intended for the analyst who is interested in setting up data bases.

Chapter III is a user's guide to generate reports currently needed for graduate admissions. It is also a

guide to enter and maintain the data.

Appendix A presents in detail the SCAMP commands. This appendix will aid the user in issuing the command and help him respond to the messages displayed on the console. Also, it will help the user produces special reports.

Appendix B identifies the commands that set up the dbgenfile. The prototype data base schema listing is also presented.

Appendix C shows sample reports generated by issuing the SCAMP commands presented at the user's guide.

1.6 Extensions

The performance of the system may be enhanced and the drawbacks cited in Section 1.4 could be offset by working on several areas. If time is not a factor, the following chores are suggested:

- a. Write a macro to directly transfer a record or records from one data set to another.
- b. Write another macro to produce appropriate headings to describe reports.
- c. Write a macro to sort the records by any items or fields.
- d. Modify SCAMP implementation such that command termination under the format mode will be done by hitting one or two "keys".

CHAPTER II

The Data Base Design

2.1 Schema Definition

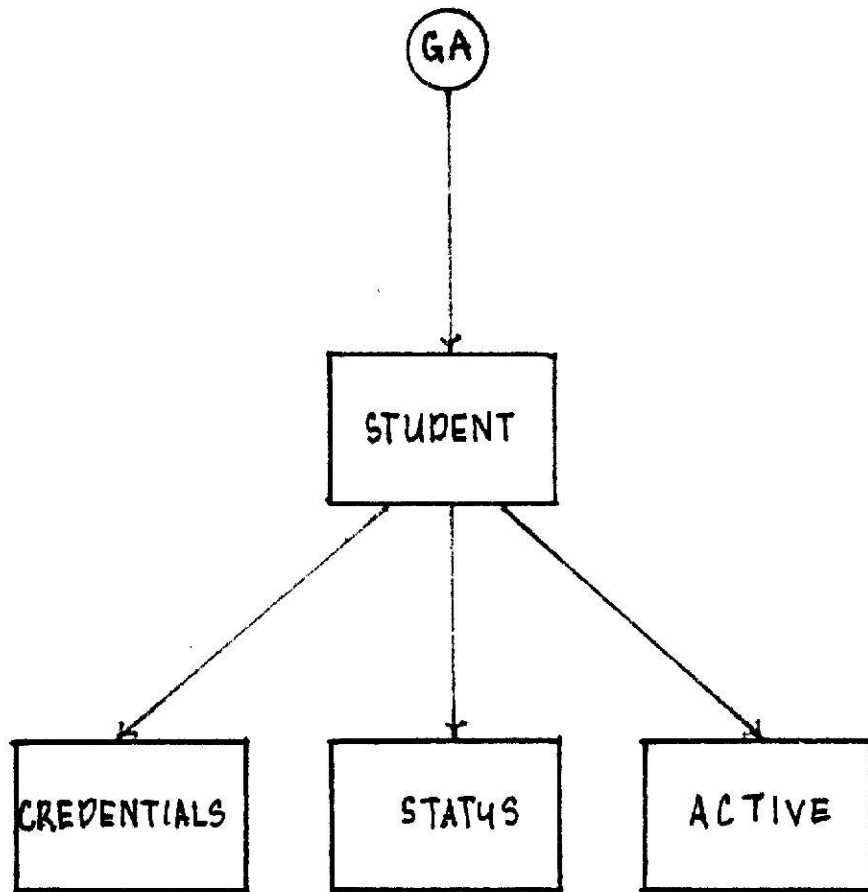
A schema is a description of all the data sets and the relationships between them which make up the data base. A data set is composed of record occurrences. One or more data items comprise a record. A field is a data item or a group of related data items. A data item is the smallest named logical unit in the data base.

In designing data bases to run under SCAMP, data items are grouped into master and dependent data sets. A master data set is an independent data set which can have one or more dependent data sets connected to it. A dependent data set must contain the master data set key as one of its elementary items to provide linkage with the master data set.

2.2 Design Consideration

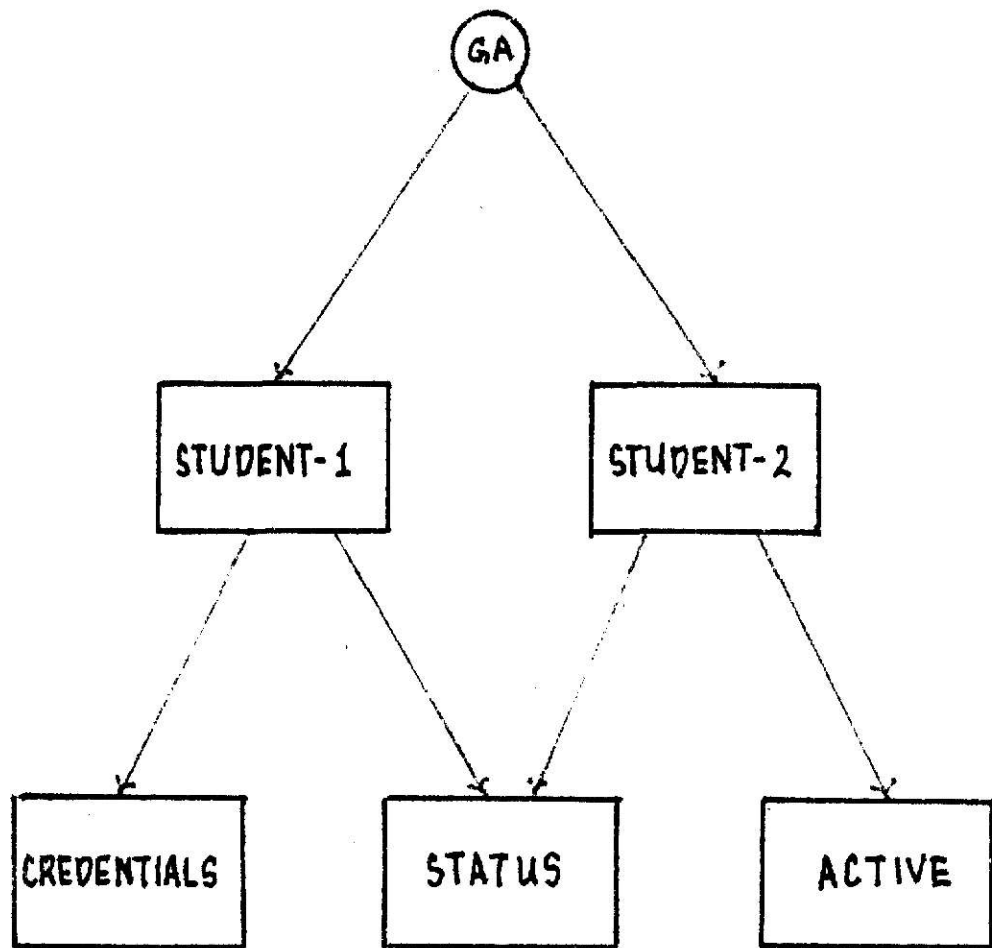
Two types of data base design, Design A and Design B, were considered in designing the data base schema for graduate admissions to the Computer Science Department. Design A is illustrated in Figure 2.1 and Design B is depicted in Figure 2.2. Design A was implemented, therefore

