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An automated systems and project management system for Headquarters, U.S. Marine Corps

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AN AUTOMATED SYSTEMS AND PROJECT MANAGEMENT SYSTEM
FOR HEADQUARTERS, U.S. MARINE CORPS

by

Richard C. Cavallaro

March 1986

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The administration of all automated information systems is a task that continues to become increasingly difficult as the numbers and complexity of these systems grow. The Department of the Navy has promulgated regulations dealing with life cycle management of these systems from the mission analysis/project initiation phase through such time that the system is terminated. The resources required to perform this managerial control are no longer adequate without the assistance of automated support. This thesis will develop a micro-oriented database management system that will enhance and simplify management control of the more than one hundred automated systems currently sponsored by the Manpower Systems Integration Branch at Headquarters, United States Marine Corps.

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An Automated Systems and Project Management System for Headquarters, U.S. Marine Corps

by

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Major, United States Marine Corps
B.S., The Pennsylvania State University, 1971

Submitted in partial fulfillment of the requirements for the degree of

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ABSTRACT

The administration of all automated information systems is a task that continues to become increasingly difficult as the numbers and complexity of these systems grow. The Department of the Navy has promulgated regulations dealing with life cycle management of these systems from the mission analysis/project initiation phase through such time that the system is terminated. The resources required to perform this managerial control are no longer adequate without the assistance of automated support.

This thesis will develop a micro-oriented database management system that will enhance and simplify management control of the more than one hundred automated systems currently sponsored by the Manpower Systems Integration Branch at Headquarters, United States Marine Corps.

THESIS DISCLAIMER

The reader is cautioned that computer programs developed in this research may not have been exercised for all cases of interest. While every effort has been made, within the time available, to ensure that the programs are free of computational and logic errors, they cannot be considered validated. Any application of these programs without additional verification is at the risk of the user.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

I. INTRODUCTION

A. PURPOSE

The life of a system starts with the identification of a deficiency during preliminary mission analysis. Marine Corps Order P5231.1 promulgates instructions regarding the management of all automated systems from the project initiation phase, through such time as that system is replaced or terminated. Systems analysts produce various development item documents, including a mission element need statement (MENS), and three system decision papers, prior to system approval and implementation. Additional configuration item documentation, such as system and program specifications, users manuals, etc., are produced and maintained after system implementation.

The assignment of document preparation tasks, and the subsequent retrieval of information regarding these documents, is a complex and tedious process. There is no central repository for this information. The manual process of retrieving information from multiple sources is time consuming and error prone.

The Marine Corps Automated Systems Management Information System (MCASMIS) is an integrated systems and project management tool. It was designed to facilitate the administration of all automated information systems centrally managed at the Headquarters, U. S. Marine Corps level.

The Manpower Systems Integration Branch, Code MPI-40 at Headquarters, Marine Corps, will be the primary user of this system for systems management. The Manpower Information Systems Liaison Unit (Code MPI-70), located in Kansas City, Missouri, will be co-users of the project management subsystem together with Code MPI-40. A system manager at

Headquarters, Marine Corps will perform all data administration aspects of this system.

MCASMIS will provide an automated storage and retrieval system for all systems documentation, while tracking the progress of systems development and providing information on milestone dates by means of exception reports. This will replace the current manual mode that relies primarily on personal notes and individual memories.

Various projects are opened for particular systems both during the development and maintenance portions of a systems life cycle. MCASMIS will record the contents, deliverables and implementation dates of these projects for later retrieval and report consolidation.

B. SCOPE

The MCASMIS programs were obviously tailored to this specific Marine Corps environment. Nevertheless, they may be easily modified and generalized to be useful for any staff involved in the systems management arena.

Because of the unique configuration problems associated with the distributed processing of project related information at both Kansas City and Washington, D.C., all the security features provided by the database management system could not be fully used. These problems will be discussed in more depth in Chapter 3.

The administration of all systems and projects requires vast financial resources. Unfortunately, time was not sufficient to include this financial aspect within the scope of this paper. It is a suggested area for future versions of this prototype system.

C. OUTLINE

Chapter two provides an overview of the operational environment. It discusses peculiar aspects of the project management tasks and delineates how these tasks are

currently performed. Finally, it outlines how MCASMIS will alleviate many problems with the current methodology.

Chapter three describes the database management software that was used to implement MCASMIS. It provides a critique of this software in terms of capabilities and limitations. It also discusses the design methodology that was used and briefly summarizes relative strengths and weaknesses of the prototyping technique.

Chapter four contains a Bachman diagram showing the relationships of the tables within Mcasmis, and a number of structure charts depicting the hierarchy of the programs.

Chapter five recaps the initial reaction of the users to the first version of the prototype system. It then summarizes the conclusions for the project.

II. NATURE OF THE PROBLEM

A. OPERATIONAL ENVIRONMENT

The Manpower Systems Integration Branch, Code MPI-40, is located at Headquarters, U.S. Marine Corps in Washington D.C. This branch centrally manages over one hundred automated information systems. All proposed manpower related systems are staffed through this office, and the life cycle documentation for these systems are administered and filed here. While some of these development item documents are produced within the Marine Corps, many others are contracted out to private industry. Processing sites for these systems are widely distributed. Most of the Class I Marine Corps systems are sponsored at one of three large data processing installations located in Kansas City, MO, Albany, GA, and Quantico, VA. Additional processing sites for these systems are located throughout the world.

The analysts from MPI-40 will be the only authorized users to modify the contents of the systems data in the MCASMIS database. Nevertheless, all systems data will be available for retrieval by other users as well. MPI-40 personnel also use the system to record projects that were opened by them for each of the systems. Many projects are opened for work by civilian contractors outside the Department of Defense. Thus, analysts must maintain close coordination with multiple development activities in addition to the activities operated and managed within the Marine Corps.

The Manpower Information Systems Liaison Unit (Code MPI-70) is located in Kansas City, MO. The Central Design and Programming Activity (CDPA) is co-located with the Marine Corps Finance Center (MCFC) in Kansas City and has primary responsibility for all automated systems that

administer the pay and personnel records of active duty, reserve and retired Marines. MPI-70 is the primary manpower functional representative for the following systems which are processed at this CDPA:

- JUMPS/MMS: an integrated manpower management and financial system for active duty Marines;
- REMMPS: an integrated manpower management and pay system for Marines in the Reserve establishment;
- ARMS: an automated recruit accession and management system; and
- CPMS: an automated career planning system for all Marines throughout the world.

MPI-70 personnel will use MCASMIS to record and produce reports on all projects opened for these systems. Analysts will also analyze production problems that surface in any of these projects.

B. PROJECT MANAGEMENT

Analysts open projects for systems both during the development phase and after the system has been implemented. Each project has a project identification number issued by MPI-40. This identifier serves as the key for all information about that project and must be a unique value.

1. Projects for Systems Under Development

Users at MPI-40 open most of the projects for systems under development. Private industry development activities receive contracts to complete many of these projects. Each project has one or more deliverables associated with it. Information recorded on each project includes a scheduled due date for that deliverable. Predefined queries are available to flag those projects that are overdue, or will be coming due soon. MCASMIS aids management control and planning from a centralized perspective.

2. Projects During the Maintenance Phase

Most of the projects are opened for systems that have matured beyond the development phase. After systems have been implemented, projects that modify or enhance

existing logic are initiated for various reasons. A category is stipulated for each project at the time that project is opened. This category denotes both the urgency of the requirement, and the implementation method. Categories of projects opened are:

a. Production Modifications

Production Modifications are denoted by a P in the category field. These types of changes are normally too urgent to wait for a test cycle implementation. For example, erroneous logic that prevents a Marine's correct pay computation, or errors uncovered in the fallout of a test cycle implementation. This is the most dangerous type of modification since the chances of compounding the error are far greater than under circumstances where the modification is more thoroughly tested.

b. Test Cycle Modifications

Test Cycle Modification are denoted by a T in the category field. The CDPA implements two test cycles per year for the major systems under its sponsorship. All large changes that have no over-riding urgency are consolidated into a separate version of application programs. Quality assurance analysts then test this version before linking it to production. Most of the changes implemented at the CDPA fall into this category. This is the safest type of modification because of all quality assurance and change control standards are enforced before linking. Unfortunately, this type of change requires a long lead time and it is not always feasible.

c. Stand Alone Modifications

Stand Alone Modifications are denoted by an S in the category field. Some projects are too complex to handle as a production modification. They require additional safeguards and testing before they can be linked to production. Nevertheless, they may not be able to wait for the next test

cycle implementation for various reasons. For example, a legislatively imposed entitlements change, a GAO audit requirement, or other such large projects that have a predetermined deadline may fall into this category. These types of modifications are seldom used because they require analysts and programmers to maintain another version of all programs in addition to the production version and the test cycle version. It causes real nightmares for the applications programming personnel and the standards personnel who must enforce change control.

3. Project Priorities

Project information is input by MPI-70 users as well as users at MPI-40. Users assign each project a priority number. This enables the CDPA or other development activity to allocate the proper resources depending on the functional urgency. MCASMIS provides a multitude of management reports that enhance the control of these projects until they are completed.

C. STATUS QUO

With the minor exception of a few standard reports that are produced by word processor, virtually all management tasks are performed manually with no automated support. Project folders are started for each project and system task. These folders are frequently misplaced. Much of the information about projects and systems exist only in the memories of the major participants and are not recorded. For example, participants negotiate agreements at project meetings, and fail to record these agreements in the project folder. Later recollections of those agreements frequently differ between the attending parties. More importantly, possible repercussions of project implementation fail to sift down to the operational level when these side effects are discussed at upper level meetings. Modifications to the original request are seldom documented formally. The

current control system places far too much emphasis on the memories of the respective analysts.

Typewritten reports concerning the status of various projects for the systems that are processed are produced periodically. These reports are then mailed to Headquarters from Kansas City. Ad hoc reports are time intensive and expensive to process. There is no central repository for all pertinent data. Subsequently, analysts spend many hours researching voluminous paper files to assimilate the answers to these requests.

The turnover of key personnel every two or three years further exacerbates the problem. This turnover completely strips the branch of invaluable corporate memory that is not easily recouped. Responsible parties miss milestones not out of neglect, but out of ignorance about the impending milestone date.

D. PROPOSED SYSTEM

MCASMIS seeks to automate much of the record keeping for all systems, development activities and projects. When a system development task is undertaken, all milestone dates are planned and input. MCASMIS then produces standard reports on the status of those documents. For example, which documents have not been tasked to anyone yet? Which milestones are coming due within the next X number of days? Which development activities have produced this type of documentation before? By entering just a few key strokes, the analyst can access the database in a manner such that a fast and accurate response to almost any ad hoc request is possible.

Management reports produced on request will greatly enhance the administration of all systems under the cognizance of the branch. Weak or potential problem areas are rapidly and automatically identified to permit the reallocation of personnel resources to effect timely resolution.

MPI-40 should designate a systems manager to oversee the data integrity of the MCASMIS database. The tasks of archiving records, reloading and packing the database, and unloading records to permanent history files on magnetic diskettes will fall under the purview of this system manager.

III. METHODOLOGY

A. GENERAL

System and project management are inter-related functions. For example, projects are opened only for predefined systems. Deliverables are related to projects. Financial obligations are incurred for projects and systems. Database technology allows all of the data about projects and systems to be processed as an integrated whole. It provides program/data independence which permits flexible and powerful ad hoc retrieval that is not easily supported by file processing systems. Any future changes to the structure of the data does not require that the programs which access this data also be modified. It eliminates data duplication. For example, data about projects need not be repeated separately in project and system application programs.

Headquarters selected R:base 5000, a micro-oriented, relational database management system, systems development. The MCASMIS system was developed on an IBM PC-XT, and should run on all completely compatible equipment. It was tested on a Zenith Z-150 and ran satisfactorily on that machine. MCASMIS requires a hard disk.

1. Capabilities of R:base

a. Programming Language

R:base comes with a programming language that is well documented and easy to learn. All structured constructs are supported and the programs are easily modularized to produce efficient, robust and maintainable code. Screen design is facilitated by specific commands that generate bordered menus and on-line help screens. R:base includes a menu-driven, automatic code generator which permits flexible data retrieval for even a novice user.

b. Compiler

A built in compiler converts ASCII application program files to binary representation. This not only provides additional processing speed, but helps preserve the integrity of the programs. The user can neither view, nor modify, this source code with text editors.

c. Data Dictionary

A passive data dictionary provides on-line documentation of the table and column names within the database. R:base automatically maintains key values, and verifies the format according to predefined item attributes. For example, types defined as date, dollar, time and integer are automatically checked for proper format at time of entry.

d. Automatic Rule Checking

R:base permits the identification of rules for data entry. Subsequent attempts to load or modify a record that violates any of these rules are automatically rejected by the system. This feature is invaluable in preserving data integrity from a global perspective. It eliminates the requirement to code for this editing within the separate programs. For example, a rule might be defined which prohibits opening a project for a non-existent system. Any attempt to load a project that violates this rule would be rejected.

2. Limitations of R:base

a. Security

R:base permits the assignment of passwords for writing or reading data from individual tables. Unfortunately, these passwords can only be defined if there is an owner password defined for the entire database. However, when an owner password is assigned, only that user is allowed to unload data from the database. This is unacceptable in the current situation. Data must be unloaded at both Kansas City and Washington to keep the database

current. Therefore, MCASMIS depends on manual procedures to preserve the data security. R:base does not provide the flexibility to assist in this unique configuration environment.

b. Name Scoping

All variables defined in R:base are global. The principle of information hiding is violated by not limiting the visibility of the variables according to the structure of the program in terms of subordinate modules.

Furthermore, R:base permits, but does not require, the explicit declaration of variables before use. A stronger typing would prevent cumbersome run time errors, and would enforce traditionally accepted standards of structured programming.

B. DESIGN METHODOLOGY

1. Defining Requirements

Typically the hardest task associated with systems development has been to adequately define the requirements. Table I depicts the series of tasks performed in the traditional systems development process.

TABLE I

TRADITIONAL SYSTEMS DEVELOPMENT TASKS

Feasibility Study
Requirements Definition
Preliminary Design
Detailed Design
Coding
Integration
Implementation
Operations and Maintenance

These steps normally result in voluminous documentation that is rarely understood by any one person in its

entirety. It is also a lengthy process which runs the risk of users changing their minds before completion. Even when the users are involved in approving the results of each task, the outcome cannot be assured. Often, the users feel coerced into signing off on something that is not completely accurate, or even understood. Yet, they know that they will not get to see anything concrete until further phases have been completed. It is not uncommon for the users to react to the resultant system with surprise and disdain. One overheard response was, "I do not know what I want, but I do know that that's not it!" Even with the exceptionally computer literate users of MCASMIS, the traditional approach to systems development was infeasible for this project. A two day visit was made to MPI-40 to interview the analysts, obtain insight into their tasks and responsibilities, and collect sample output reports that would be desirable. All personnel were anxious to help and answered all questions. Nevertheless, it was difficult to specifically itemize all requirements of the proposed system. Tasks were sufficiently unstructured to preclude exact descriptions of duties and unambiguous user specifications.

It was therefore decided that the best course of action would be to build a functional model of a proposed system. This prototype would seek to alleviate many of the present problem areas in the systems management arena.

2. Prototyping

In contrast to the rigid, disciplined approach to systems development using the structured analysis methodology, prototyping is an informal procedure that results in faster convergence between need and specification. Specifications are refined as users interact with the prototype system and the analyst who developed that system. Many experts are recognizing the advantages of such a methodology for decision support systems. As described in [Ref. 1],

> A structured transaction-oriented system requires an intensive up-front design effort to get firm specifications which can then be programmed. A decision support system, however, involves more a process of user learning. An appropriate methodology here is often a crude design followed by a simple program. Use of the programs by the user leads to successively different and more comprehensive design as its performance is analyzed and then to a series of new programs. Interactively, one cycles through this sequence a number of times. Such a design process (pragmatically useful) flies in the face of generally held nostrums about good development practices.

The geographic separation from the intended users also contributed to the decision to use the prototyping approach. Without detailed written specifications, this methodology offered the highest probability of ultimately satisfying the system users.