it is described in detailed. Design B is shown for comparison only. Both Design A and Design B have similar data sets grouping and the same data items content. There is only one structural difference which is discussed in subsections 2.2.1 and 2.2.2.



DESIGN A

FIGURE 2.1



DESIGN B

FIGURE 2.2

2.2.1 Design A Description.

Data items in design A are grouped into one master (student) and three dependent (credentials, status and active) data sets. Figure 2.3 presents the grouping of data items into one master and three dependent data sets. The first column identifies the data sets and the items that belong to them. The second column determines whether the field is numeric, alphabetic or alphanumeric. The third column shows the size of the field. The fourth column gives a sample entry and the last columns describes the data items.

The student master contains the Skey, Ssno, Name and Clas items. Skey is the student master data set key. It contains the first three letters of the student's last name and the last four numbers of his social security number. Since records in the data set are sorted by primary key, student master are arranged by last name. Item Ssno is the student social security number. The item name contains the name of the student. The Clas item classifies whether the student is applicant, accepted, rejected or graduated.

The Credentials data set has the data set key as the first item and the master data set key as the second. The rest of the items contain the credentials of the student such as the date of transcript, name of school, GPA, GRE, etc. Figure 2.3 describes all the items in the data set.

FIGURE 2.3
(Page 1 of 3)

The following shows the data sets for graduate admissions data base and describes the data items within the data sets.

FIELD	DESC	N OF CHAR	EXAMPLE	COMMENTS
STUDENT DATA SET				
SKEY	N	7	REB2654	MASTER DATA SET KEY
SSNO	N	9	987652654	SOCIAL SECURITY NUMBER
NAME	A	30	ALFONSO C REBONG JR	NAME OF STUDENT
CLAS	A	9	APPLICANT ENROLLED GRADUATED REJECTED	STUDENT CLASSIFICATION

FIGURE 2.3
(Page 2 of 3)

FIELD	DESC	N OF CHAR	EXAMPLE	COMMENTS
CREDENTIALS DATA SET				
CRKY	N	6	111111	DATA SET KEY
SKEY	N	7	REB2654	GENERATED BY SCAMP
DATE	N	6	022680	LINK TO MASTER DATA SET
ADR1	AN	20	1750 26TH AVE	DATE CREDENTIAL WAS RECEIVED
ADR2	AN	20	OAKLAND CALIF 94601	HOME
PHON	N	10	4152617726	ADDRESS
* 4 X 3 TRANSCRIPT ARRAY				
DAT1	N	6	102779	HOME PHONE
SCH1	A	12	IN ST UNIV	DATE DEGREE WAS GIVEN
DEG1	A	3	COS, AGR	SCHOOL
GPA1	N	4	3.25	DEGREE
DAT2	N	6	081378	GRADE POINT AVERAGE
SCH2	A	12	KS ST UNIV	SECOND
DEG2	A	3	AGE	TRANSCRIPT
GPA2	N	4	3.55	INFORMATION
DAT3	N	6		THIRD
SCH3	A	12		TRANSCRIPT
DEG3	A	4		INFORMATION
GPA3	N	4		
* 2 X 3 PERSONNAL RECOMMENDATION ARRAY				
DET1	N	6	071279	RECOMMENDATION DATE
NEM1	A	12	JOE BLOW	NAME OF RECOMMENDING PERSON
DET2	N	6		SECOND PERSONAL
NEM2	A	12		RECOMMENDATION
DET3	N	6		THIRD PERSONAL
NEM3	A	12		RECOMMENDATION
* 1 X 3 GRADUATE REVIEW EXAM ARRAY				
GRE1	N	3	477	VERBAL
GRE2	N	3	667	QUANTITATIVE
GRE3	N	3	538	ANALYTIC
*				
TOFL		3	550(OR NULL)	TOEFL
FINA	A	1	Y OR N	FINANCIAL SUPPORT
COMT	A	20	FRIEND OF FISHER	COMMENTS

FIGURE 2.3
(Page 3 of 3)

FIELD	DESC	N OF CHAR	EXAMPLE	COMMENTS
STATUS DATA SET				
STKY	N	6	222222	DATA SET KEY
SKEY	N	7	REB2654	GENERATED BY SCAMP LINK TO MASTER DATA SET
AREA	A	3	KSU NCR KC LEV	LOCATION OF STUDY
DATE	N	6	101280	COMMITTEE
RECO	A	4	RJCT PRVS	RECOMMENDATION
SUPT	A	15	0.4/\$300 PER MONTH	FINANCIAL SUPPRORT
PROV	A	25	305 405 420 560	PROVISIONAL DEFFICIENCY COURSES
LETR	AN	10		LETTER SENT DATE & COMMENTS
ACTIVE DATA SET				
ACKY	N	6	333333	DATA SET KEY
SKEY	N	7	REB2654	GENERATED BY SCAMP LINK TO MASTER DATA SET
DATE	AN	4	SP80, F79	DATE STUDENT ARRIVE
ADR1	AN	20	1700 N MANHATTAN 23	CAMPUS
ADR2	AN	20	MANHATTAN KS 66502	ADDRESS
PHON	N	10	9135372593	CAMPUS PHONE
ADVR	A	3	PSF	ADVISER
MSEX	AN	7	10/79X	MASTER EXAM
GRAD	AN	4	SP80	EXPECTED GRADUATION

The Status data set contains the data set key and the student master key as the first and second items respectively. The rest of the items describe the status of the applicant. The applicant could be accepted as provisional or regular student. Also included in the data set are the location and level of study, the financial support among other things.

The first and second items of the Active data set are the data set key and the student master key. The other items identifies the student activities while in campus. His date of arrival, campus address and phone, adviser, master exam date and expected graduation are the information contained in the data set.

When the student is classified as applicant, only the Credentials and Status records are connected to the Student record. By the time, he is classified as accepted, the Credentials record is deleted and a new Active record is connected to the master record.

2.2.2 Design B Description

The second data structure is similar to the first one except that the student records are contained into two related master data sets. The data sets are Student-1 and Student-2. When the student was first classified as applicant, the student record are contained in Student-1 data set with the Credentials and Status records connected

to it. Once the student is enrolled, the student record is transferred from Student-1 to Student-2 data set. The Credentials and Status records are deleted from Student-1 master. The Status and a new Active records are connected to Student-2 master.

2.2.3 Comparison of Designs

The second network design is more efficient than the first, because the student records are grouped into two master data sets. Once the grouping for a particular record is known, it is faster for some SCAMP commands to search for the records, e.g.

```
IF SMCLAS = "APPLICANT"
```

```
VIA STUDENT-1 LIST SMNAME
```

In this example, only the Student-1 data set are to be searched to satisfy the query. The setback of the second network is there is no SCAMP command to directly move a record from one data set to another. To delete a record from a data set and add that record to another data set is time consuming and error prone.

Since the graduate admission to the Computer Science Department automated system will be dealing with small data base (300 students at the most) the advantage of the second network is not significant.

The first network design was chosen for implementation because it is simple in design, easy to maintain, and the

new automated system will be dealing with small data base. However for large data bases where SCAMP would have to search on a large number of records to satisfy a command, the second approach would be more desirable.

CHAPTER III

TYPE OF OPERATION

The following is a user's guide to maintain the data base and generate reports for graduate admissions to the Computer Science Department. Appendix A is a good reference when responding to the messages produced by the SCAMP commands.

3.1 User Sign On

Once the terminal is on-line the following message appears on the screen:

SPECIFY TERMINAL TYPE

- 1 = SUPERBEE
- 2 = DATASPEED 40/2
- 3 = ZENTEC

The user enters number 3 and hit the RETURN key, the following message appears on the screen:

```
*      S C A M P
* ENTER SCAMP ACCOUNT CODE
```

The user keys in an account code, which is checked

against the list of valid account codes known to the system. If a match is made, the following message appears on the screen:

* ENTER PASSWORD

The user keys in a password, which is also checked.

If either the account code or the password is invalid, the following message is displayed at the terminal:

* INVALID ACCOUNT/PASSWORD

After a short delay, the sign on process is repeated with the display of the message:

* S C A M P

* ENTER SCAMP ACCOUNT CODE

If both the account code and the password are valid, the READY message is displayed and the sign-on is complete.

3.2 User's Guide to Change, Delete, and Add field content.

After sign on, the BASE command is used to connect the terminal to the graduate admission data base.

BASE GA

where GA is a two character graduate admission data base identifier.

a. The ADD command is used to add one or more records to the data set.

Example:

ADD SM

where SM is the student master data set identifier.

This command will add one or more student records to the student master data set. For a detail explanation on the use of SCAMP commands, please refer to Appendix A.

b. Two commands are used to change the field content of a record. The CHITEM command is used to change the content of the master data set key from its current value to another value.

Example:

CHITEM SKEY = "978653456" TO "987652654"

To change the value of a non-key data item, the UPDATE command is used.

Example:

1. IF SMNAME = "JOHN DOE" UPDATE CR

This command will search the student master data set for the record occurrence with data item name "John Doe". Then SCAMP will traverse from the master record to its corresponding Credentials record. The Credentials record will be displayed on the screen for updating.

2. UPDATE ST

where ST is the status data set identifier.

This command display on the screen the first record on the data set. The user can update any item in the record except the keys. He can go to the next record or records if he so desires. In this type of command all the records in the data set are eligible for updating.

c. To remove one or more data items in a record or eliminate one or more records in the data set, the DELETE command is used.

Example:

1. IF SMNAME ="JOHN DOE" AND SMCLAS ="ACCEPTED"
DELETE CR

SCAMP will search for the student master record occurrence with item name "John Doe" and item Clas

"Accepted", then SCAMP will traverse to the corresponding Credentials record occurrence and delete the record.

2. DELETE AC

In this command all records in the active data set are eligible for deletion.

3.3 List of Graduates.

The following commands will list the names of the student who received an MS or PhD degree in Computer Science.

```
1. IF SMCLAS = "GRADUATED" LIST SMNAME
```

The above command will list the names of all graduates in Computer Science.

```
2. IF SMCLAS = "GRADUATED" AND STAREA = "KSU"  
   LIST SMNAME
```

This command is used to list the names of the student graduate at KSU.

```
3. IF SMCLAS = "GRADUATED" AND ACGRAD = "SP78"  
   LIST SMNAME
```

This command will list the names of the students who received their degrees the spring of 78.

3.4 List of Applicants

The following commands will list the names of the applicants for graduate admission to the Computer Science Department.

```
1. IF SMCLAS = "APPLICANT"  
    LIST SMNAME
```

The above command will list the names of all the applicants.

```
2. IF SMCLAS = "APPLICANT" AND STAREA = "NCR"  
    LIST SMNAME
```

This type of command will list the names of applicants for graduate admission at NCR.

```
3. IF SMCLAS = "APPLICANT" AND CRDATE = "FA80"  
    LIST SMNAME
```

This command will list the names of the applicants the Fall of 1980.

3.5 User Sign Off

Signing off is accomplished by either one of the following:

- a. The user keys in the BYE command.
- b. SCAMP automatically generates the BYE command where the READY message has been displayed for five minutes.

When the sign off occurs, the screen is cleared up and the normal sign on process is initiated.

APPENDIX A
USER'S COMMAND

The commands to enter, display and modify the data are entered via the Video terminals currently installed at the Computer Science Department. Under the SCAMP software, the terminals may be in the Conversational Mode or Format Mode.

A1 Mode Description.