The main advantages of using prototyping are, a better understanding of user requirements through faster feedback, and the potential for using the prototype as the final solution [Ref. 2]. It is this second advantage that also contributes to a serious pitfall of this methodology. If the prototype is accepted as the final solution, there is danger of incorporating logical errors that will render subsequent enhancement unattainable. A prototypic design is almost purely physical in nature. An unambiguous statement of specifications from a logical perspective would preclude such errors from being perpetuated in the maintenance phase. Fortunately, R:base provides a flexible array of data manipulation functions that should accommodate any necessary schema modifications should a logical error surface. Of course, this capability is not unique to R:base. It is an inherent advantage of all relational data base management systems which provide program/data independence.

IV. MCASMIS DESIGN

A. DATABASE DESIGN

Table II depicts the logical relationships of the primary tables in the MCASMIS database. Also included in this database are copies of the system, project, TTC and deliver tables that are used for temporary storage of archived records. The number of arrows shown for each table on this Bachman Diagram denote either a one to many or a many to many relationship. For example, each project could have many deliverables, but every deliverable is associated with only one project. Conversely, each project could effect multiple TTCs, and each TTC could be related to many projects.

The relationships between the files are connected by key fields which must be defined as unique values. The MPI-ID serves as the key which establishes the relationship between project, TTC and deliverable records. The SYSNAME is the key value for system and doclist records, and DEVACT is the key for vendor records.

B. PROGRAM DESIGN

Tables III through IX show the hierarchical structure of the application programs that comprise MCASMIS. The system was designed to be completely user friendly. On-line help is available at any of the menu screens by pressing F10. MCASMIS also provides an emergency escape mechanism to return directly to the main menu from any of the subordinate modules.

Table III depicts the main level of the program as well as the modules that comprise the database management aspects of MCASMIS.

TABLE II

BACHMAN DIAGRAM

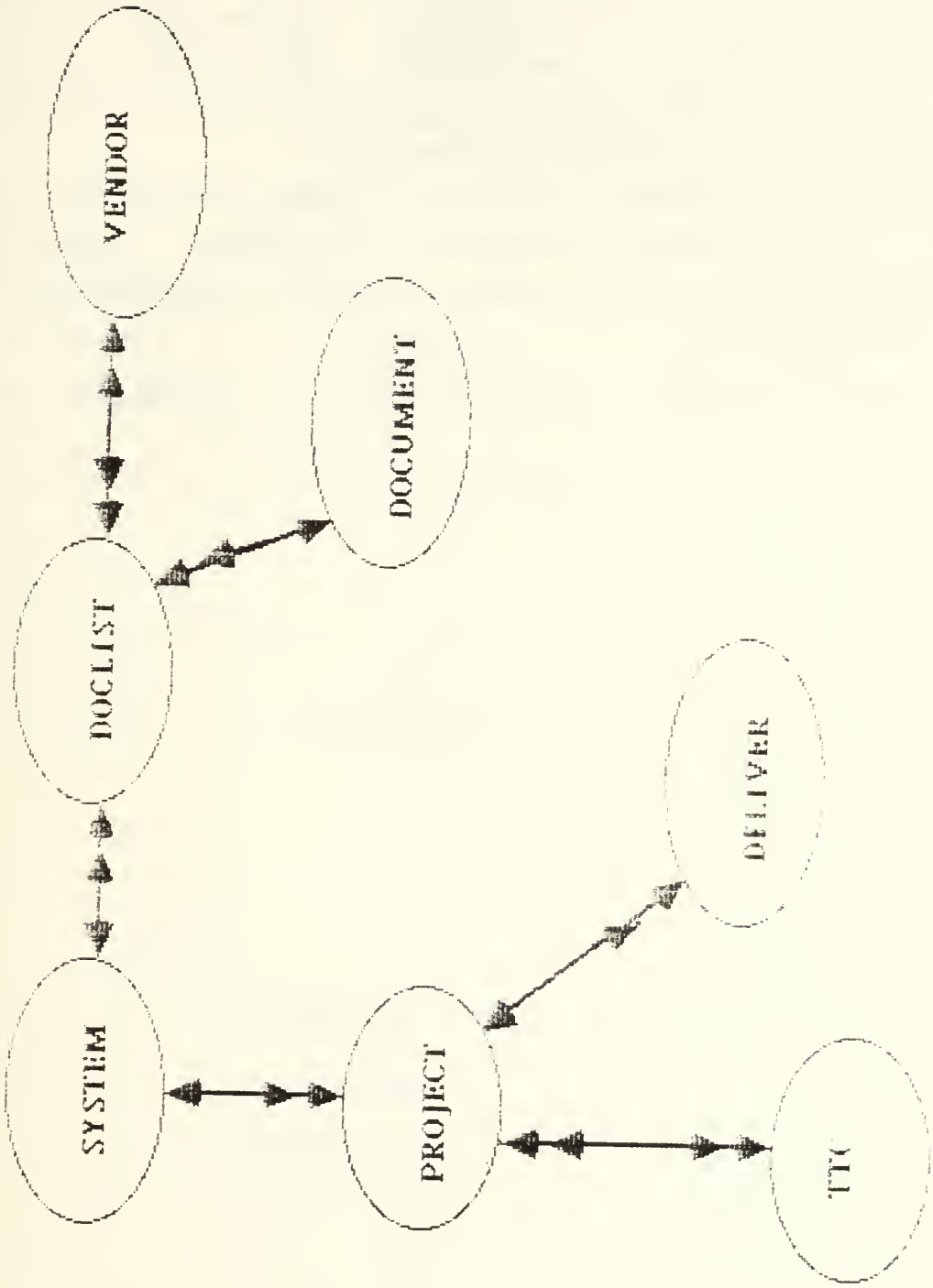


Table IV shows the standard add, change and delete functions for systems management. Tables V and VI display the hierarchy for the systems management query and management reports options respectively. Queries are normally one of a kind, ad hoc requests that may be used to answer many questions that arise in the course of systems administration. Management reports are usually more structured, recurring data retrievals that provide management control and assist in the planning of resource allocation.

Tables VII through IX depict the same respective functions for the project management subsystem. Appendix C contains detailed instructions on the use and purpose of all the above programs.