A1.1 Conversational Mode. The terminal is in the Conversational mode most of the time. It is logically connected to the computer. Either it is prepared to received a SCAMP command or it is executing one.

A1.2 Format Mode. In response to the ADD, DELETE, DISPLAY, or UPDATE command, the terminal switches to the Format mode. It is logically disconnected from the computer and the screen is formatted to facilitate the manipulation of a record.

a. Move the Cursor. Use the "TAB" key to advance the cursor to the left end of the next unprotected field. Use the "BACK TAB" key to return the cursor to the left end of the unprotected field where it is currently located. If it's

already at the left end of the field, "BACK TAB" moves the cursor to the left end of the previous unprotected field. The four arrows move the cursor in the indicated direction through protected as well as unprotected fields. Hit the arrow to move the cursor one position; hold it to move continuously. If the cursor is left in a protected field, hitting a character advances it to the left end of the next unprotected field but no character is produced in the protected field. The cursor may be backspaced through both protected and unprotected fields by holding down the "CTRL" key and hitting the "H" key. Thus, "CTRL" "H" has the same effect as the left pointing arrow. Hitting "RETURN" moves the cursor to the left end of the line where it's currently located regardless of the type of field at that point.

b. Enter Data into an Unprotected Field. Every unprotected field has a fixed length. This sets a maximum but not a minimum on the number of characters that can be entered into that field. For example, to enter two characters into a ten character unprotected field, it is not necessary to enter eight blanks following the two characters. Enter the two characters and use the "TAB" key to advance the cursor to the beginning of the next unprotected field. Entering ten characters leaves the cursor positioned at the beginning of the next unprotected field. If eleven characters are entered, the field will be filled by the first ten characters and the eleventh character will

be entered into the first position of the next unprotected field.

c. Enter an Instruction. In the Format Mode, there is an instruction line at the bottom of every formatted screen. It contains between one and three instructions depending on the particular SCAMP command that caused the switch to the Format Mode. Each instruction is preceded by a pair of parentheses. The user chooses one of the actions in the instruction line by moving the cursor to within the appropriate set of parentheses, keying an "X", and entering the instruction by hitting the "SEND PAGE" key.

A2 SCAMP COMMAND TERMINATION

Any SCAMP command can be discontinued before its normal completion. The procedure for doing this depends on the mode the terminal is in at the time the user decides to terminate the command.

A2.1 Terminating a Command Executing in the Conversational Mode.

Conversational Mode commands can be interrupted by hitting the "BREAK" key.

A2.2 Terminating a Command Executing in the Format Mode.

Format Mode commands can be terminated by performing the following:

1. Hit the "BREAK" key.
2. Hit the "ESC" key, then hold the "SHIFT" key while hitting the "C" key.
3. Hit the "ESC" key, then hold the "SHIFT" key while hitting the "7" key.
4. Hit the "ESC" key, then hold the "SHIFT" key while hitting the ":" key.
5. Hit the "RETURN" key.

A3. SCAMP COMMANDS

A3.1 The ADD command

ADD ds

where ds is the two-character name of a data set.

This command permits the addition of one or more records to the data set named.

In response to the ADD command, SCAMP goes into the Format Mode and formats the screen to facilitate data entry. The format for some records fit completely on the screen. Other records are segmented into pages. The cursor is positioned to the first item in an unprotected field. The page format includes an instruction line at the bottom of each page:

FILL IN INFORMATION...() PAGE COMPLETE

When the page is complete, key an "X" between the parentheses and enter the page by hitting the "SEND PAGE" key.

If all the items on the page pass the validity tests, the page will be accepted. If there is some error, a diagnostic message will be printed along with the formatted record. Correct the error and reenter the record.

After adding a record the following message is printed:

RECORD SUCCESFULLY ADDED

HIT RETURN TO CONTINUE ADDING, HOLD THE BREAK KEY WHILE
HITTING THE RETURN KEY TO TERMINATE

A3.2 The CHITEM Command

CHITEM xKEY = "old value" TO "new value"

where xKEY is the key of master data set xM,
"old value" is the current item value, and
"new value" is the item value desired.

This command is used to change the content of the master data set key from its current value to another value.

Changing a master data set key involves changing both the master data set record of which it is the primary key and also any records of other data sets for which it is a secondary key. The command automatically changes the primary key and any secondary keys there may be.

Other fields in the record can also be updated by this command. However, the UPDATE command is normally used to change those items.

A3.3 The query IF command

[IF relational expression...] action

where the optional IF clause selects the records of the data base on which the action clause will operate.

Since the IF clause is optional, the query may take any of the two specific forms:

IF relational expression... action

action

Brackets are used to designate parts of a command that may not be present. The command is valid with or without the bracketed data. The three dots (...) is used to indicate that previous word or bracketed section may be repeated.

A3.3.1 The IF Clause. The IF Clause plays a role in selecting records to which the action clause will apply. Each relational expression applies one or more selection criteria to one or more data items.

The format of a relational expression is:

itemname	operator	value
----------	----------	-------

Itemnames take one of three forms:

xKEY - the key of a master data set named xM
xyky - the key of a dependent data set named xy
xxyyyy - the non-key data item yyyy of data set xx

If there are multiple item names, they are separated by AND's by OR's, or by commas and/or blanks preceding a final AND or OR.

The operator of a relational expression can be any one of the following:

<,LT (less than)
=,EQ (equal to)
>,GT (greater than)
=,LE,NL (greater than or equal to)
=,LE,NG (less than or equal to)
<,<>,NE (not equal to)

Implied information can also be extended over several relational expressions, generally following the rules of English

Examples:

(1) If CLAS ="applicant" or "graduated"

(2) If GPA1 > 3.25 and GPA2 > 3.55

(3) If GRE1 EQ and GRE2 NE 477

A3.3.2 The ACTION Clause. The action clause is one of the following commands:

```
UPDATE  ds
DISPLAY ds
DELETE  ds
COUNT  ds
LIST    ds
        item...
```

These commands are explained on the following pages:

A3.4 THE UPDATE COMMAND.

[IF Clause] UPDATE ds

where ds is the two character name of the data set

This command permits the updating of one or more records in the data set named. If the IF Clause is omitted, every record in the data set is considered for updating.