TABLE III

STRUCTURE CHART
MAIN LEVEL

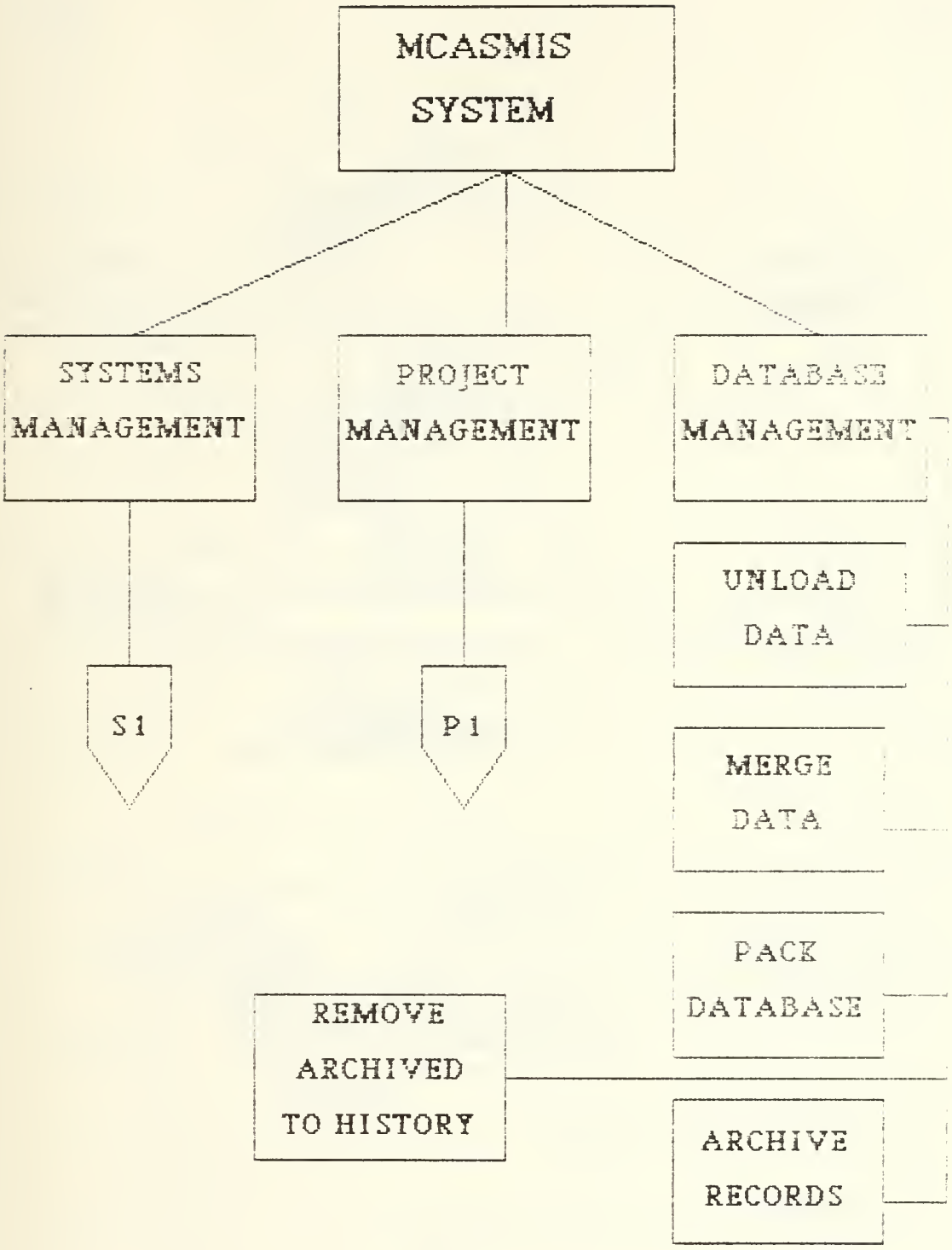


TABLE IV

STRUCTURE CHART
SYSTEMS MANAGEMENT

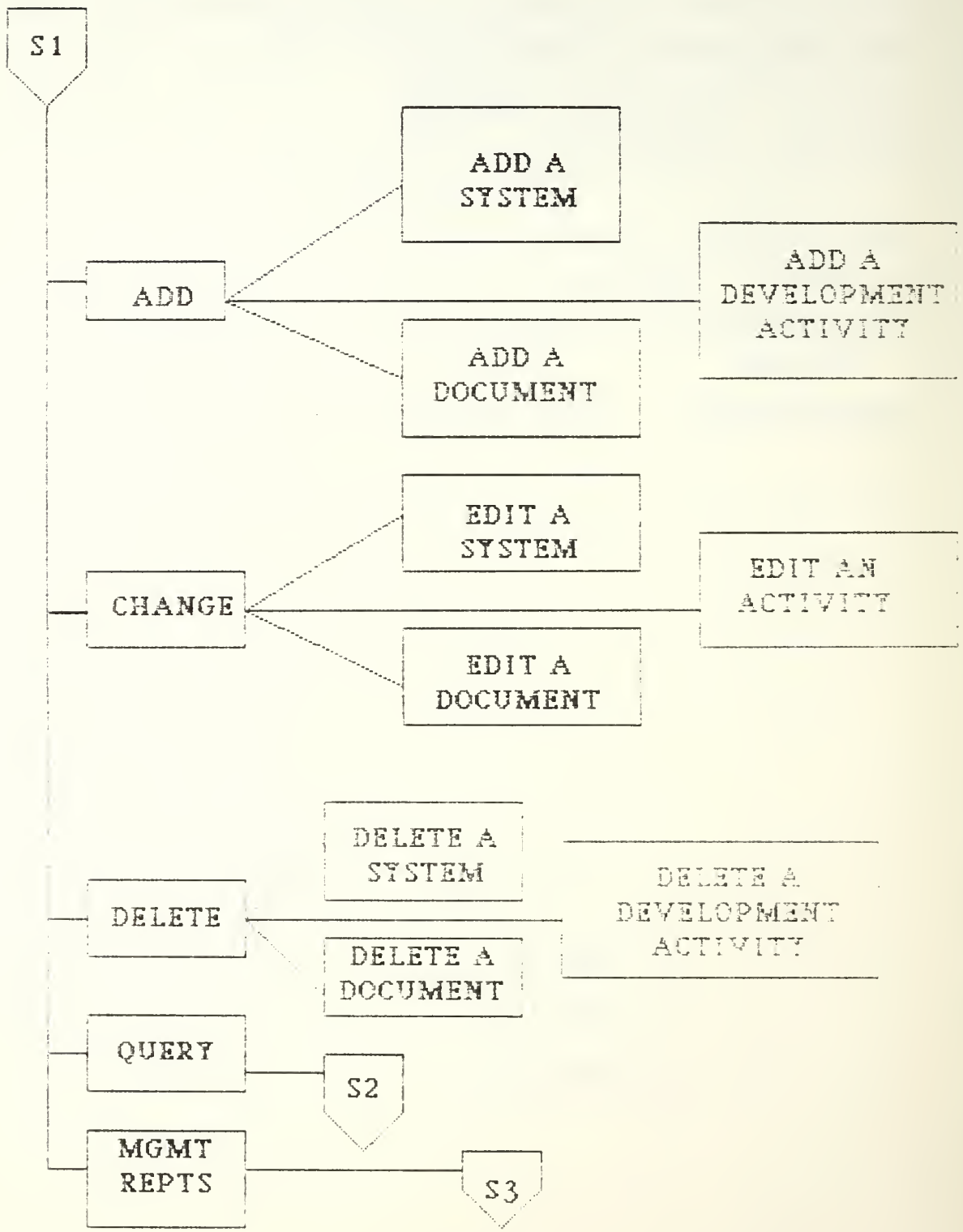


TABLE V

STRUCTURE CHART
SYSTEMS QUERIES

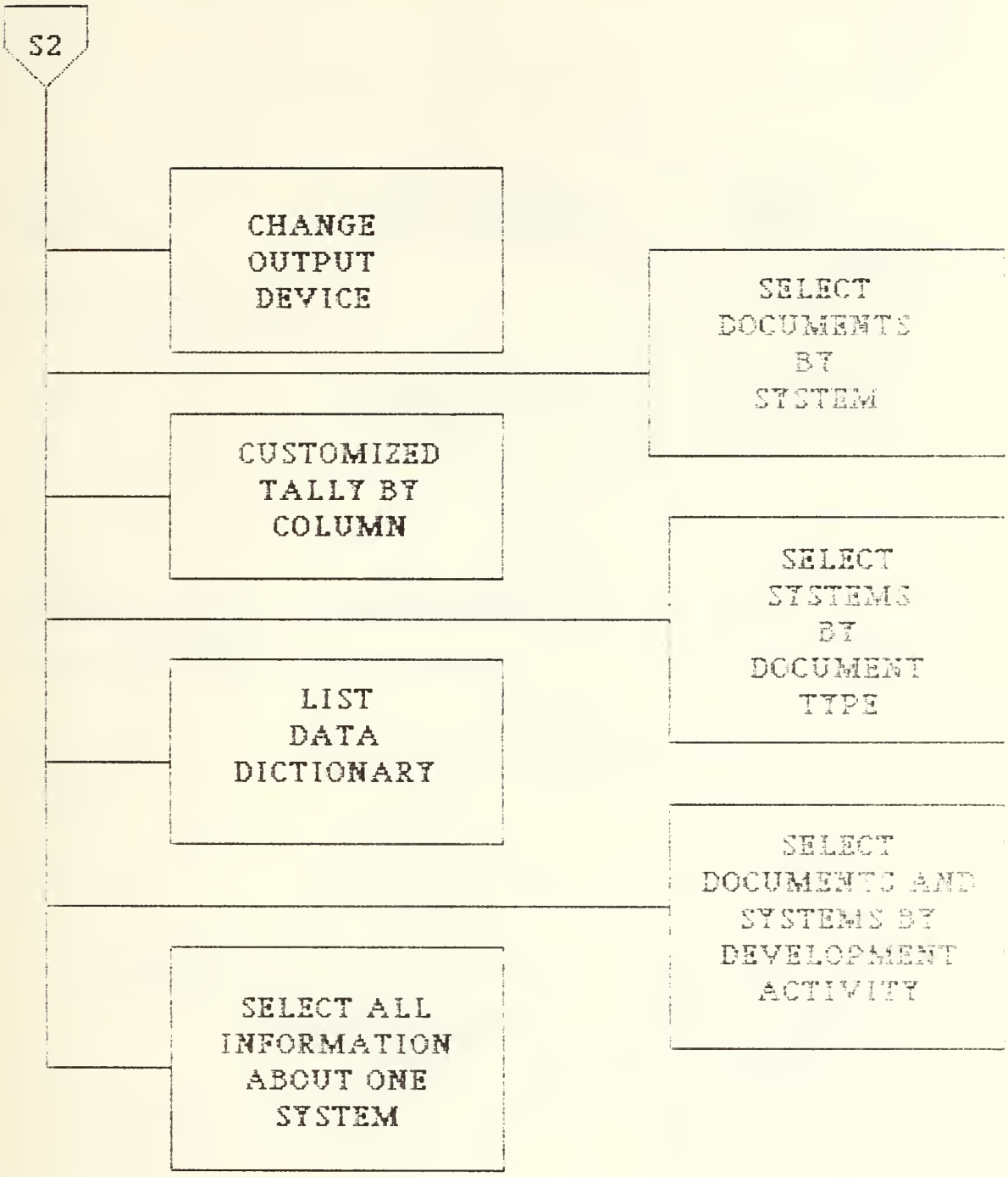


TABLE VI

STRUCTURE CHART
SYSTEMS MANAGEMENT REPORTS

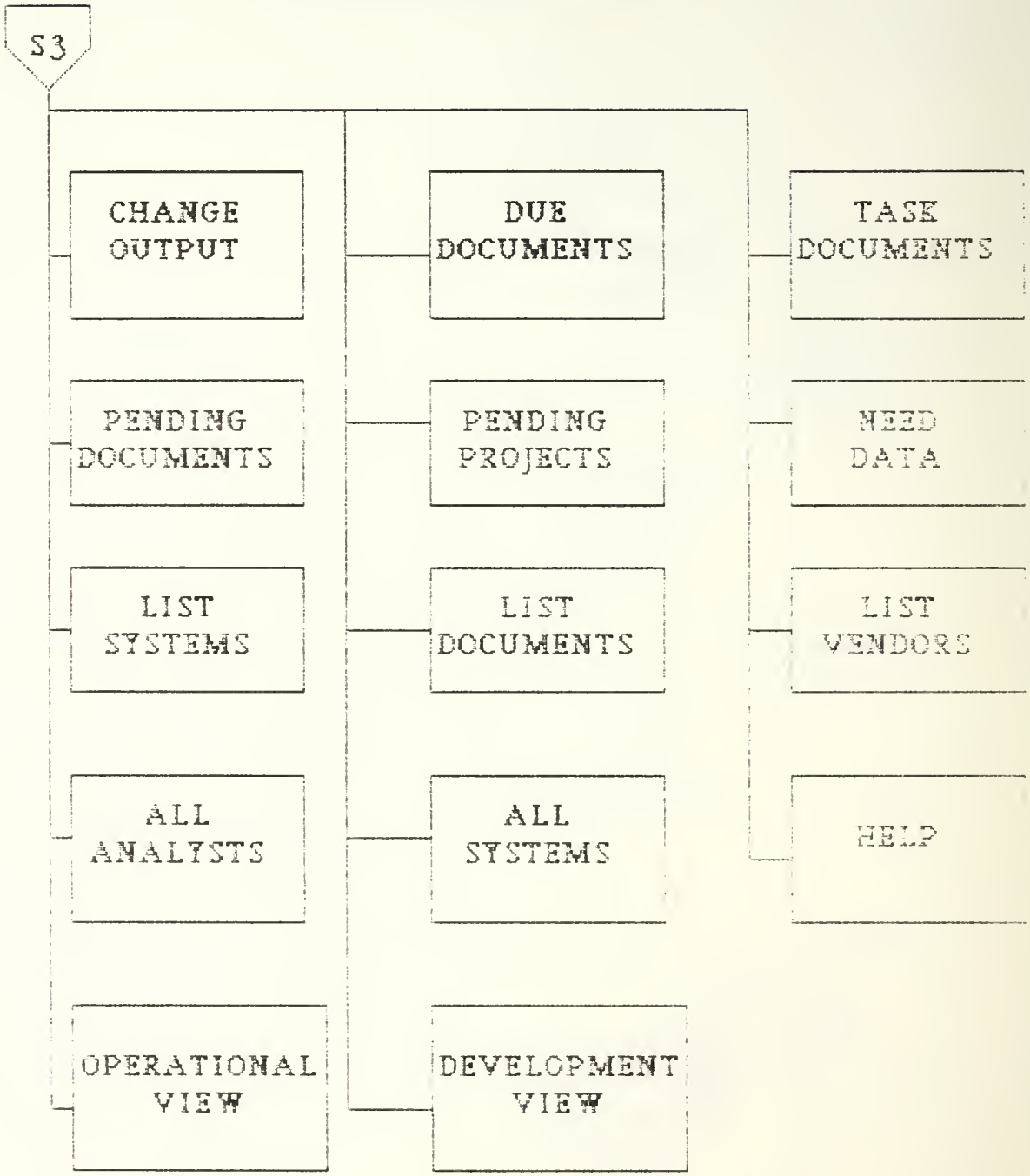


TABLE VII

STRUCTURE CHART
PROJECT MANAGEMENT

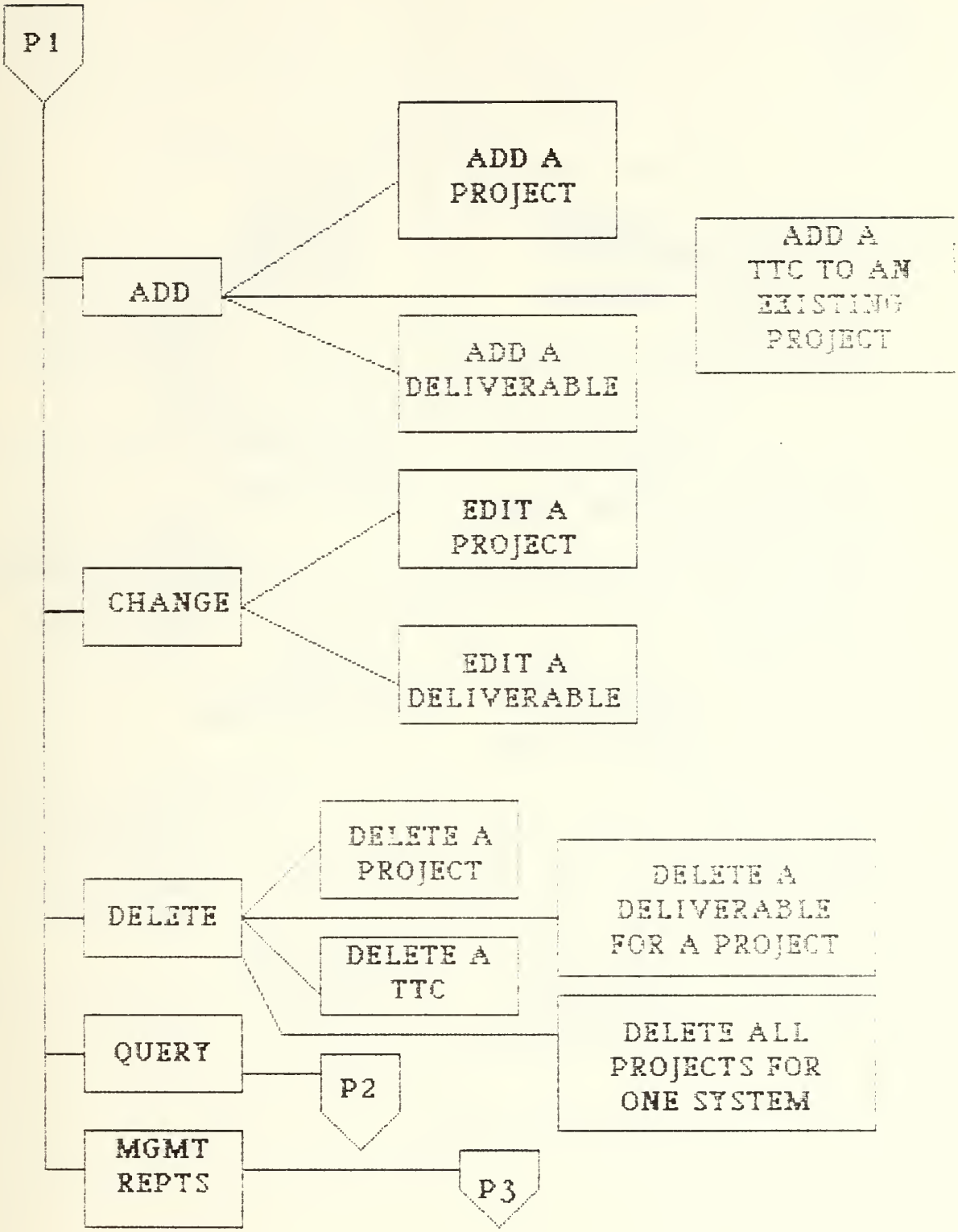


TABLE VIII

STRUCTURE CHART
PROJECT QUERIES

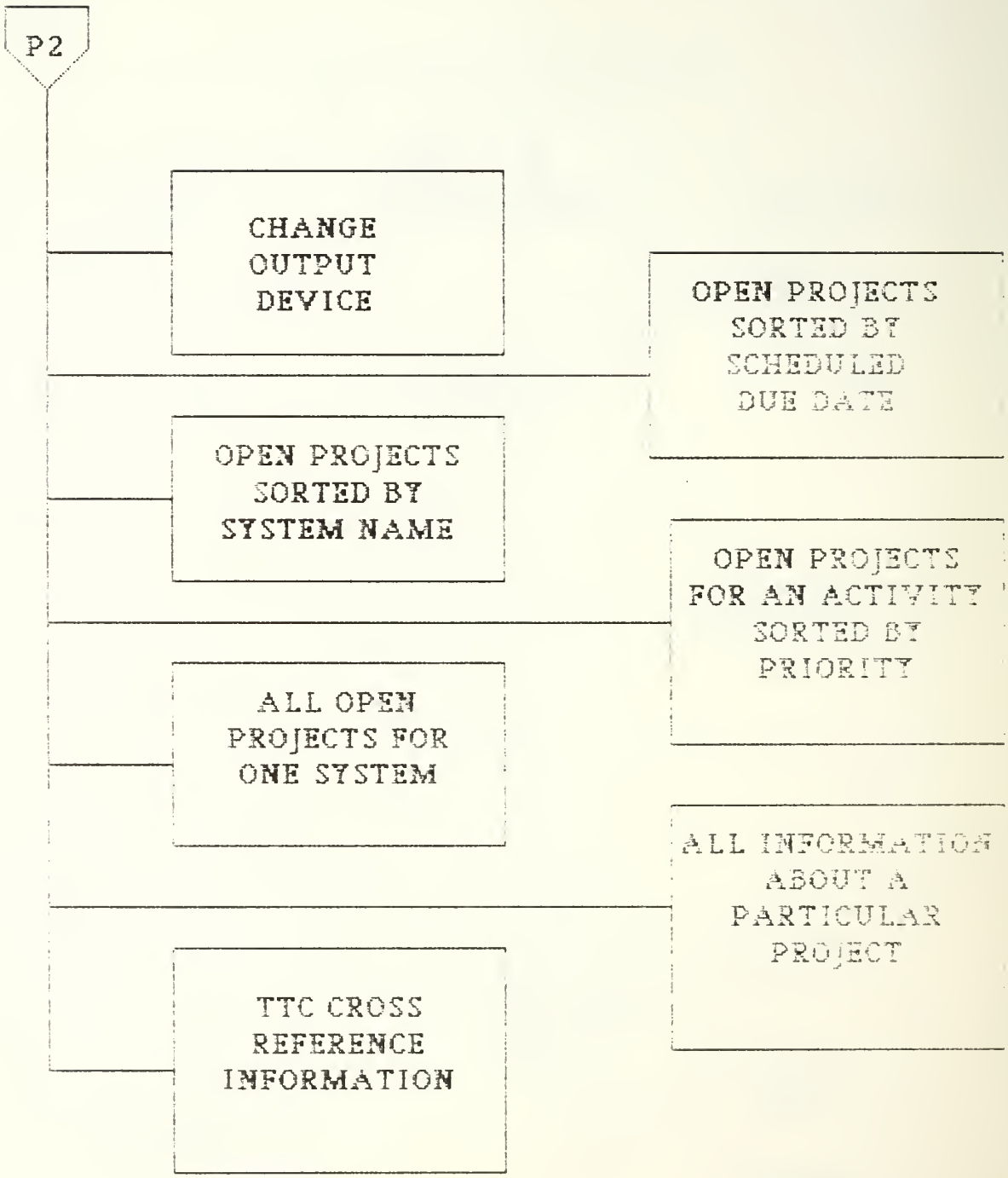
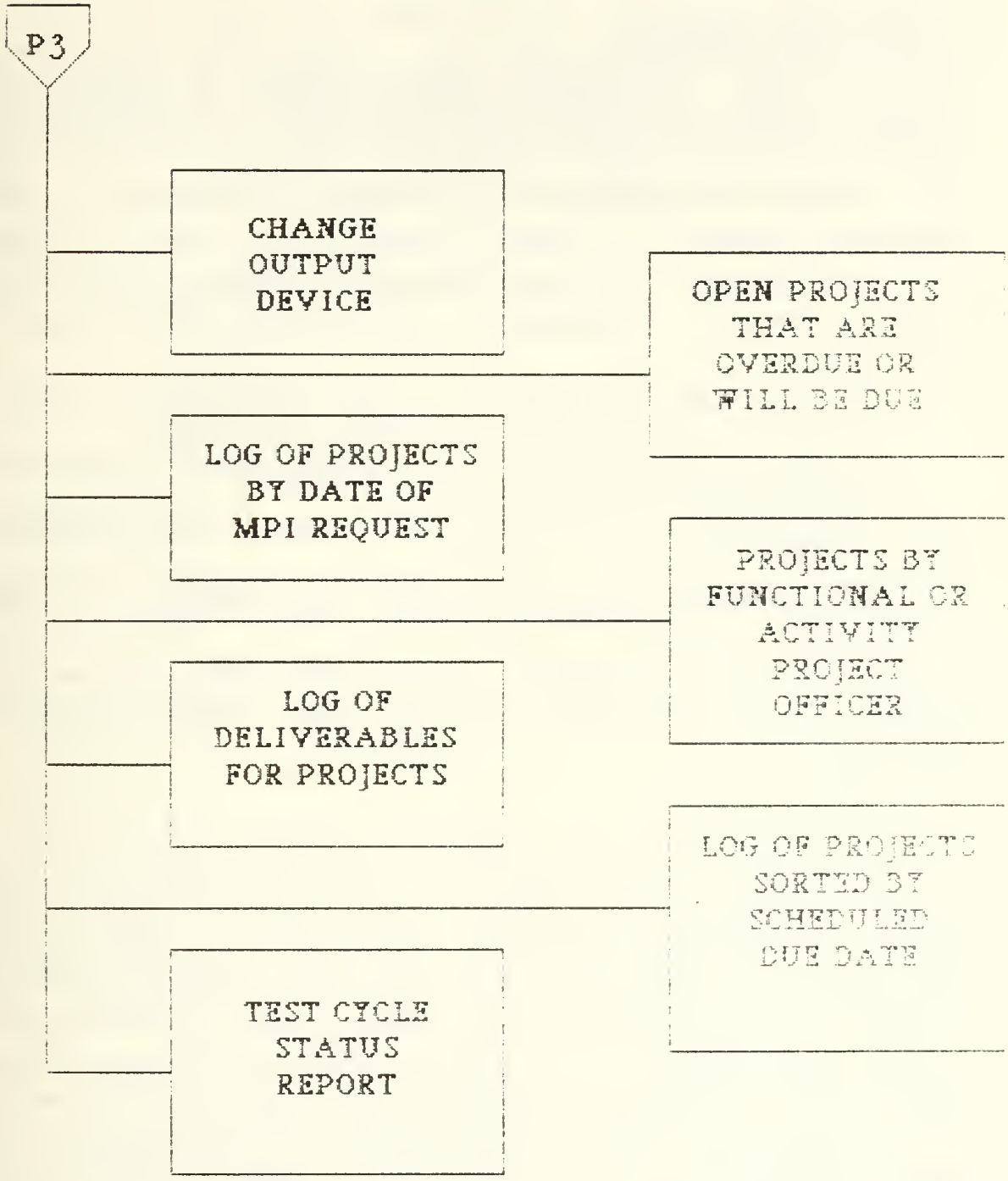


TABLE IX

STRUCTURE CHART
PROJECT MANAGEMENT REPORTS



V. CONCLUSIONS

A. INITIAL REACTIONS

It required approximately three months to develop the original version of the prototype system. A meeting to demonstrate this model was arranged in Kansas City. The user operated the system with virtually no assistance. The prototype proved to be user friendly and robust. This review uncovered a few human interface problems which were trivial to modify. Examples of some of the problems uncovered were:

- Providing advisory messages to the user that the application was working during lengthy retrievals;
- A less disruptive method for routing desired output to the printer as well as to the screen;
- A different sort criterion for one of the management reports; and
- Provide the option of listing valid arguments at some of the system prompts when the user is unsure of the input.

Some of the programs were also broken down into smaller modules. This noticeably increased the responsiveness of the system.

B. SUMMARY

This thesis does not purport to recommend prototyping as an alternative to the rigorous, time-intensive structured systems development techniques. Nevertheless, prototyping did enable the production of a functional decision support system that could serve as the framework for a detailed set of user requirements. It could be used in its present form immediately. Feedback provided by the users will serve as an excellent and credible definition of requirements for system refinements. It is beyond the scope of this thesis to analyze the relative advantages and disadvantages of prototyping in general. Prototyping as a design methodology

has proved to be exceptionally effective in this particular development effort.

Future enhancements to MCASMIS should include the incorporation of financial resource data that are connected to each system and project, and more stringent data security regarding both passwords and procedures. The multi-user version of R:base may offer some assistance in this area.

APPENDIX A

SOURCE LISTINGS

```
*(=====================================================================
    PROGRAM:   ADDTTC.CMD
    AUTHOR:    R. C. CAVALLARO
    DATE WRITTEN: 29 DEC 1985
    PURPOSE:   ADDS TTCs TO A NEW OR EXISTING PROJECT

    TABLE USED: TTC
    VARIABLE FORM USED: TTC

  =====================================================================)

SET VAR AGAIN = Y
SET NULL " "
WHILE AGAIN = Y THEN
   NEWPAGE
   WRITE "ENTER TO ADD NEW TTC FOR THIS PROJECT          ESC TO QUIT" AT 1 1
   DRAW TTC WITH ALL
   ENTER VAR VTTC RETURN ENTER ESC
   IF #RETURN = ESC THEN
      BREAK
   ENDIF
   LOAD TTC
        .VMID .VTTC
   END
   CLEAR VTTC
ENDWHILE
SET NULL -0-
RETURN


*(=====================================================================
   PROGRAM:   D00PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 3 FEBRUARY 1986
   PURPOSE:   THE MAIN MENU OF THE DATABASE MANAGEMENT SUBSYSTEM.  ROUTES
              USER TO PROPER MENU BASED ON INDICATED INPUT TO MENU.
              ONLY THE DATABASE ADMINISTRATOR SHOULD EXECUTE OPTIONS
              2 THROUGH 5.

   PROGRAMS CALLED: D01PICK.CMD, D02PICK.CMD, D03PICK.CMD, D04PICK.CMD,
                    D05PICK.CMD
   SCREENS DISPLAYED: D00HLP, DMENU00
```

```
   ==========================================================================)

*(initialize loop control variable)
SET VAR CHOICE = 0
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION WITH NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM DMENU00      *( database management main menu )
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."

   IF CHOICE = -1 THEN             *( F10 was pressed for help )
      DISPLAY D00HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
      SET VAR CHOICE = 0
   ENDIF

   IF CHOICE = 1 THEN           *( add menu )
      RUN D01PICK.CMD
   ENDIF

   IF CHOICE = 2 THEN           *( edit menu )
      RUN D02PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN           *( delete menu )
      RUN D03PICK.CMD
   ENDIF

   IF CHOICE = 4 THEN           *( query menu )
      RUN D04PICK.CMD
   ENDIF

   IF CHOICE = 5 THEN           *( management reports menu )
      RUN D05PICK.CMD
   ENDIF

   IF CHOICE = 6 THEN           *( return to MCASMIS main menu )
      BREAK
   ENDIF

   SET VAR CHOICE = 0
ENDWHILE
SET VAR CHOICE = 0              *( reset loop control variable )
RETURN
```

Option 1 will unload all information pertaining to projects which distributed

```
   sites have input, for subsequent transmittal to HQMC.
Option 2 enables HQMC to merge the files that were transmitted by distributed
   sites into the main database, reloads the database to recover space, and
   creates a diskette copy of the database to send to those sites.
Option 3 packs the database to recover space from records that have been
   deleted.
Option 4 archives project and document records in order to speed up the access
   to the active database.
Option 5 removes all archived records to a separate history diskette to
   conserve space on the hard disk.


*(=================================================================
   PROGRAM:  D01PICK.CMD
   AUTHOR :  R. C. CAVALLARO
   DATE WRITTEN: 3 FEBRUARY 1986
   PURPOSE:  UNLOADS DATA FOR TTC, PROJECT AND DELIVERABLES FOR SUBSEQUENT
             TRANSMITTAL TO HQMC.

   PROGRAM CALLED:  MAIN.CMD

   =================================================================)

NEWPAGE
SET VAR DRV = D
WHILE DRV NE A AND DRV NE B THEN
   FILLIN DRV USING "WHICH DRIVE WILL CONTAIN THE OUTPUT DATA:  "
   IF DRV NE A AND DRV NE B THEN
      WRITE ""
      WRITE "YOU MUST ENTER EITHER A OR B AS VALID DRIVE DESIGNATORS."
      WRITE " "
   ENDIF
ENDWHILE
SET VAR DRV = .DRV + :
SET VAR DRV = .DRV + "OUT#DATA"
NEWPAGE
WRITE "WORKING . . PLEASE STANDBY." AT 10 25
OUTPUT .DRV
UNLOAD DATA FOR TTC
UNLOAD DATA FOR DELIVER
UNLOAD DATA FOR PROJECT
OUTPUT SCREEN
CLEAR DRV
QUIT TO MAIN.CMD              *( return to MCASMIS main menu )


*(=================================================================
   PROGRAM:  D02PICK.CMD
   AUTHOR :  R. C. CAVALLARO
   DATE WRITTEN: 3 FEBRUARY 1986
```

```
   PURPOSE:  USED BY DATABASE ADMINISTRATOR TO MERGE FILES TRANSMITTED BY
             REMOTE SITES INTO MAIN DATABASE, DELETES DUPLICATES, RECOVERS
             UNUSED SPACE, AND CREATES A COPY OF THE DATABASE TO SEND BACK
             TO THE DISTRIBUTED SITES.

   ================================================================================)

NEWPAGE
SET ERR VAR ERV                *( set error variable )
SET VAR DRV = X
WHILE DRV NE A AND DRV NE B THEN
   FILLIN DRV USING "WHICH DRIVE CONTAINS THE DATA TO BE MERGED:  "
   IF DRV NE A AND DRV NE B THEN
      WRITE " "
      WRITE "YOU MUST ENTER EITHER A OR B AS VALID DRIVE DESIGNATORS."
      WRITE " "
   ENDIF
ENDWHILE
SET VAR DRV = .DRV + :
SET VAR DRV = .DRV + "OUT#DATA"
NEWPAGE
WRITE "WORKING . .  PLEASE STANDBY." AT 10 25
INPUT .DRV
DELETE DUPLICATES FROM PROJECT
DELETE DUPLICATES FROM TTC
DELETE DUPLICATES FROM DELIVER
NEWPAGE
SET VAR DRV = X
WHILE DRV NE A AND DRV NE B THEN
   WRITE "WHICH DRIVE SHOULD CONTAIN THE DATA TO RETURN TO THE REMOTE"
   FILLIN DRV USING "SITES:  "
   IF DRV NE A AND DRV NE B THEN
      WRITE " "
      WRITE "YOU MUST ENTER EITHER A OR B AS VALID DRIVE DESIGNATORS."
      WRITE " "
   ENDIF
ENDWHILE
NEWPAGE
WRITE "WORKING . .  PLEASE STANDBY."
SET VAR DRV = .DRV + :
SET VAR DRV = .DRV + MCMIS
RELOAD .DRV
IF ERV NE 0 THEN
   WRITE " "
   WRITE "THE RELOAD DID NOT WORK.  TRY AGAIN OR CONTACT THE DBA."
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
   RETURN
ENDIF
```

```
SET VAR DRV = .DRV + "*.RBS"
CLOSE MCMIS                    *( close database for copying )
COPY .DRV
OPEN MCMIS                     *( reopen database )
CLEAR DRV
RETURN

*(=============================================================================
   PROGRAM:   D03PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 3 FEBRUARY 1986
   PURPOSE:   PACKS THE DATABASE AND RELOADS IT TO ENSURE THAT ALL SPACE THAT
              WAS PREVIOUSLY USED BY DELETED RECORDS IS AGAIN AVAILABLE.

   =============================================================================)

SET ERR VAR ERV                          *( set error variable )
NEWPAGE
SET VAR DRV = X
WHILE DRV NE A AND DRV NE B AND DRV NE C THEN
   FILLIN DRV USING "WHICH DRIVE WILL BE USED FOR THE SCRATCH FILES: "
   IF DRV NE A AND DRV NE B AND DRV NE C THEN
      WRITE " "
      WRITE "YOU MUST ENTER A, B OR C AS VALID DRIVE DESIGNATORS."
      WRITE " "
   ENDIF
ENDWHILE
NEWPAGE
WRITE "WORKING . . PLEASE STANDBY."
SET VAR DRV = .DRV + :
SET VAR DRV = .DRV + SCRT#
RELOAD .DRV
IF ERV NE 0 THEN
   WRITE " "
   WRITE "THE PACK HAS FAILED.  TRY AGAIN OR CONTACT THE DBA."
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
   RETURN
ENDIF
NEWPAGE
WRITE "RELOADING THE NEW DATABASE.  PLEASE STANDBY." AT 12 25
SET VAR DRV = .DRV + "*.RBS"
CLOSE MCMIS                    *( close database for copying )
COPY .DRV MCMIS*.RBS
OPEN MCMIS                     *( reopen database )
ERASE .DRV
RETURN
```

```
*(=============================================================================
   PROGRAM:   D04PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 3 FEBRUARY 1986
   PURPOSE:   ARCHIVES EITHER DOCUMENTS OR PROJECTS (WITH ASSOCIATED TTC AND
              DELIVERABLE RECORDS) TO SPEED UP ACCESS FOR ACTIVE RECORDS IN THE
              DATABASE.

   PROGRAMS CALLED:  D14PICK.CMD, D24PICK.CMD, MAIN.CMD
   SCREENS DISPLAYED: D04HLP, DMENU04

   =============================================================================)

*( initialize loop control variable )
SET VAR CHOICE = 0
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION WITH NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM DMENU04
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."

   IF CHOICE = -1 THEN
      DISPLAY D04HLP
      WRITE " "
      WRITE "PRESS ANY KEY TO CONTINUE . ."
      PAUSE
   ENDIF

   IF CHOICE = 1 THEN         *( archive development documents )
      RUN D14PICK.CMD
   ENDIF

   IF CHOICE = 2 THEN         *( archive projects )
      RUN D24PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN         *( return to db main menu )
      BREAK
   ENDIF

   IF CHOICE = 4 THEN         *( return to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF

   SET VAR CHOICE = 0
ENDWHILE
CLEAR ALL VAR
```

```
SET VAR CHOICE = 0
RETURN


Option 1 archives development item documents for a specific system so that
   the access to the active database records will be speeded up.  Once these
   records are archived, they will no longer appear in any normal retrievals
   from MCASMIS, but are still available through the DBA.
Option 2 will perform the same function as above, but for projects with the
   associated TTC and deliverable data on those projects.


*(=============================================================================
   PROGRAM:   D05PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  3 FEBRUARY 1986
   PURPOSE:   REMOVES ALL ARCHIVED RECORDS FROM THE DATABASE HISTORY TABLES
              AND TRANSFERS THEM TO A DISKETTE FOR POSTERITY.  THIS CLEARS
              UP SPACE ON THE HARD DISK THE NEXT TIME THE DATABASE IS PACKED.

   =============================================================================)

SET VAR DRV = X
WHILE DRV NE A AND DRV NE B THEN
   FILLIN DRV USING "WHICH DRIVE WILL THE DATA BE OUTPUT TO:  "
   IF DRV NE A AND DRV NE B THEN
      WRITE " "
      WRITE "ENTER EITHER A OR B AS VALID DRIVE DESIGNATORS."
      WRITE " "
      WRITE "PRESS ANY KEY TO CONTINUE . ."
      PAUSE
   ENDIF
ENDWHILE
SET VAR DRV = .DRV + :
FILLIN FNAME USING "WHAT IS THE NAME OF THE FILE (e.g. CALYR85):  "
SET VAR DRV = .DRV + .FNAME
NEWPAGE
WRITE "WORKING . .  PLEASE STANDBY."
OUTPUT .DRV
UNLOAD DATA FOR DOCHIST
UNLOAD DATA FOR PROJHIST
UNLOAD DATA FOR TTCHIST
UNLOAD DATA FOR DLVRHIST
OUTPUT SCREEN
DELETE ROWS FROM DOCHIST WHERE DOCABR EXISTS
DELETE ROWS FROM PROJHIST WHERE MPI-ID EXISTS
DELETE ROWS FROM TTCHIST WHERE MPI-ID EXISTS
DELETE ROWS FROM DLVRHIST WHERE MPI-ID EXISTS
CLEAR ALL VAR
SET VAR CHOICE = 0
```

```
RETURN

*(=============================================================================
   PROGRAM:  D14PICK.CMD
   AUTHOR :  R. C. CAVALLARO
   DATE WRITTEN:  3 FEBRUARY 1986
   PURPOSE:  ARCHIVES DEVELOPMENT ITEM DOCUMENT RECORDS FOR A SYSTEM AFTER
             THAT SYSTEM HAS BEEN IMPLEMENTED.

  ============================================================================)

FILLIN VSYS USING "WHAT IS THE SYSTEM ABBREVIATION:  "
WRITE " "
SET POINTER #1 PT1 FOR DOCLIST WHERE SYSNAME = .VSYS
IF PT1 NE 0 THEN
   WRITE "THERE ARE NO DOCUMENTS ON FILE FOR THAT SYSTEM."
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
   RETURN
ENDIF
SET POINTER #1 PT1 FOR DOCUMENT WHERE LIFECAT = DI
WHILE PT1 = 0 THEN
   SET VAR ITEM = DOCABR IN #1
   *( use additional search variables for multiple document types )
   SET VAR ITEM1 = .ITEM + "/"
   SET VAR ITEM2 = "/" + .ITEM
   SET VAR MSG TEXT
   SET VAR MSG = "ARCHIVING RECORDS OF TYPE" & .ITEM
   SHOW VAR MSG
   APPEND DOCLIST TO DOCHIST WHERE DOCABR = .ITEM AND SYSNAME = .VSYS +
      OR DOCABR CONTAINS .ITEM1 AND SYSNAME = .VSYS OR +
      DOCABR CONTAINS .ITEM2 AND SYSNAME = .VSYS
   DELETE ROWS FROM DOCLIST WHERE DOCABR = .ITEM AND SYSNAME = .VSYS +
      OR DOCABR CONTAINS .ITEM1 AND SYSNAME = .VSYS OR +
      DOCABR CONTAINS .ITEM2 AND SYSNAME = .VSYS
   NEXT #1 PT1
ENDWHILE
CLEAR ALL VAR
SET VAR CHOICE = 0
RETURN

*(=============================================================================
   PROGRAM:  D24PICK.CMD
   AUTHOR :  R. C. CAVALLARO
   DATE WRITTEN:  3 FEBRUARY 1986
   PURPOSE:  ARCHIVES PROJECT RECORDS WITH ASSOCIATED TTC AND DELIVERABLE
             RECORDS THAT WERE COMPLETED AFTER A SPECIFIED DATE.
```

```
  ==========================================================================)

SET ERR VAR ERV                              *( set error variable )
SET VAR TGT DATE
LABEL LOOP
NEWPAGE
WRITE "PLEASE INPUT THE DATE THAT YOU WANT TO KEEP RECORDS IN THE ACTIVE"
WRITE "DATABASE.  ALL PROJECTS COMPLETED BEFORE THIS DATE WILL BE ARCHIVED"
FILLIN TGT USING "AND CAN ONLY BE RETRIEVED BY THE DBA: "
IF ERV NE 0 THEN
   WRITE " "
   WRITE "YOU MUST INPUT A VALID DATE IN DD MMM YYYY FORMAT"
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
   GOTO LOOP
ENDIF
NEWPAGE
SET POINTER #1 PT1 FOR PROJECT WHERE COMPLETE LT .TGT
IF PT1 NE 0 THEN
   WRITE "NO PROJECTS WERE COMPLETED BEFORE THIS DATE"
   WRITE "PRESS ANY KEY TO CONTINUE . ." AT 5 10
   PAUSE
ELSE
   WHILE PT1 = 0 THEN
      SET VAR MID = MPI-ID IN #1
      SET VAR MSG TEXT
      SET VAR MSG = "ARCHIVING RECORDS FOR PROJECT" & .MID
      SHOW VAR MSG
      APPEND TTC TO TTCHIST WHERE MPI-ID = .MID
      DELETE ROWS FROM TTC WHERE MPI-ID = .MID
      APPEND DELIVER TO DLVRHIST WHERE MPI-ID = .MID
      DELETE ROWS FROM DELIVER WHERE MPI-ID = .MID
      APPEND PROJECT TO PROJHIST WHERE MPI-ID = .MID
      DELETE ROWS FROM PROJECT WHERE MPI-ID = .MID
      NEXT #1 PT1
   ENDWHILE
ENDIF
CLEAR ALL VAR
SET VAR CHOICE = 0
RETURN


*(==========================================================================
    PROGRAM:   DELIVADD.CMD
    AUTHOR:    R. C. CAVALLARO
    DATE WRITTEN: 29 DEC 1985
    PURPOSE:   ADDS DELIVERABLES FOR A PROJECT.
```

```
    TABLE USED: DELIVER
    VARIABLE FORM USED: DELIVER

  ================================================================)

SET VAR AGAIN = Y
SET NULL " "
WHILE AGAIN = Y THEN
   NEWPAGE
   WRITE "ENTER TO ADD DELIVERABLE FOR THIS PROJECT      ESC TO QUIT" AT 1 1
   DRAW DELIVER WITH ALL
   ENTER VAR VDEL RETURN ENTER ESC
   IF #RETURN = ESC THEN
      BREAK
   ENDIF
   LOAD DELIVER
        .VMID .VDEL
   END
   CLEAR VDEL
ENDWHILE
SET NULL -0-
RETURN
```



```
DMENU00
COLUMN DATABASE MANAGEMENT MAIN MENU
UNLOAD DATA TO SEND TO HOMC
MERGE DATA FROM DISTRIBUTED SITE
PACK DATABASE TO RECOVER UNUSED SPACE
ARCHIVE RECORDS
REMOVE ALL ARCHIVED RECORDS TO HISTORY
RETURN TO MCASMIS MAIN MENU


DMENU04
COLUMN ARCHIVAL OF RECORDS MENU
ARCHIVE DOCUMENTS
ARCHIVE PROJECTS
RETURN TO DATABASE MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU


*(================================================================
   PROGRAM:   FIXDATE.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 29 NOVEMBER 1985
   PURPOSE:   THIS PROGRAM PROMPTS THE USER TO INPUT HOW MANY DAYS IN THE
              FUTURE SHOULD BE SEARCHED IN LOOKING FOR OVERDUE DOCUMENTS, PRO-
              JECTS OR UPCOMING DEADLINES.  IT ADDS THIS NUMBER OF DAYS TO THE
              CURRENT DATE TO SET A TARGET DATE FOR THE SUBSEQUENT SEARCH.
```

```
   ============================================================================)
SET VAR DAYS INTEGER
SET VAR TGT DATE
SET VAR VALID = FALSE
SET ERROR VARIABLE ERV
WHILE VALID = FALSE THEN
   FILLIN DAYS USING "FOR HOW MANY DAYS IN THE FUTURE DO YOU WISH TO SEARCH: "
   IF ERV NE 480 THEN
      SET VAR VALID = TRUE
   ELSE
      WRITE "INVALID INPUT . . AN INTEGER IS REQUIRED"
      WRITE " "
   ENDIF
ENDWHILE
SET VAR TGT = .#DATE + .DAYS
NEWPAGE
CLEAR VALID
RETURN
```