Before a record is displayed on the screen to be updated, SCAMP determines whether or not the record is being accessed by some other user. If it is, the following message is displayed:

RECORD IN USE ELSEWHERE IN SYSTEM

HIT RETURN TO RETRY

This prevents two users from updating the same record at the same time and prevents loss of data. Once it has been determined that the record is free to be updated, it, or its first segment will be displayed on the screen and the terminal switches from Conversational Mode to Format Mode.

With the terminal in the Format Mode, the user is free to change the contents of any data item except the key. To change the key, he must use the CHITEM command. To change any other item, he moves the cursor to the beginning of the

unprotected field it occupies and keys in the new value.

Regardless of the number of segments in the record, the following lines appear at the bottom of the screen.

```
-----INSTRUCTIONS-----  
SPECIFY ACTION...( )UPDATE ( )NEXT SEGMENT ( )NEW RECORD
```

If the user has changed any item on the screen, he must indicate the UPDATE action. Otherwise, he may choose to update the next segment or the next record or he may elect to terminate UPDATE command processing. If the instruction is entered with none of the actions specified, the display of the record will remain unchanged, but the two lines at the bottom of the screen will be replaced with:

```
-----TRANSCRIPTION INCOMPLETE...REENTER-----  
SPECIFY ACTION...( )UPDATE ( )NEXT SEGMENT ( )NEW RECORD
```

If the UPDATE action is specified and the instruction properly entered, each field of the updated screen will be checked for validity. If an error is found, a message identifying what's wrong with the item is displayed asking for the data to be reentered. When all the items on the

page are validated, the page is displayed in its formatted form with the following lines at the bottom of the screen:

-----INSTRUCTIONS-----
SPECIFY NEXT ACTION... ()NEXT SEGMENT ()NEW RECORD

Choosing the NEW RECORD option will result in displaying the next record of the data set, or, if it is segmented, its first segment. If NEXT SEGMENT is specified and the record has another segment, it will be displayed for updating. If the record does not have another segment, NEXT SEGMENT and NEW RECORD have the same effect.

**THIS BOOK
CONTAINS
NUMEROUS
PAGES WITH
THE ORIGINAL
PRINTING ON
THE PAGE BEING
CROOKED.**

**THIS IS THE
BEST IMAGE
AVAILABLE.**

A3.5 The Display Command.

[IF Clause] DISPLAY ds

where ds is the two character name of the data set

This command permits the display on the screen of one or more records of the data set named. If the IF clause is omitted, the entire data set is to be displayed.

After keying the command, the following lines appear at the bottom of the screen:

-----INSTRUCTIONS-----
SPECIFY ACTION... ()NEXT SEGMENT ()NEW RECORD

The user may choose to display the next segment or the next record or he may elect to terminate display command processing. Display logic terminates after the last record has been displayed with the message:

NUMBER OF RECORDS RETRIEVED: xxxx

A3.6 The DELETE Command.

[IF Clause] DELETE ds

where ds is the two character name of the data set.

This command permits deletion of one or more records from the data set named. If the IF Clause is omitted, the entire data set is considered for deletion.

After keying the command, the following message will appear on the screen:

DO YOU WISH TO REVIEW EACH RECORD BEFORE DELETION?

Responding with an "N" will result in the immediate deletion of every record in the specified data set with no opportunity for reconsideration. Responding with a "Y" causes the terminal to switch from the Conversational Mode into the Format Mode. The first segment of the first record considered for deletion will be displayed on the screen in a readable format. The following lines will appear at the bottom of the screen:

-----INSTRUCTIONS-----

SPECIFY ACTION... ()DELETE ()KEEP

If the KEEP action is specified, the record will be retained in the data set and the next record that satisfies the query will be displayed along with the same instructions. If DELETE action is specified, the record will be deleted.

The process will continue until the user terminates DELETE command processing or the query is exhausted.

A3.7 The COUNT Command.

[IF Clause] COUNT ds

where ds is the two character name of the data set.

This command permits counting the number of records in any data set of the data base currently connected to SCAMP. Two types of messages will be printed on the screen. In order to track the progress of the counting, a message will be printed every time the record tally increases to a multiple of 100. When the count is finished, there will be a message giving the total number of records. The messages are as follows:

PARTIAL RECORD COUNT: ppppp

where ppppp is a multiple of 100.

NUMBER OF RECORDS RETRIEVED: xxxxx

where xxxxx is the total count of records in the
data set.

A3.8 The LIST Command.

[IF Clause] LIST ds...

item....

where ds is the two character name of a data set all of whose items are to be listed,

and item is a specific data item name, four characters for key items ("xKEY" and xyKY"), six characters for non-key items ("xxyyyy" where xx is the data set name and yyyy the item name).

Double hyphens under ds are used to designate two or more options. One of the options must be provided when the command is used.

This command permits the listing in an easily readable format of either some or all of the items of the data set(s) specified. For misspelled names, SCAMP will terminate the attempt to list with the following message on the user's screen:

INVALID DATA ITEM NAME

If the name of a data set is specified, SCAMP will list every item in the data set.

The user can terminate the execution of the command at any time by following the procedure described in section A.2.

The user will be asked to provide the name of the file or device to which the listing is to output by means of the following message:

SPECIFY OUTPUT FILE (for output to this terminal hit RETURN)

The user then either hits return or enters an OS32MT file description.

APPENDIX B

DATA BASE GENERATION

In designing data bases under the mechanics of SCAMP, the DBGEN command is used. The DBGEN formats the data base on the structure set up by the dbgenfile. The dbgenfile is formed by the following DBGEN subcommands:

1. BASE - this command names the data base to be identified to SCAMP.
2. FILE - names and describes the file or files composing the data base.
3. SET - defines the data set and identifies the files the data sets are to reside.
4. ITEM - defines the data item or items comprising the data set. The first item to be identified is the key for the data set.

The following three pages illustrate the dbgenfile for the graduate admissions data base systems:

```
1  * THIS DATA BASE WILL CONTAIN INFORMATION TO BE USED
2  * TO GENERATE REPORTS FOR GRADUATE ADMISSION TO THE
3  * COMPUTER SCIENCE DEPARTMENT.
4
5  BASE GA, TYPE=NEW, AUTH=2, TITLE="GRADUATE ADMISSION DATA BAS
6
7  FILE 1, FD="USR4:MASALF.DIR", ACTION=CREATE
8  FILE 2, FD="USR4:MASALF.REC", ACTION=CREATE
9  FILE 3, FD="USR4:DEPALF.DIR", ACTION=CREATE
10 FILE 4, FD="USR4:DEPALF.REC", ACTION=CREATE
11
12 SET SM, FILE=(2,1), AUTH=(2,2,2,2), TITLE="STUDENT MASTER DAT
13 ITEM SKEY, SIZE=7, AUTH=(2,2), TITLE="MASTER DATA SET KEY"
14 ITEM SSNO, SIZE=9, AUTH=(2,2), TITLE="SOCIAL SECURITY NUMBER"
15 ITEM NAME, SIZE=30, AUTH=(2,2), TITLE="STUDENT NAME "
16 ITEM CLAS, SIZE=9, AUTH=(2,2), TITLE="STUDENT CLASS IFICATION"
17 EJECT
```



```
18 SET CR, FILE=(4,3), AUTH=(2,2,2,2), TITLE="CREDENTIALS DATA S
19 ITEM CRKY, SIZE=6, TITLE="CREDENTIALS DATA SET KEY"
20 ITEM SKEY, SIZE=7, AUTH=(2,2), TITLE="LINK TO MASTER DATA SET
21 ITEM DATE, SIZE=6, AUTH=(2,2), TITLE="DATE OF APPLICATION"
22 * HOME ADDRESS AND PHONE
23 ITEM ADRI, SIZE=20, AUTH=(2,2), TITLE="STREET ADDRESS"
24 ITEM ADR2, SIZE=20, AUTH=(2,2), TITLE="CITY, STATE ADDRESS"
25 ITEM PHON, SIZE=10, AUTH=(2,2), TITLE="TELEPHONE NUMBER"
26 *TRANSCRIPT ARRAY
27 ITEM DAT1, SIZE=6, AUTH=(2,2), TITLE="DATE"
28 ITEM SCH1, SIZE=12, AUTH=(2,2), TITLE="SCHOOL"
29 ITEM DEG1, SIZE=4, AUTH=(2,2), TITLE="DEGREE"
30 ITEM GPA1, SIZE=4, AUTH=(2,2), TITLE="GEN PT AVE"
31 ITEM DAT2, SIZE=6, AUTH=(2,2)
32 ITEM SCH2, SIZE=12, AUTH=(2,2)
33 ITEM DEG2, SIZE=4, AUTH=(2,2)
34 ITEM GPA2, SIZE=4, AUTH=(2,2)
35 ITEM DAT3, SIZE=6, AUTH=(2,2)
36 ITEM SCH3, SIZE=12, AUTH=(2,2)
37 ITEM DEG3, SIZE=4, AUTH=(2,2)
38 ITEM GPA3, SIZE=4, AUTH=(2,2)
39 * RECOMMENDATION ARRAY
40 ITEM DET1, SIZE=6, AUTH=(2,2), TITLE="DATE OF RECOMMENDATION"
41 ITEM NEM1, SIZE=12, AUTH=(2,2), TITLE="RECOMMENDING PERSON"
42 ITEM DET2, SIZE=6, AUTH=(2,2)
43 ITEM NEM2, SIZE=12, AUTH=(2,2)
44 ITEM DET3, SIZE=6, AUTH=(2,2)
45 ITEM NEM3, SIZE=12, AUTH=(2,2)
46 * G R E ARRAY
47 ITEM GRE1, SIZE=3, AUTH=(2,2), TITLE="GRAD REVIEW EXAM"
48 ITEM GRE2, SIZE=3, AUTH=(2,2)
49 ITEM GRE3, SIZE=3, AUTH=(2,2)
50 ITEM TOFL, SIZE=3, AUTH=(2,2), TITLE="TOEFL"
51 ITEM FINA, SIZE=1, AUTH=(2,2), TITLE="FINANCE"
52 ITEM COMT, SIZE=20, TITLE="COMMENTS"
53 EJECT
```

```
54 SET ST, FILE=(4,3), AUTH=(2,2,2,2), TITLE="STATUS DATA SET"
55 ITEM STKY, SIZE=6, TITLE="STATUS DATA SET KEY"
56 ITEM SKEY, SIZE=7, AUTH=(2,2), TITLE="LINK TO MASTER DATA SET"
57 ITEM AREA, SIZE=3, AUTH=(2,2), TITLE="LOCATION"
58 ITEM LEVL, SIZE=3, AUTH=(2,2), TITLE="LEVEL OF STUDY"
59 ITEM DATE, SIZE=6, AUTH=(2,2), TITLE="DATE OF RECOMMENDATION"
60 ITEM RECO, SIZE=4, AUTH=(2,2), TITLE="RECOMMENDATION"
61 ITEM SUPT, SIZE=15, AUTH=(2,2), TITLE="SUPPORT"
62 ITEM PROV, SIZE=25, AUTH=(2,2), TITLE="PROVISIONAL"
63 ITEM LETR, SIZE=10, AUTH=(2,2), TITLE="LETTER SENT DATE & COMM"
64
65 SET AC, FILE=(4,3), AUTH=(2,2), TITLE="ACTIVE DATA SET"
66 ITEM ACKY, SIZE=6, TITLE="ACTIVE DATA SET KEY"
67 ITEM SKEY, SIZE=7, AUTH=(2,2), TITLE="LINK TO MASTER DATA SET"
68 ITEM DATE, SIZE=4, AUTH=(2,2), TITLE="ARRIVAL DATE"
69 * CAMPUS ADDRESS AND PHONE
70 ITEM ADRI, SIZE=20, AUTH=(2,2), TITLE="STREET ADDRESS"
71 ITEM ADR2, SIZE=20, AUTH=(2,2), TITLE="CITY, STATE ADDRESS"
72 ITEM PHON, SIZE=10, AUTH=(2,2), TITLE="TELEPHONE NUMBER"
73 ITEM ADVR, SIZE=3, AUTH=(2,2), TITLE="ADVISER"
74 ITEM MSEX, SIZE=7, AUTH=(2,2), TITLE="MASTER EXAM"
75 ITEM GRAD, SIZE=4, AUTH=(2,2), TITLE="GRADUATION DATE"
76 END
```

SCAMP DBGEN ERRORS

APPENDIX C
SAMPLE REPORTS

The following pages are generated reports for graduate admissions to the Computer Science Department. Chapter III is a detailed guidance on how to produce these and other reports.