This menu allows the user to choose how the output is presented for the subsequent queries and management reports. When the printer option is selected, output is routed to the screen also, so that the paper may be repositioned by the user at the top of each page.

NOTE that some queries may not be routed to the printer directly. See the help screens for those queries or consult the users manual.

PRESS ANY KEY TO CONTINUE . . .

```
IOMENU
ROW SELECT OUTPUT MENU
SCREEN
PRINTER

*(============================================================================
   PROGRAM:   IOPICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 17 NOVEMBER 1985
   PURPOSE:   DISPLAYS A MENU TO DETERMINE WHETHER THE USER DESIRES REPORT
              OUTPUT TO SCREEN OR DISK (OR ANY COMBINATION
              THEREOF). RETURNS OUTPUT TO SCREEN AT END OF REPORT.

   SCREENS DISPLAYED: IOHLP, IOMENU

   ============================================================================)
```

```
SET VAR PICK1 = GO
WHILE PICK1 = GO THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROWS AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE PICK1 FROM IOMENU

   IF PICK1 = HELP THEN
      DISPLAY IOHLP
      PAUSE
      SET VAR PICK1 = GO
   ENDIF

   IF PICK1 = SCREEN THEN
      SET VAR IO = N
      OUTPUT SCREEN
   ENDIF

   IF PICK1 = PRINTER THEN
      SET VAR IO = Y
   ENDIF

ENDWHILE
RETURN


*(=============================================================================
   PROGRAM:   MAIN.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 17 NOVEMBER 1985
   PURPOSE:   THE MASTER MENU OF MCASMIS. ROUTES CONTROL TO THE PROPER
              MENU BASED ON THE USER'S RESPONSE.

   PROGRAMS CALLED: SOOPICK.CMD, POOPICK.CMD, DBAPICK.CMD
   SCREENS DISPLAYED: MAINHLP, MAINMENU

   =============================================================================)
SET VAR CHOICE = 0          *( initialize loop control variable)
SET MESSAGES OFF            *( disable system messages )
SET ERROR MESSAGES OFF      *( disable error messages )
SET ESCAPE OFF              *( disable escape key to exit )
SET ERROR VAR ERV           *( set error variable for trapping errors )
SET LINES 20                *( set terminal display to 20 lines/page )
SET DATE DDMMMYYYY          *( format date to military standard)
OPEN MCMIS                  *( open the database )
WHILE CHOICE = 0 THEN       *( print banner and main menu )
   NEWPAGE
   WRITE "              WELCOME TO THE MARINE CORPS AUTOMATED SYSTEMS"
```

```
   WRITE "                    MANAGEMENT INFORMATION SYSTEM"
   WRITE "                            (MCASMIS)"
   WRITE "                          VERSION 1.01"
   WRITE " "
   WRITE "YOU MAY PRESS F10 FOR HELP WHEN AT ANY OF THE MENU SCREENS"
   WRITE "SELECT ANY OPTION WITH NUMBER OR CURSOR ARROW AND ENTER"
   WRITE " "
   CHOOSE CHOICE FROM MAINMENU
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
   IF CHOICE = -1 THEN      *( F10 pressed for help )
      DISPLAY MAINHLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
      SET VAR CHOICE = 0
   ENDIF

   IF CHOICE = 1 THEN
      RUN SOOPICK.CMD       *( systems management main menu )
   ENDIF

   IF CHOICE = 2 THEN
      RUN POOPICK.CMD         *( project mgmt main menu )
   ENDIF

   IF CHOICE = 3 THEN
      RUN DOOPICK.CMD
   ENDIF

   IF CHOICE = 4 THEN
      BREAK                 *( return to operating system )
   ENDIF

   SET VAR CHOICE = 0       *( reset loop control variable )
ENDWHILE
CLEAR ALL VAR               *( clear all variables before exiting )
SET MESSAGES ON
SET ERROR MESSAGES ON
SET ESCAPE ON
NEWPAGE
CLOSE                       *( close the database )
EXIT
RETURN
```

Select option 1 for Systems Management Processing including information about a system as a whole, about a development activity or about a particular document in the life cycle documentation package.
Select option 2 for Project Management functions to include opening and closing projects, establishing priorities or querying for analyst, type transaction code (TTC) changes and deliverables.

```
Select option 3 for Database Management Functions including archiving records,
   backing up files, packing the database to recover space, etc. This option
   is restricted to the Database Administrator.
Select option 4 to exit the MCASMIS System and return to the operating system.


MAINMENU
COLUMN MCASMIS MAIN MENU
SYSTEMS MANAGEMENT
PROJECT MANAGEMENT
DATABASE MANAGEMENT
RETURN TO OPERATING SYSTEM


*(=================================================================
   PROGRAM:   MCASMIS.BAT
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 9 FEBRUARY 1986
   PURPOSE:   THIS BATCH PROGRAM AUTOMATICALLY SETS THE PATH TO THE
              DIRECTORY CONTAINING THE R:BASE 5000 PROGRAMS AND INVOKES
              THE RBASE PROGRAM USING RBASE.DAT.  THE DIRECTORY
              CONTAINING THE R:BASE PROGRAMS MUST RESIDE IN A DIRECTORY
              CALLED RBASE.

   PROGRAMS CALLED: RBASE

   =================================================================)

PATH  RBASE
RBASE
EXIT


Option 1 will add a new project, add one or more TTCs to an existing project,
   or add a deliverable to an existing project.
Option 2 provides the capability to change the data pertaining to a project,
   or a deliverable for a project.  When the priority is changed for a project,
   all other priorities for that activity are automatically readjusted.
Option 3 allows deletion of a project, TTC within a project, all projects for
   a system, or a deliverable.  When a project is deleted, all TTC and
   deliverable records pertaining to that project are automatically deleted.
Option 4 provides different retrievals from the database by various selection
   criteria.
Option 5 provides management reports pertaining to the project management
   functions.


*(=================================================================
   PROGRAM:   POOPICK.CMD
   AUTHOR :   R. C. CAVALLARO
```

```
   DATE WRITTEN: 17 NOVEMBER 1985
   PURPOSE:   THE MAIN MENU OF THE PROJECT MANAGEMENT SUBSYSTEM.  ROUTES
              USER TO PROPER MENU BASED ON INDICATED INPUT TO MENU.

   PROGRAMS CALLED: P01PICK.CMD, P02PICK.CMD, P03PICK.CMD, P04PICK.CMD,
                    P05PICK.CMD
   SCREENS DISPLAYED: P00HLP, PMENU00

   ============================================================================)
*(initialize loop control variable)
SET VAR CHOICE = 0
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION WITH NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM PMENU00      *(project mgmt main menu)
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."

   IF CHOICE = -1 THEN             *(F10 was pressed for help)
      DISPLAY P00HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
      SET VAR CHOICE = 0
   ENDIF

   IF CHOICE = 1 THEN           *( project mgmt add menu)
      RUN P01PICK.CMD
   ENDIF

   IF CHOICE = 2 THEN           *( project mgmt edit menu)
      RUN P02PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN           *( project mgmt delete menu)
      RUN P03PICK.CMD
   ENDIF

   IF CHOICE = 4 THEN           *( project mgmt query menu)
      RUN P04PICK.CMD
   ENDIF

   IF CHOICE = 5 THEN           *( print scheduled reports)
      RUN P05PICK.CMD
   ENDIF

   IF CHOICE = 6 THEN           *( return to MCASMIS main menu)
      BREAK
   ENDIF
```

```
   SET VAR CHOICE = 0
ENDWHILE
CLEAR ALL VAR
SET VAR CHOICE = 0              *( reset loop control variable)
RETURN


Option 1 will provide a form for input of appropriate fields in the project
   record. After completing the form, the user should press PGDN to load
   the data or Escape to quit without loading. ENTER tabs to next input area.
Option 2 will provide an opportunity to add a TTC to an existing project.
   The user may continue to add TTCs by pressing ENTER, or ESC to quit.
Option 3 provides a form for adding a deliverable to an existing project.
   The ENTER and ESC keys function the same as in option 2.


*(=============================================================================
   PROGRAM:   P01PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:   PROJECT MANAGEMENT ADD MENU.  DISPLAYS PROPER FORM FOR
              ADDING A PROJECT OR ADDING ONE OR MORE TTCs TO AN EXISTING
              PROJECT.  ERROR CHECKING IS ENFORCED BY
              THE RULES EXISTING IN THE DATA DICTIONARY.

   PROGRAMS CALLED: MAIN.CMD, P11PICK.CMD, P21PICK.CMD, P31PICK.CMD
   SCREENS DISPLAYED: P01HLP, PMENU01

   =============================================================================)

*(initialize loop control variable)
SET VAR CHOICE = 0
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM PMENU01   *(from project mgmt add menu)
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."

   IF CHOICE = -1 THEN          *(F10 pressed for help)
      DISPLAY P01HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
   ENDIF

   IF CHOICE = 1 THEN           *( add a new project)
      RUN P11PICK.CMD
   ENDIF
```

```
   IF CHOICE = 2 THEN              *( add TTC to existing project )
      RUN P21PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN              *( add deliverable to existing project )
      RUN P31PICK.CMD
   ENDIF

   IF CHOICE = 4 THEN      *(return to project mgmt main menu)
      BREAK
   ENDIF

   IF CHOICE = 5 THEN         *( return to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF

   SET VAR CHOICE = 0         *( redisplay add menu )
ENDWHILE
CLEAR ALL VAR
SET VAR CHOICE = 0 *(reset loop control variable)
RETURN
```


Option 1: after changing the requested project, press PGDN to load, ENTER to tab to next input area, or ESC to quit without changing. If a priority for a project is changed, all other priorities for that activity are also automatically adjusted.
Option 2: the user is prompted for an MPI ID, and then presented a form for all deliverables for that project (one at a time). For each deliverable shown, press PGDN to load changes, PGUP to find the next deliverable, or ESC to quit without changing.

```
*(=============================================================================
   PROGRAM:   P02PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 30 DECEMBER 1985
   PURPOSE:   PROJECT MANAGEMENT EDIT MENU.  DISPLAYS PROPER FORM FOR
              EDITING A PROJECT OR A DELIVERABLE FOR A PROJECT.

   PROGRAM CALLED: P12PICK.CMD, P22PICK.CMD, MAIN.CMD
   SCREENS DISPLAYED: PMENU02, P02HLP

   =============================================================================)

*(initialize loop control variable)
SET VAR CHOICE = 0
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROW AND ENTER"
```

```
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM PMENU02
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
   WRITE " "

   IF CHOICE = -1 THEN          *(F10 pressed for help)
      DISPLAY P02HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
   ENDIF

   IF CHOICE = 1 THEN           *(edit the project )
      RUN P12PICK.CMD
   ENDIF

   IF CHOICE = 2 THEN         *( edit a deliverable )
      RUN P22PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN    *( return to systems management main menu )
      BREAK
   ENDIF

   IF CHOICE = 4 THEN    *( quit to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF

   SET VAR CHOICE = 0    *( redisplay edit menu )
ENDWHILE
CLEAR ALL VAR
SET VAR CHOICE = 0       *( reset loop control variable )
RETURN
```

Option 1 deletes a single project.
Option 2 deletes all projects for a system.
Option 3 deletes one or more TTCs from a project.
Option 4 deletes a deliverable from a project.