The first page of the report lists the contents of the student master data set. Since SCAMP data sets are sorted by primary key, the listing came out arranged in alphabetical order. The command used to produce the report is:

LIST SM

where SM is the student master data set name.

The second, third and fourth pages present the information from Credentials, Status and Active data sets. Credentials records are printed in a different format because the data items cannot be accommodated using the output format for student master data set. The commands used to generate the reports are:

LIST CR

where CR is the Credentials data set name.

LIST SMNAME STAREA STLEVL STDATE STRECO STPROV

where SMNAME is the name of the student,
STAREA is the location of study,
STLEVL is the level of study,
STDATE is the date when the committee made
the recommendation,
STRECO is the committee recommendation, and
STPROV contains the deficiency courses of
provisional students.

LIST SMNAME ACDATE ACPHON ACADVR, ACMSEX

where SMNAME stands for the student name item,
STDATE is the student's date of arrival,
ACPHON is the student's campus telephone
number,
ACADVR is the student's adviser name, and
ACMSEX is the date of master's exam.

The fifth page prints out all the graduates in the
Spring, Summer and Fall of 1980. The command used to
produce the report is:

IF ACGRAD = "SP80" OR "SU80" OR "FA80"

LIST SMNAME

Note that there is no way to generate an information

title for the qualified test.

The sixth page lists all the enrollees at NCR. The command to do this is:

```
IF SMCLAS = "ACCEPTED" AND STAREA = "NCR"  
LIST SMNAME
```

The seventh page prints the names of students who are admitted at KSU. The command is:

```
IF SMCLAS = "ACCEPTED" AND STAREA = "KSU"  
LIST SMNAME
```

The last page lists the names of the students. Below is the command to generate the report:

```
LIST SMNAME
```

S C A M P GRADUATE ADMISSION DATA BASE 06/08/80 16:01 1 SCAMP01
 * * * * *
 * * * * *
 * * * * *
 * * * * *
 * * * * *
 * * * * *
 * * * * *
 * * * * *
 * * * * *
 * * * * *

STUDENT MASTER DATA SET

SKEY	SMSNO	SNAME	SMCLAS
BAR3040	987653040	BARNES GEORGE M	GRADUATED
CHA2010	987652010	CHAMBERS FRANK GLEN	ACCEPTED
CHA3030	987653030	CHAO HAN-YING	APPLICANT
COS2020	987652020	COSTELLO MARK ANTHONY	APPLICANT
DIL3000	987653000	DILLINGER MARILYN	ACCEPTED
ENG2090	987652090	ENGLER VERLYN ROYCE	ACCEPTED
FER3050	987653050	FERGUSON BRIAN JOHN	GRADUATED
JEN2030	987652030	JENN TAI	ACCEPTED
KIL2040	987652040	KILLIAN ROBERT	APPLICANT
LAZ2060	987652060	LAZARO JOSE, JR	ACCEPTED
LLO2000	987652000	LLOYD RAY	APPLICANT
MAN2050	987652050	MANGHAN ALLAN	APPLICANT
MOR2080	987652080	MORRIS MARTIN	REJECTED
TAV2070	987652070	TAVAKOLI NASSRIN	ACCEPTED
WAL3010	987653010	WALLACE SHELLEY	APPLICANT

NUMBER OF RECORDS LISTED: 15

S C A N P GRADUATE ADMISSION DATA PAGE
 * * * * *
 * CREDENTIALS DATA SET *
 * * * * *

06/08/80 16:11 1 CAMP01

CRKY=1 SKEY=LLO2000 CRDATE=032980 CRADR1=284 HANCOCK CRADR2=LEAVENWORTH KS 66502 CRSCH1=US HIL ACA CRSCH2=FOSTON UNIV
 CRKY=10 SKEY=WAL3010 CRDATE=030560 CRADR1=BOX 253 CRADR2=HOGOTON KS 67951 CRSCH1=WES LEYAN
 CRKY=12 SKEY=BAR3040 CRADR1=J-26 JARDINE TERRACE CRADR2=MANHATTAN KS 66506 CRSCH1=UNJ OF CALIF CRSCH2=CALJF ST CO
 CRSCH3=K U CRNEH1=J JUNG CRNEH2=L W TOWER CRNEH3=R E THAYER
 CRKY=13 SKEY=FER3050 CRADR1=419 W 8TH 5 CRADR2=JUNCTION CITY KS CRSCH1=YUBA JR COL CRSCH2=U C DAVIES CRNEH1=KUROVSKI
 CRNEH2=NORTON CRNEH3=WALTERS
 CRKY=14 SKEY=MAN2050 CRDATE=020880 CRADR1=203 HANCOCK CRADR2=FT LEAV KS 66027
 CRKY=15 SKEY=CHA2010 CRADR1=2006 N WACO CRADR2=WICHITA KS 66027 CRDAT1=020880 CRSCH1=KANSAS UNIV CRDAT2=020880
 CRSCH2=WICHITA ST U CRNEH1=J MULLINS CRNEH2=R WEIGANDT CRNEH3=L CASAGRANDE CRFINA=Y
 CRKY=16 SKEY=CHA3030 CRDATE=030580 CRADR1=H EAST RD SECTION 2 CRADR2=TAIPEI TAIWAN R O C CRSCH1=SOOCHOW UNIV
 CRKY=2 SKEY=COS2020 CRDATE=092479 CRADR1=3720 W 29TH CRADR2=TOPEKA KS 66614 CRDAT1=091179 CRSCH1=PIITT-BURG ST
 CRNEH1=E H DAVIS CRNEH2=H KREIGHANN CRNEH3=V NEMECK CRCOHT=DID NOT SHOW UP
 CRKY=3 SKEY=JEN2030 CRDATE=010380 CRADR1=2374 PATTERSON CRDAT1=122679 CRSCH1=OREGON UNIV CRDAT2=010380
 CRSCH2=R C U
 CRKY=4 SKEY=KIL2040 CRDATE=110679 CRADR1=1433 MCCAIN LN CRADR2=MANHATTAN KS 66506 CRSCH1=KSU CRDET1=011080
 CRNEH1=EATES CRDET2=032880 CRNEH2=BARKER CRDET3=112979 CRNEH3=SUHMERHILL CRFINA=Y
 CRKY=5 SKEY=LA22060 CRADR1=SSUN VALLEY SUBDV CRADR2=PARANAQUE RIJAL, RP CRSCH1=ATINEO MLA CRSCH2=LA SALLE
 CRSCH3=UNIV OF PHIL
 CRKY=6 SKEY=TAV2070 CRADR1=535 N SPRING 4 CRADR2=GIRARDEAU MO 63701 CRSCH1=SE MO ST UNJ CRGRE1=200 CRGRE2=340
 CRGRE3=260 CRTOPL=520
 CRKY=7 SKEY=AOR2080 CRADR1=1111 WEST LYMAN CRADR2=TOPEKA KS 66608 CRPHON=XXX2337330 CRSCH1=HAYS STATE
 CRCOHT=OFFERED ASSISTANSHIP
 CRKY=8 SKEY=DJL3000 CRDATE=040379 CRADR1=1908 KUHNAR CRADR2=MANHATTAN KS 66502 CRSCH1=R S U CRSCH2=EMPORIA ST
 CRSCH3=PORT HAYES
 CRKY=9 SKEY=ENG2090 CRDATE=040379 CRADR1=E R J CRADR2=DEERFIELD KS 67338 CRSCH1=GARDEN CITY