In all options, the user is first presented the information in the appropriate form to verify that the record should be deleted. Press PGDN to delete the record shown, PGUP to find the next match, or ESC to quit and return to the last menu. The process of deleteing a record requires confirmation and the user is given one additional chance to quit without changing in case a wrong key was pressed. When a project is deleted, all priorities for that activity are automatically adjusted.

```
*(=============================================================================
   PROGRAM:   P03PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 30 DECEMBER 1985
   PURPOSE:   PROJECT MANAGEMENT DELETE MENU.  DELETES PROJECTS FOR AN ENTIRE
              SYSTEM OR BY MPI IDENTIFICATION NUMBER, TTC's FOR A PROJECT,
              OR DELIVERABLES FOR A PROJECT. WHEN A PROJECT IS DELETED, ALL
              DELIVERABLES FOR THAT PROJECT ARE AUTOMATICALLY DELETED ALSO.

   PROGRAMS CALLED: MAIN.CMD, P13PICK.CMD, P23PICK.CMD, P33PICK.CMD,
                    P43PICK.CMD
   SCREENS DISPLAYED: P03HLP, PMENU03

   =============================================================================)

SET VAR CHOICE = 0              *( initialize loop control variable )
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM PMENU03
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
   WRITE " "

   IF CHOICE = -1 THEN          *( F10 pressed for help )
      DISPLAY P03HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
   ENDIF

   IF CHOICE = 1 THEN           *( delete a single project )
      RUN P13PICK.CMD
   ENDIF

   IF CHOICE = 2 THEN           *( delete all projects for a system )
      RUN P23PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN           *( delete one or more TTC's from a project )
      RUN P33PICK.CMD
   ENDIF

   IF CHOICE = 4 THEN           *( delete deliverable from a project )
      RUN P43PICK.CMD
   ENDIF

   IF CHOICE = 5 THEN           *( return to systems management main menu )
      BREAK
   ENDIF
```

```
   IF CHOICE = 6 THEN          *( quit to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF

   SET VAR CHOICE = 0          *( redisplay delete menu )
ENDWHILE
CLEAR ALL VAR
SET VAR CHOICE = 0             *( reset loop control variable )
RETURN
```