NUMBER OF RECORDS LISTED: 15

06/08/80 16:22 1 SCAMP01

S C A M P GRADUATE ADMISSION DATA BASE
 * * * * *
 * STUDENT MASTER DATA SET *
 * * * * *

SMNAME	STAREA	STLEVL	STDATE	STRECO	STPROV
BARNES GEORGE M	KSU	PHD		ACPT	
CHAMBERS FRANK GLEN	NCR	MS	031080	ACPT	
CHAO HAN-YING	KSU	MS	030780	PROV	405 420
COSTELLO MARK ANTHONY	KSU	MS	092479	ACPT	
DILLINGER MARILYN	KSU	SPE			
ENGLE VERLYN ROYCE	KSU	MS	102079	PROV	305 405 420 560
FERGUSON BRIAN JOHN	KSU	MS			
JENN TAI	KSU	PHD	030780	ACPT	
KILLIAN ROBERT	KSU	MS	020679	ACPT	
LAZARO JOSE, JR	KSU	MS	040279	PROV	300 305 405 420 560
LLOYD RAY	KSU	SPE	091478	ACPT	
MANGHAN ALLAN	LEV	MS	030880	ACPT	
MORRIS MARTIN	NCR	MS		PROV	305 405 420
TAVAKOLI NASSRIN	KSU	MS	081079	ACPT	
WALLACE SHELLEY	KSU	SPE			

NUMBER OF RECORDS LISTED: 15

S C A M P GRADUATE ADMISSION DATA BASE 06/08/80 16:24 1 SCAMP01

 * STUDENT MASTER DATA SET *

SMNAME	ACDATE	ACPHON	ACADVR	ACMSEX
BARNES GEORGE M	SP78			
CHAMBERS FRANK GLEN	FA78			
CHAO HAN-YING	FA80			
COSTELLO MARK ANTHONY	SP80			
DILLINGER MARILYN	SU79	WJH		
ENGLER VERLYN ROYCE	SU79			04/80X
FERGUSON BRIAN JOHN	SP78	PSF		10/79X
JENN TAJ	FA80			
KILLIAN ROBERT	SU80			
LAZARO JOSE, JR	FA79	WJH		
LLOYD RAY	SP80	WJH		
MANGHAN ALLAN	SU80			
MORRIS MARTIN	SU78	EAU		
TAVAKOLI NASSRIN	SU78	PSF		4/80X
WALLACE SHELLEY	SP80			

NUMBER OF RECORDS LISTED: 15

S C A M P GRADUATE ADMISSION DATA BASE
 * * * * *
 * STUDENT MASTER DATA SET
 * * * * *

06/08/80 16:46 1 SCAMP01

SNAME

CHAMBERS FRANK GLEN

NUMBER OF RECORDS LISTED: 1

S C A M P GRADUATE ADMISSION DATA BASE
 * * * * *
 * STUDENT MASTER DATA SET *
 * * * * *

06/08/80 16:53 1 SCAMP01

SNAME

DILLINGER MARILYN
 ENGLER VERLYN ROYCE
 JENN TAI
 LAZARO JOSE, JR
 TAVAKOLI NASSRIN

NUMBER OF RECORDS LISTED: 5

BIBLIOGRAPHY

1. SCAMP User's Guide, Technical Note, Navy Regional Data Automation Center, Washington, DC, Document No. 91H1002 TN-01A, 135 pp.
2. Martin, James 1977. Computer Data Base Organization, Second Edition. Prentice-Hall, Inc., Englewood Cliffs, New Jersey 07632, 712 pp.
3. Tsichritzis, D. C. and Lochovsky F. H. 1977. Data Base Management System. Academic Press, Inc., 111 Fifth Ave., New York 10003, 388pp.

ACKNOWLEDGMENTS

I am grateful to Dr. William J. Hankley, Associate Professor in Computer Science Department, Kansas State University. Dr. Hankley rendered invaluable guidance, direction and assistance in the preparation of this paper.

I am indebted to the Integrated Agricultural Production and Marketing Project for its financial support.

I wish to express my deepest thanks to my parents, Mr. Alfonso O. Rebong Sr. and Mrs. Francisca C. Rebong, for their continuous moral support and encouragement.

I also wish to express my gratitude to a special girl in California. Were not for those inspirational words she has been writing, I may not have achieved my goal.

A PROTOTYPE DATA BASE
FOR COMPUTER SCIENCE
GRADUATE ADMISSIONS

by

ALFONSO C. REBONG JR.

B. S., University of Santo Tomas, RP, 1969

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Computer Science

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1980

A PROTOTYPE DATA BASE
FOR COMPUTER SCIENCE
GRADUATE ADMISSIONS

ABSTRACT

This report consists of a study performed for the COMPUTER SCIENCE DEPARTMENT concerning the automation of their graduate admission system.

The procedure for admitting graduate students, currently used for faculty record keeping, along with some items which they would like added to the system are presented.

A prototype data base was created. The interactive data base system was implemented using the SCAMP data base management system on an Interdata 8/32 running under the MTM 8/32 operating system.