The user is provided with selected information based on the option selected and the answers to the subsequent prompts. See the users manual for more detailed instructions concerning each prompt.
Output is routed to the device last designated using option 1 of this menu except for options 6 and 7 which cannot go directly to the printer.

```
*(=============================================================================
   PROGRAM:   P04PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:   OUTPUTS SELECTED INFORMATION DESIRED BY USER AFTER DISPLAYING
              SELECTION CRITERIA

   PROGRAM CALLED : PROJDRAW.CMD, IOPICK.CMD, MAIN.CMD
   SCREENS DISPLAYED: P04HLP, PMENU04
   TABLES USED: PROJECT, TTC, DELIVER

   ============================================================================)

SET NULL " "                   *( display null values as blanks )
SET VAR IO = N
SET VAR CHOICE = 0             *( initialize loop control variable )
SET ERROR VAR ERV              *( set error variable for trapping )
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM PMENU04
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
   WRITE " "

   IF CHOICE = -1 THEN                    *( F10 pressed for help )
      DISPLAY P04HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
      SET VAR CHOICE = 0
```

```
ENDIF

IF CHOICE = 1 THEN                    *( change output device )
   RUN IOPICK.CMD
ENDIF

IF CHOICE = 2 THEN                    *( all open projects by system )
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   SELECT MPI-ID SYSNAME PRIORITY=4 DEVACT PROJNAME=20 SCHEDDUE +
      FROM PROJECT SORTED BY SYSNAME PRIORITY WHERE STATUS = O
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF CHOICE = 3 THEN          *( open projects for one system )
   RUN PROJLIST.CMD
ENDIF

IF CHOICE = 4 THEN          *( open projects by scheduled due date )
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   SELECT MPI-ID SYSNAME DEVACT PROJNAME=20 SCHEDDUE CAT FROM PROJECT +
      SORT BY SCHEDDUE WHERE STATUS = O
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF CHOICE = 5 THEN          *( open projects for activity by priority )
   WRITE "ENTER ACTIVITY ABBREVIATION OR ENTER L FOR A LIST OF ALL"
   FILLIN CH1 USING "CURRENT ACTIVITY ABBREVIATIONS: "
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   IF CH1 = L THEN
      SELECT DEVACT DEVLONG FROM VENDOR SORT BY DEVACT
   ELSE
      SELECT MPI-ID SYSNAME PROJNAME=30 SCHEDDUE CAT=3 PRIORITY=4  FROM +
         PROJECT SORTED BY PRIORITY WHERE DEVACT = .CH1 AND STATUS = O
   ENDIF
   OUTPUT SCREEN
   SET LINES 20
```

```
   ENDIF

   IF CHOICE = 6 THEN          *( TTC cross reference )
      RUN TTCXREF.CMD
   ENDIF

   IF CHOICE = 7 THEN          *( select all info about a project )
      WRITE "ENTER THE MPI PROJECT ID, OR ENTER L FOR A LIST OF ALL CURRENT"
      FILLIN CH1 USING "VALID MPI PROJECT ID'S: "
      IF CH1 = L THEN
         NEWPAGE
         SELECT MPI-ID SYSNAME PROJNAME=54 FROM PROJECT SORT BY MPI-ID
      ELSE
         SET POINTER #1 PT1 FOR PROJECT WHERE MPI-ID = .CH1
         IF PT1 NE 0 THEN
            WRITE "THERE IS NO PROJECT ON FILE BY THAT NAME"
         ELSE
            NEWPAGE
            SET NULL -0-          *( default null value needed for dates )
            RUN PROJDRAW.CMD
            SET NULL " "          *( display null as blanks in this program )
            WRITE " "
            WRITE "PRESS ANY KEY TO CONTINUE . ."
            PAUSE
            NEWPAGE
            SELECT TTC FROM TTC SORT BY TTC WHERE MPI-ID = .CH1
            WRITE " "
            SELECT DELIVER FROM DELIVER WHERE MPI-ID = .CH1
         ENDIF
      ENDIF
   ENDIF

   IF CHOICE = 8 THEN          *( return to project management main menu )
      BREAK
   ENDIF

   IF CHOICE = 9 THEN          *( return to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF

   IF CHOICE NE 0 AND CHOICE NE 1 THEN
      WRITE " "
      WRITE "PRESS ANY KEY TO CONTINUE . . ."  *( pause )
      PAUSE
   ENDIF
   SET VAR CHOICE = 0          *( redisplay query menu )
ENDWHILE
CLEAR ALL VAR
OUTPUT SCREEN
SET VAR CHOICE = 0             *( reset loop control variable )
```

```
SET NULL -0-                    *( reset default null indicator )
RETURN


Option 1: changes output device until menu user returns to previous menu
          or rechanges output destination using this option again.
Option 2: lists overdue or soon to be due project implementations.
Option 3: lists open projects by functional or activity project officer.
Option 4: log of projects by date of MPI request.
Option 5: log of deliverables for all projects on file.
Option 6: log of projects by scheduled due date.
Option 7: Test cycle report including open and closed projects,
          indicating the amount of testing that has been conducted.


*(=============================================================================
   PROGRAM:   P05PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 8 JANUARY 1986
   PURPOSE:   OUTPUTS SELECTED REPORTS TO THE DESIGNATED OUTPUT DEVICE BASED
              ON USER SELECTION.

   PROGRAM CALLED : IOPICK.CMD, MAIN.CMD, FIXDATE.CMD
   SCREENS DISPLAYED: P05HLP, PMENU05
   TABLES USED: PROJECT, TTC, DELIVER

   =============================================================================)
SET NULL " "                    *( display null values as blanks )
SET VAR IO = N
SET VAR CHOICE = 0              *( initialize loop control variable )
SET ERROR VAR ERV               *( set error variable for trapping )
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM PMENU05
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
   WRITE " "

   IF CHOICE = -1 THEN                  *( F10 pressed for help )
      DISPLAY P05HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
      SET VAR CHOICE = 0
   ENDIF

   IF CHOICE = 1 THEN                   *( change output device )
      RUN IOPICK.CMD
   ENDIF
```

```
IF CHOICE = 2 THEN                    *( overdue/soon due projects )
   RUN FIXDATE.CMD
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
   ENDIF
   PRINT PROJDUE SORTED BY SYSNAME SCHEDDUE WHERE STATUS = O AND +
      SCHEDDUE LE .TGT
   OUTPUT SCREEN
ENDIF

IF CHOICE = 3 THEN          *( projects by func/activity PO )
   SET VAR ANS = C
   WHILE ANS NE F AND ANS NE A THEN
      NEWPAGE
      WRITE "F - BY FUNCTIONAL ANALYST"
      WRITE "A - BY ACTIVITY PROJECT OFFICER"
      WRITE " "
      FILLIN ANS USING "ENTER EITHER F OR A AS DESIRED:  "
   ENDWHILE
   IF ANS = F THEN
      SET VAR PERSON = "FUNCPO"
   ELSE
      SET VAR PERSON = "ACTIVPO"
   ENDIF
   WRITE " "
   WRITE "ENTER THE PERSON'S NAME OR ENTER L FOR A LIST OF ALL NAMES"
   FILLIN CH1 USING "ON FILE FOR THIS FIELD:  "
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   IF CH1 = L THEN
      TALLY .PERSON IN PROJECT
   ELSE
      SELECT MPI-ID SYSNAME PRIORITY=4 DEVACT PROJNAME=20 SCHEDDUE FROM +
         PROJECT SORTED BY MPI-ID WHERE .PERSON = .CH1
   ENDIF
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF CHOICE = 4 THEN          *( log of all projects by date requested )
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
   ENDIF
   PRINT PROJLOG SORTED BY DATEREQ=D
   OUTPUT SCREEN
```

```
ENDIF

IF CHOICE = 5 THEN          *( log of deliverables for projects )
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
   ENDIF
   PRINT DELLOG SORTED BY MPI-ID
   OUTPUT SCREEN
ENDIF

IF CHOICE = 6 THEN          *( log of all project by scheduled due date )
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   SELECT MPI-ID SYSNAME DEVACT=9 PROJNAME=24 SCHEDDUE STATUS=4 +
      FROM PROJECT SORTED BY SCHEDDUE
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF CHOICE = 7 THEN          *( test cycle report )
   SET VAR CH1 DATE
   FILLIN CH1 USING "ENTER THE TEST CYCLE IMPLEMENTATION DATE: "
   FILLIN CH2 USING "ENTER THE SYSTEM ABBREVIATION: "
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   SELECT PROJ-ID MPI-ID PROJNAME=33 TESTCOND=8 TESTED=6 STATUS FROM +
      PROJECT SORTED BY PROJ-ID WHERE SCHEDDUE = .CH1 AND SYSNAME = .CH2
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF CHOICE = 8 THEN           *( return to project management main menu )
   BREAK
ENDIF

IF CHOICE = 9 THEN           *( return to MCASMIS main menu )
   QUIT TO MAIN.CMD
ENDIF

IF CHOICE NE 0 AND CHOICE NE 1 THEN
   WRITE ""
   WRITE "PRESS ANY KEY TO CONTINUE . . ."  *( pause )
   PAUSE
```

```
   ENDIF
   SET VAR CHOICE = 0          *( redisplay query menu )
ENDWHILE
OUTPUT SCREEN
CLEAR ALL VAR
SET VAR CHOICE = 0             *( reset loop control variable )
SET NULL -0-                   *( reset default null indicator )
RETURN

*(=============================================================================
   PROGRAM:   P11PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  7 JANUARY 1986
   PURPOSE:   ADD A NEW PROJECT. AUTOMATICALLY ADJUSTS PRIORITIES OF
              OTHER PROJECTS FOR THAT DEVELOPMENT ACTIVITY IF NECESSARY.
              PRIORITY MAY NOT BE ASSIGNED A HIGHER NUMBER THAN THE
              NUMBER OF PROJECTS ON FILE FOR THAT ACTIVITY.  THIS PROGRAM
              AUTOMATICALLY TAKES CARE OF THIS FACT.

   PROGRAMS CALLED:  PROJLOAD.CMD, ADDTTC.CMD, DELIVADD.CMD
   TABLES USED:  PROJECT
   VARIABLE FORMS USED:  PROJECT

   =============================================================================)

SET VAR MORE TO "Y"          *( initialize loop control variable)
WHILE MORE = Y THEN
   NEWPAGE
   DRAW PROJECT               *( variable form project with null values)
   WRITE "ENTER TO TAB TO NEXT FIELD     PGDN TO LOAD     ESC TO QUIT" +
      AT 1 1
   *( user inputs values in form and continues after pressing
      PGDN or ESCape)
   ENTER VAR VMID VAID VSYS VPRI VSTAT VCAT VPROJ VFPO VAPO VDEV +
         VSWT VREQ VDUE VSCHED VCOMP VPID VTC VTEST +
         RETURN PGDN ESC
   IF #RETURN = ESC THEN    *( if user pressed ESC then quit)
      BREAK
   ENDIF
   *( calculate the highest priority for that activity )
   COMPUTE HIPRI AS MAX PRIORITY FROM PROJECT WHERE DEVACT = .VDEV +
      AND STATUS = 0
   IF HIPRI FAILS THEN             *( no open projects for this activity )
      SET VAR HIPRI = 0
   ENDIF
   *( change priority numbers if applicable )
   IF VPRI EXISTS THEN
      IF VPRI GT .HIPRI THEN       *( if priority input > highest yet )
         SET VAR VPRI TO .HIPRI + 1  *( don't allow too high priority )
```

```
      ELSE
         ASSIGN PRIORITY TO PRIORITY + 1 IN PROJECT WHERE PRIORITY +
            GE .VPRI AND DEVACT = .VDEV
      ENDIF
   ELSE
      SET VAR VPRI TO .HIPRI + 1  *( assign lowest priority )
   ENDIF
   *(load the new record into the project table)
   RUN PROJLOAD.CMD
   IF OKAY = TRUE THEN            *( if load was successful )
      IF VSYS = JUMPS/MMS OR VSYS = REMMPS THEN
         RUN ADDTTC.CMD
      ENDIF
      RUN DELIVADD.CMD
   ENDIF
   CLEAR ALL VAR
   SET VAR CHOICE = 0
   *( prompt for another project addition )
   FILLIN MORE USING "ADD ANOTHER PROJECT (Y/N): " AT 11 25
ENDWHILE
RETURN

*(=============================================================================
   PROGRAM:   P12PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  7 JANUARY 1986
   PURPOSE:   EDIT A PROJECT. AUTOMATICALLY ADJUSTS PRIORITIES OF
              OTHER PROJECTS FOR THAT DEVELOPMENT ACTIVITY IF NECESSARY.
              PRIORITY MAY NOT BE ASSIGNED A HIGHER NUMBER THAN THE
              NUMBER OF PROJECTS ON FILE FOR THAT ACTIVITY.  THIS PROGRAM
              AUTOMATICALLY TAKES CARE OF THIS FACT.

   PROGRAMS CALLED:  PROJLOAD.CMD, PROJDRAW.CMD
   TABLES USED:  PROJECT

   ============================================================================)

FILLIN CH1 USING "ENTER THE MPI PROJECT IDENTIFICATION:   "
SET POINTER #1 PT1 FOR PROJECT WHERE MPI-ID = .CH1
IF PT1 NE 0 THEN          *( matching record not found )
   WRITE "THIS PROJECT IS NOT IN THE FILE . .YOU MUST ADD IT"
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ELSE
   NEWPAGE
   RUN PROJDRAW.CMD  *( variable form with values from record )
   SET VAR CHECK = .VPRI          *( save old priority )
   WRITE "ENTER TO TAB            PGDN TO LOAD            ESC TO QUIT" +
```

```
        AT 1 1
    EDIT VAR VAID VSYS VPRI VSTAT VCAT VPROJ VFPO VAPO VDEV +
        VSWT VREQ VDUE VSCHED VCOMP VPID VTC VTEST RETURN PGDN ESC
    IF #RETURN = PGDN THEN
        *( check if priorities need to be reset )
        COMPUTE HIPRI AS MAX PRIORITY FROM PROJECT WHERE DEVACT = .VDEV +
                AND STATUS = 0
        IF VPRI GT .HIPRI THEN
            SET VAR VPRI TO .HIPRI + 1
        ENDIF
        IF VPRI GT .CHECK THEN
            ASSIGN PRIORITY TO PRIORITY - 1 IN PROJECT WHERE PRIORITY +
                    LE .VPRI AND PRIORITY GT .CHECK  AND DEVACT = .DEV
        ENDIF
        IF VPRI LT .CHECK THEN
            ASSIGN PRIORITY TO PRIORITY + 1 IN PROJECT WHERE PRIORITY +
                    GE .VPRI AND PRIORITY LT .CHECK AND DEVACT = .DEV
        ENDIF
        *( save the change if PGDN )
        RUN PROJLOAD.CMD        *( load the new row )
        IF OKAY = TRUE THEN     *( if load was successful )
            DELETE ROWS FROM #1  *( delete the old row )
        ENDIF
    ENDIF
ENDIF
RETURN

*(=============================================================================
    PROGRAM:   P13PICK.CMD
    AUTHOR :   R. C. CAVALLARO
    DATE WRITTEN:  7 JANUARY 1986
    PURPOSE:   DELETE A SINGLE PROJECT.  AUTOMATICALLY ADJUSTS THE
               PRIORITIES OF ALL OTHER PROJECTS FOR THAT DEVELOPMENT
               ACTIVITY.  ALSO DELETES TTC AND DELIVERABLE RECORDS
               CONNECTED WITH THAT DELETED PROJECT.

    PROGRAMS CALLED:   PROJDRAW.CMD
    TABLES USED:  PROJECT, TTC, DELIVER

    =============================================================================)

FILLIN CH1 USING "WHICH MPI IDENTIFICATION NUMBER TO DELETE:   "
SET POINTER #1 PT1 FOR PROJECT WHERE MPI-ID = .CH1
IF PT1 NE 0 THEN        *( no such project )
    WRITE "THIS PROJECT IS NOT IN THE FILE - IT CANNOT BE DELETED"
    WRITE " "
    WRITE "PRESS ANY KEY TO CONTINUE . ."
    PAUSE
ELSE
```

```
   NEWPAGE
   RUN PROJDRAW.CMD  *( draw project form with values of matching record )
   WRITE "PGDN TO DELETE THIS RECORD" AT 1 1
   WRITE "ESC TO QUIT" AT 1 60
   EDIT VAR VMID RETURN PGDN ESC
   IF #RETURN = PGDN THEN     *( delete the record )
      NEWPAGE
      WRITE "ARE YOU SURE YOU WANT TO DELETE THIS"
      FILLIN ANS USING "RECORD (Y/N)  "
      IF ANS = Y THEN         *( after one last chance )
            *( reset the priorities )
         ASSIGN PRIORITY TO PRIORITY - 1 IN PROJECT WHERE PRIORITY +
            GT .VPRI AND DEVACT = .VDEV
         DELETE ROWS FROM #1
         DELETE ROWS FROM TTC WHERE MPI-ID = .CH1
         DELETE ROWS FROM DELIVER WHERE MPI-ID = .CH1
      ENDIF
   ENDIF
ENDIF
RETURN

*(=============================================================================
   PROGRAM:   P21PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:   ADD A TTC TO AN EXISTING PROJECT.  THIS PROGRAM IS USED
              FOR JUMPS/MMS AND REMMPS TO TRACK THE TYPE TRANSACTION
              CODES THAT ARE MODIFIED, CREATED OR DELETED BY A GIVEN
              PROJECT.

   PROGRAMS CALLED: ADDTTC.CMD
   TABLES USED: PROJECT

   ============================================================================)

SET VAR MORE TO "Y"         *( initialize loop control )
WHILE MORE = Y THEN
   NEWPAGE
   WRITE "ENTER MPI PROJECT ID OR ENTER L FOR A LIST OF ALL CURRENT"
   FILLIN VMID USING "MPI-ID'S ON FILE:  " AT 10 7
   IF VMID = L THEN
      SELECT MPI-ID SYSNAME PROJNAME=54 FROM PROJECT SORTED BY MPI-ID
   ELSE
      SET POINTER #1 PT1 FOR PROJECT WHERE MPI-ID = .VMID
      IF PT1 = 0 THEN
         NEWPAGE
         RUN ADDTTC.CMD
      ELSE
         WRITE "NO RECORD ON FILE FOR THIS MPI PROJECT ID" AT 12 4
```

```
      ENDIF
   ENDIF
   CLEAR ALL VAR
   SET VAR CHOICE = 0
   FILLIN MORE USING "ADD TTC TO ANOTHER PROJECT (Y/N)? " AT 22 5
ENDWHILE
RETURN

*(=============================================================================
   PROGRAM:   P22PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:   EDIT A DELIVERABLE.  CYCLES THROUGH ALL DELIVERABLES
              FOR A GIVEN PROJECT, ALLOWING CHANGES TO BE MADE TO
              DESIRED RECORDS.

   TABLES USED: DELIVER
   VARIABLE FORMS USED: DELIVER

   =============================================================================)

FILLIN CH1 USING "ENTER THE MPI PROJECT IDENTIFICATION:   "
SET POINTER #1 PT1 FOR DELIVER WHERE MPI-ID = .CH1
IF PT1 NE 0 THEN      *( no matching record found )
   WRITE "THIS PROJECT ID IS NOT ON FILE"
   WRITE "PLEASE CHECK AND REINPUT"
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE"
   PAUSE
ELSE
   WHILE PT1 = 0 THEN     *( while matching record is found )
      SET VAR VMID TO MPI-ID IN #1
      SET VAR VDEL TO DELIVER IN #1
      NEWPAGE
      SET NULL " "           *( display null values as a blank )
      DRAW DELIVER WITH ALL
      SET NULL -0-           *( return null designator )
      WRITE "PGDN TO LOAD THE CHANGES                ESC TO QUIT" +
         AT 1 1
      WRITE "PGUP FOR NEXT MATCH" AT 1 60
      *( edit deliverable )
      EDIT VAR VDEL RETURN ESC PGDN PGUP
      IF #RETURN = ESC THEN    *( quit if ESC was pressed )
         BREAK
      ENDIF
      IF #RETURN = PGDN THEN  *( save changes if PGDN pressed )
         CHANGE DELIVER TO .VDEL IN #1
      ENDIF
      NEXT #1 PT1     *( find next matching record )
```

```
   ENDWHILE
ENDIF
RETURN

*(=============================================================================
   PROGRAM:   P23PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  7 JANUARY 1986
   PURPOSE:   DELETE ALL PROJECTS FOR ONE SYSTEM.   ADJUSTS THE
              PRIORITIES OF ALL OTHER PROJECTS FOR THAT DEVELOPMENT
              ACTIVITY.   ALSO DELETES TTC AND DELIVERABLE RECORDS
              CONNECTED WITH THOSE DELETED PROJECTS.

   TABLES USED:  PROJECT, TTC, DELIVER

   ============================================================================)

FILLIN CH1 USING "ENTER SYSTEM NAME:   "
SET POINTER #1 PT1 FOR PROJECT WHERE SYSNAME = .CH1
IF PT1 NE 0 THEN          *( no such projects )
   WRITE "THERE ARE NO PROJECTS ON FILE FOR THIS SYSTEM"
   WRITE "PLEASE CHECK AND RE-ENTER IF NECESSARY."
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE"
   PAUSE
ELSE
   WRITE " "
   WRITE "ARE YOU SURE YOU WANT TO DELETE THESE"
   FILLIN ANS USING "PROJECTS (Y/N)   "
   IF ANS = Y THEN       *( delete projects after one last chance )
      WHILE PT1 = 0 THEN
         SET VAR CH2 = MPI-ID IN #1
         SET VAR VSYS = SYSNAME IN #1
         SET VAR VDEV = DEVACT IN #1
         SET VAR VPRI = PRIORITY IN #1
         *( reset the priorities )
         ASSIGN PRIORITY TO PRIORITY - 1 IN PROJECT WHERE +
             PRIORITY GT .VPRI AND DEVACT = .VDEV
         DELETE ROWS FROM TTC WHERE MPI-ID = .CH2
         DELETE ROWS FROM DELIVER WHERE MPI-ID = .CH2
         NEXT #1 PT1
      ENDWHILE
      DELETE ROWS FROM PROJECT WHERE SYSNAME = .CH1
   ENDIF
ENDIF
RETURN

*(=============================================================================
```

```
   PROGRAM:   P31PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  7 JANUARY 1986
   PURPOSE:   ADD A DELIVERABLE TO AN EXISTING PROJECT.

   PROGRAMS CALLED:  DELIVADD.CMD
   TABLES USED:  PROJECT

   ================================================================)

SET VAR MORE TO "Y"          *( initialize loop control )
WHILE MORE = Y THEN
   NEWPAGE
   WRITE "ENTER THE MPI PROJECT ID OR ENTER L FOR A LIST OF ALL CURRENT"
   FILLIN VMID USING "MPI PROJECT ID'S :   " AT 10 7
   IF VMID = L THEN
      SELECT MPI-ID SYSNAME PROJNAME=54 FROM PROJECT SORTED BY MPI-ID
   ELSE
      SET POINTER #1 PT1 FOR PROJECT WHERE MPI-ID = .VMID
      IF PT1 = 0 THEN
         NEWPAGE
         RUN DELIVADD.CMD
      ELSE
         WRITE "NO RECORD ON FILE FOR THIS MPI PROJECT ID" AT 12 4
      ENDIF
   ENDIF
   CLEAR ALL VAR
   SET VAR CHOICE = 0
   FILLIN MORE USING "ADD DELIVERABLE TO ANOTHER PROJECT (Y/N)? " AT 22 5
ENDWHILE
RETURN


*(================================================================
   PROGRAM:   P33PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  7 JANUARY 1986
   PURPOSE:   DELETE ONE OR MORE TTC'S FROM A GIVEN PROJECT.

   TABLES USED:   TTC
   VARIABLE FORMS USED:   TTC

   ================================================================)

FILLIN CH1 USING "ENTER MPI PROJECT IDENTIFICATION NUMBER:  "
SET POINTER #1 PT1 FOR TTC WHERE MPI-ID = .CH1
IF PT1 NE 0 THEN          *( no such MPI ID )
   WRITE "THIS PROJECT IS NOT ON FILE - TTC's FOR "
   WRITE "IT CANNOT BE DELETED"
   WRITE " "
```

```
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ELSE
   WHILE PT1 = 0 THEN
      SET VAR VMID TO MPI-ID IN #1
      SET VAR VTTC TO TTC IN #1
      NEWPAGE
      DRAW TTC WITH ALL
      WRITE "PGDN TO DELETE THIS TTC          PGUP FOR NEXT MATCH" AT 1 1
      WRITE "ESC TO QUIT" AT 1 60
      EDIT VAR VTTC RETURN PGDN ESC PGUP
      IF #RETURN = ESC THEN
         BREAK          *( quit if ESC was pressed )
      ENDIF
      IF #RETURN = PGDN THEN    *( delete the record )
         NEWPAGE
         WRITE "ARE YOU SURE YOU WANT TO DELETE THIS"
         FILLIN ANS USING "TTC (Y/N)  "
         IF ANS = Y THEN
            DELETE ROWS FROM #1  *( after one last chance )
         ENDIF
      ENDIF
      NEXT #1 PT1
   ENDWHILE
ENDIF
RETURN

*(=============================================================================
   PROGRAM:   P43PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:   DELETE ONE OR MORE DELIVERABLES FROM A PROJECT.

   TABLES USED:   DELIVER
   VARIABLE FORMS USED:   DELIVER

   ============================================================================)

FILLIN CH1 USING "ENTER MPI PROJECT IDENTIFICATION NUMBER:  "
SET POINTER #1 PT1 FOR DELIVER WHERE MPI-ID = .CH1
IF PT1 NE 0 THEN        *( no such project on file )
   WRITE " "
   WRITE "THERE ARE NO DELIVERABLES FOR THIS PROJECT ON FILE"
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ELSE
   WHILE PT1 = 0 THEN
      SET VAR VMID TO MPI-ID IN #1
```

```
      SET VAR VDEL TO DELIVER IN #1
      NEWPAGE
      DRAW DELIVER WITH ALL
      WRITE "PGDN TO DELETE THIS DELIVERABLE      PGUP FOR NEXT MATCH" +
            AT 1 1
      WRITE "ESC TO QUIT" AT 1 60
      EDIT VAR VDEL RETURN ESC PGDN PGUP
      IF #RETURN = ESC THEN       *( quit if ESC pressed )
         BREAK
      ENDIF
      IF #RETURN = PGDN THEN      *( delete the record )
         NEWPAGE
         WRITE "ARE YOU SURE YOU WANT TO DELETE THIS"
         FILLIN ANS USING "DELIVERABLE (Y/N) "
         IF ANS = Y THEN          *( after one last chance )
            DELETE ROWS FROM #1
         ENDIF
      ENDIF
      NEXT #1 PT1
   ENDWHILE
ENDIF
RETURN
```



```
PMENU00
COLUMN PROJECT MANAGEMENT MAIN MENU
ADD
CHANGE
DELETE
QUERY
MANAGEMENT REPORTS
RETURN TO MCASMIS MAIN MENU


PMENU01
COLUMN PROJECT MANAGEMENT ADD MENU
ADD A NEW PROJECT
ADD TTC TO EXISTING PROJECT
ADD DELIVERABLE TO EXISTING PROJECT
RETURN TO PROJECT MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU


PMENU02
COLUMN PROJECT MANAGEMENT EDIT MENU
EDIT A PROJECT
EDIT A DELIVERABLE FOR A PROJECT
RETURN TO PROJECT MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU
```

```
PMENU03
COLUMN PROJECT MANAGEMENT DELETE MENU
DELETE A SINGLE PROJECT
DELETE ALL PROJECTS FOR ONE SYSTEM
DELETE A TTC FOR A PROJECT
DELETE A DELIVERABLE FOR A PROJECT
RETURN TO PROJECT MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU


PMENU04
COLUMN PROJECT MANAGEMENT QUERY MENU
CHANGE OUTPUT DEVICE
ALL OPEN PROJECTS SORTED BY SYSTEM
ALL OPEN PROJECTS FOR ONE SYSTEM
ALL OPEN PROJECTS SORTED BY SCHEDULED DUE DATE
ALL OPEN PROJECTS FOR AN ACTIVITY BY PRIORITY
TTC CROSS REFERENCE MENU
ALL INFORMATION ON A PARTICULAR PROJECT
RETURN TO PROJECT MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU

PMENU05
COLUMN PROJECT MANAGEMENT MANAGEMENT REPORTS
CHANGE OUTPUT DEVICE
OPEN PROJECTS THAT ARE OVERDUE OR DUE SOON
PROJECTS BY FUNCTIONAL OR ACTIVITY PROJECT OFFICER
LOG OF PROJECTS BY DATE OF MPI REQUEST
LOG OF DELIVERABLES FOR PROJECTS ON FILE
LOG OF PROJECTS BY SCHEDULED DUE DATE
TEST CYCLE STATUS REPORT
RETURN TO PROJECT MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU


*(=============================================================================
   PROGRAM:   PROJDRAW.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 20 DECEMBER 1985
   PURPOSE:   SETS ALL OF THE VARIABLE CONTENTS BEFORE DRAWING THE
              FORM PROJECT FOR EDITING VARIOUS DATA.

   VARIABLE FORM USED: PROJECT

=============================================================================)
SET VAR VMID TO MPI-ID IN #1
SET VAR VAID TO ACTIV-ID IN #1
SET VAR VPID TO PROJ-ID IN #1
```

```
SET VAR VSYS TO SYSNAME IN #1
SET VAR VCAT TO CAT IN #1
SET VAR VPRI TO PRIORITY IN #1
SET VAR VFPO TO FUNCPO IN #1
SET VAR VAPO TO ACTIVPO IN #1
SET VAR VSTAT TO STATUS IN #1
SET VAR VDEV TO DEVACT IN #1
SET VAR VPROJ TO PROJNAME IN #1
SET VAR VSWT TO STRUCW/T IN #1
SET VAR VREQ TO DATEREQ IN #1
SET VAR VDUE TO REQDUE IN #1
SET VAR VSCHED TO SCHEDDUE IN #1
SET VAR VCOMP TO COMPLETE IN #1
SET VAR VTC TO TESTCOND IN #1
SET VAR VTEST TO TESTED IN #1
SET NULL " "                          *( null values displayed as blanks )
DRAW PROJECT WITH ALL
SET NULL -0-                          *( redefine null value indicator )
RETURN

*(=============================================================================
   PROGRAM:   PROJLIST.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 6 JANUARY 1986
   PURPOSE:   THIS PROGRAM LISTS ALL OPEN PROJECTS FOR ANY SYSTEM AFTER
              PROMPTING THE USER TO INPUT A SYSTEM NAME.

   TABLES USED:   PROJECT

   ============================================================================)

NEWPAGE
WRITE "ENTER THE SYSTEM ABBREVIATION OR ENTER L FOR A LIST OF ALL VALID"
FILLIN CH1 USING "SYSTEM ABBREVIATIONS ON FILE: "
IF CH1 = L THEN
   SELECT SYSNAME LNGTITLE=60 FROM SYSTEM SORTED BY SYSNAME
ELSE
   SET POINTER #1 PT1 FOR PROJECT WHERE SYSNAME = .CH1 AND STATUS = O
   IF PT1 NE 0 THEN
      WRITE " "
      WRITE "THERE ARE NO OPEN PROJECTS ON FILE FOR THIS SYSTEM"
   ELSE
      NEWPAGE
      IF IO = Y THEN
         OUTPUT PRINTER
         SET LINES 56
      ENDIF
      SELECT MPI-ID PROJNAME=25 CAT=4 PRIORITY=4 DEVACT SCHEDDUE FROM PROJECT +
         SORT BY MPI-ID WHERE SYSNAME = .CH1 AND STATUS = O
```

```
      OUTPUT SCREEN
      SET LINES 20
   ENDIF
ENDIF
RETURN

*(=============================================================================
   PROGRAM:   PROJLOAD.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 30 DECEMBER 1985
   PURPOSE:   THIS PROGRAM ADDS A NEW PROJECT TO THE DATABASE
              USING THE VARIABLE VALUES INPUT INTO THE VARIABLE FORM
              PROJECT.  ERROR CHECKING IS ENFORCED BY
              THE RULES EXISTING IN THE DATA DICTIONARY.

   TABLES USED: PROJECT
   VARIABLE FORMS USED: PROJECT

   =============================================================================)

SET NULL -0-
SET VAR OKAY = FALSE          *( initialize load flag to false )
WRITE "                                                                  " +
   AT 1 1
*(load the new record into the system table)
LOAD PROJECT
   .VMID .VAID .VPID .VSYS .VCAT .VPRI .VFPO .VAPO .VSTAT .VDEV .VPROJ +
   .VSWT .VREQ .VDUE .VSCHED .VCOMP .VTC .VTEST
END
SET VAR CHECK = MPI-ID IN PROJECT WHERE COUNT = LAST
IF CHECK = .VMID THEN         *( load was successful )
   SET VAR OKAY = TRUE
   NEWPAGE
   WRITE "NEW RECORD ADDED FOR PROJECT: "
   SHOW VAR VMID AT 1 31          *( show user the record added )
   WRITE "PRESS ANY KEY TO CONTINUE . ." AT 10 10
   PAUSE
ELSE
   *( reset original priorities )
   IF VPRI EXISTS THEN
      ASSIGN PRIORITY TO PRIORITY - 1 IN PROJECT WHERE PRIORITY GT .VPRI +
         AND DEVACT = .VDEV
   ENDIF
   WRITE "PRESS ANY KEY TO CONTINUE . . ." AT 24 10
   PAUSE
   NEWPAGE
ENDIF
RETURN
```

```
Option 1 will add a new system, a new document in the life cycle documentation
   package or a new development activity.
Option 2 provides the capability to change the attributes of a system,
   a particular document or information about a development activity.
Option 3 allows deletion of a system, a document or a development activity.
Option 4 provides different retrievals from the database by system, document
   and development activity.  See the User's Manual for more details.
Option 5 prints standard reports to the output device that is designated
   by the user.


*(=========================================================================
   PROGRAM:   RBASE.DAT
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  9 FEBRUARY 1986
   PURPOSE:   THIS PROGRAM AUTOMATICALLY SETS THE COLOR ATTRIBUTES AND
              STARTS THE MCASMIS SYSTEM WHEN RBASE IS INVOKED.  DISALLOWS
              USER ACCESS TO THE RBASE PROGRAMMING LANGUAGE.

   =========================================================================)
SET COLOR FORE GRAY
SET COLOR BACK BLUE
RUN MAIN.CMD
EXIT


*(=========================================================================
   PROGRAM:   S00PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  17 NOVEMBER 1985
   PURPOSE:   THE MAIN MENU OF THE SYSTEMS MANAGEMENT SUBSYSTEM.  ROUTES
              USER TO PROPER MENU BASED ON INDICATED INPUT TO MENU.

   PROGRAMS CALLED:  S01PICK.CMD, S02PICK.CMD, S03PICK.CMD, S04PICK.CMD,
                     S05PICK.CMD
   SCREENS DISPLAYED:  S00HLP, SMENU00

   =========================================================================)

*(initialize loop control variable)
SET VAR CHOICE = 0
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION WITH NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM SMENU00     *( systems management main menu )
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
```

```
   IF CHOICE = -1 THEN              *( F10 was pressed for help )
      DISPLAY S00HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
      SET VAR CHOICE = 0
   ENDIF

   IF CHOICE = 1 THEN               *( add menu )
      RUN S01PICK.CMD
   ENDIF

   IF CHOICE = 2 THEN               *( edit menu )
      RUN S02PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN               *( delete menu )
      RUN S03PICK.CMD
   ENDIF

   IF CHOICE = 4 THEN               *( query menu )
      RUN S04PICK.CMD
   ENDIF

   IF CHOICE = 5 THEN               *( management reports menu )
      RUN S05PICK.CMD
   ENDIF

   IF CHOICE = 6 THEN               *( return to MCASMIS main menu )
      BREAK
   ENDIF

   SET VAR CHOICE = 0
ENDWHILE
SET VAR CHOICE = 0                  *( reset loop control variable )
RETURN
```

Option 1 will provide a form for input of appropriate fields in the system record. After completing the form, the user should press PGDN to load the data or Escape to quit without loading. ENTER tabs to next input area. The user is only prompted for pertinent input based on the category that is input in the first part of the record. Valid categories are MCO, MCD, DNO and DNE.

Option 2 will provide a similar function for adding a new document. Again, press PGDN to load the data and Escape to quit without loading. The ENTER key again serves as the tab to the next input field.

Option 3 provides a form for loading a new development activity. The PGDN, Enter and Escape keys provide the same functions as above.

```
*(=============================================================================
   PROGRAM:   S01PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 17 NOVEMBER 1985
   PURPOSE:   SYSTEMS MANAGEMENT ADD MENU.  DISPLAYS PROPER FORM FOR
              ADDING A SYSTEM, DOCUMENT OR DEVELOPMENT ACTIVITY BASED
              ON USER'S INPUT TO MENU. ERROR CHECKING IS ENFORCED BY
              THE RULES EXISTING IN THE DATA DICTIONARY.

   PROGRAM CALLED: MAIN.CMD, S11PICK.CMD, S21PICK.CMD, S31PICK.CMD
   SCREENS DISPLAYED: S01HLP, SMENU01

   =============================================================================)

*(initialize loop control variable)
SET VAR CHOICE = 0
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM SMENU01   *(from systems mgmt add menu)
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."

   IF CHOICE = -1 THEN          *(F10 pressed for help)
      DISPLAY S01HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
   ENDIF

   IF CHOICE = 1 THEN           *( add a new system)
      RUN S11PICK.CMD
   ENDIF

   IF CHOICE = 2 THEN            *( add a new document)
      RUN S21PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN            *( add a new development activity)
      RUN S31PICK.CMD
   ENDIF

   IF CHOICE = 4 THEN     *( return to systems management main menu )
      BREAK
   ENDIF

   IF CHOICE = 5 THEN     *( quit to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF
```

```
   SET VAR CHOICE = 0      *( redisplay add menu )
ENDWHILE
SET VAR CHOICE = 0         *(reset loop control variable)
RETURN


Option 1: after changing the requested system, press PGDN to load,
   ENTER to tab to next input area, PGUP to find next matching record,
   or ESC to quit without changing.
Option 2: on the presented form press ENTER to tab to next input field, PGDN
   to load the changes, ESC to quit without loading, or PGUP to find the
   next matching record without loading the current changes.
Option 3: on the presented form press ENTER to tab to next input area, PGDN
   to load the changes or ESC to quit without loading.


*(=============================================================================
   PROGRAM:   S02PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 17 NOVEMBER 1985
   PURPOSE:   SYSTEMS MANAGEMENT EDIT MENU.  DISPLAYS PROPER FORM FOR
              EDITING A SYSTEM, DOCUMENT OR DEVELOPMENT ACTIVITY BASED
              ON USER'S INPUT TO MENU.  ERROR CHECKING IS ENFORCED BY
              THE RULES EXISTING IN THE DATA DICTIONARY.

   PROGRAM CALLED:  S12PICK.CMD, S22PICK.CMD, S32PICK.CMD, MAIN.CMD
   SCREENS DISPLAYED:  SMENU02, S02HLP

   =============================================================================)

*(initialize loop control variable)
SET VAR CHOICE = 0
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM SMENU02
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
   WRITE " "

   IF CHOICE = -1 THEN        *(F10 pressed for help)
      DISPLAY S02HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
   ENDIF

   IF CHOICE = 1 THEN         *(edit the system )
      RUN S12PICK.CMD
   ENDIF
```

```
   IF CHOICE = 2 THEN       *( edit a document )
      RUN S22PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN       *( edit a development activity )
      RUN S32PICK.CMD
   ENDIF

   IF CHOICE = 4 THEN    *( return to systems management main menu )
      BREAK
   ENDIF

   IF CHOICE = 5 THEN    *( quit to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF

   SET VAR CHOICE = 0    *( redisplay edit menu )
ENDWHILE
CLEAR ALL VAR
SET VAR CHOICE = 0       *( reset loop control variable )
RETURN
```


Option 1 deletes a system from the database.
Option 2 deletes a document from the database.
Option 3 deletes a development activity from the database.

In all options, the user is first presented the information in the appropriate form to verify that the record should be deleted. Press PGDN to delete the record shown, PGUP to find the next match, or ESC to quit and return to the last menu. The process of deleteing a record requires confirmation and the user is given one additional chance to quit without changing in case a wrong key was pressed.

```
*(=============================================================================
   PROGRAM:   S03PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 17 NOVEMBER 1985
   PURPOSE:   SYSTEMS MANAGEMENT DELETE MENU.  DELETES THE REQUESTED RECORDS
              FROM THE DATA BASE BY SYSTEM, DOCUMENT OR DEVELOPMENT ACTIVITY
              BASED UPON USER'S INPUT TO MENU.

   PROGRAM CALLED: S13PICK.CMD, S23PICK.CMD, S33PICK.CMD, MAIN.CMD
   SCREENS DISPLAYED: S03HLP, SMENU03
   TABLES USED: SYSTEM, DOCLIST, VENDOR
   VARIABLE FORMS USED: SYS, DOC, VEND

   =============================================================================)
```

```
SET VAR CHOICE = 0              *( initialize loop control variable )
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM SMENU03
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
   WRITE " "

   IF CHOICE = -1 THEN          *( F10 pressed for help )
      DISPLAY S03HLP
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
   ENDIF

   IF CHOICE = 1 THEN           *( delete a system )
      RUN S13PICK.CMD
   ENDIF

   IF CHOICE = 2 THEN           *( delete a document )
      RUN S23PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN           *( delete a development activity )
      RUN S33PICK.CMD
   ENDIF

   IF CHOICE = 4 THEN           *( return to systems management main menu )
      BREAK
   ENDIF

   IF CHOICE = 5 THEN           *( quit to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF

   SET VAR CHOICE = 0           *( redisplay delete menu )
ENDWHILE
CLEAR ALL VAR
SET VAR CHOICE = 0              *( reset loop control variable )
RETURN
```

The user is provided with selected information based on the option selected and the answers to the subsequent prompts. Options 4, and 6 will provide output on any record that contains the response to the prompt. For example, if you are uncertain about the correct abbreviation for "Ideamatics, Inc", try "idea" as input to the prompt for the development activity. Upper and lower case distinctions are ignored. For example, selections on ABC, abc, or AbC will produce the same output.

```
   Output is routed to the screen unless the user has selected option 1
   immediately preceding the query, EXCEPT that option 7 may not
   be routed directly to the printer.

*(=================================================================
   PROGRAM:   S04PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  17 NOVEMBER 1985
   PURPOSE:   OUTPUTS SELECTED INFORMATION DESIRED BY USER AFTER DISPLAYING
              SELECTION CRITERIA

   PROGRAM CALLED :  SYSDRAW.CMD, MAIN.CMD, S24PICK.CMD, S34PICK.CMD,
                     S44PICK.CMD, S64PICK.CMD, IOPICK.CMD
   SCREENS DISPLAYED:  S04HLP, SMENU04
   TABLES USED:  SYSTEM

   =================================================================)

SET NULL " "                    *( display null values as blanks )
SET VAR IO = N
SET VAR CHOICE = 0              *( initialize loop control variable )
SET ERROR VAR ERV               *( set error variable for trapping )
WHILE CHOICE = 0 THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING NUMBER OR CURSOR ARROW AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE CHOICE FROM SMENU04
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
   WRITE " "

   IF CHOICE = -1 THEN                  *( F10 pressed for help )
      DISPLAY S04HLP
   ENDIF

   IF CHOICE = 1 THEN                   *( change output device )
      RUN IOPICK.CMD
   ENDIF

   IF CHOICE = 2 THEN                   *( customized tally command )
      RUN S24PICK.CMD
   ENDIF

   IF CHOICE = 3 THEN          *( select documents by system )
      RUN S34PICK.CMD
   ENDIF

   IF CHOICE = 4 THEN          *( select systems by document type )
      RUN S44PICK.CMD
```

```
   ENDIF

   IF CHOICE = 5 THEN          *( on-line data dictionary )
      IF IO = Y THEN
         OUTPUT SCREEN WITH PRINTER
         SET LINES 56
      ENDIF
      LIST COLUMNS
      LIST ALL
      OUTPUT SCREEN
      SET LINES 20
   ENDIF

   IF CHOICE = 6 THEN          *( docs and systems by development activity )
      RUN S64PICK.CMD
   ENDIF

   IF CHOICE = 7 THEN          *( select all info about a system )
      FILLIN CH1 USING "ENTER THE SYSTEM ABBREVIATION: "
      SET POINTER #1 PT1 FOR SYSTEM WHERE SYSNAME = .CH1
      IF PT1 NE 0 THEN
         WRITE "THERE IS NO SYSTEM ON FILE BY THAT NAME"
      ELSE
         NEWPAGE
         SET NULL -0-          *( default null value needed for dates )
         RUN SYSDRAW.CMD
         SET NULL " "          *( display null as blanks in this program )
      ENDIF
   ENDIF

   IF CHOICE = 8 THEN           *( return to systems management main menu )
      BREAK
   ENDIF

   IF CHOICE = 9 THEN           *( return to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF

   IF CHOICE NE 1 THEN
      WRITE " "
      WRITE "PRESS ANY KEY TO CONTINUE . . ."  *( pause )
      PAUSE
   ENDIF
   SET VAR CHOICE = 0           *( redisplay query menu )
ENDWHILE
CLEAR ALL VAR
SET VAR CHOICE = 0              *( reset loop control variable )
SET NULL -0-                    *( reset default null indicator )
RETURN
```

```
CHG OUTPUT          Select output device for following reports.
DOCS DUE            Lists MENS and SDP documents coming due or overdue.
TASK DOCS           Lists MENS and SDP with due dates that are not yet assigned.
PEND DOCS           Lists all documents that are pending (not completed).
PEND PROJS          Lists all open projects for a specified system.
NEED DATA           Flags selected data elements that are missing from the
                    operational systems in the database.
LIST SYSTS          Lists all systems sorted by category and system name.
LIST DOCS           Lists all documents inthe database.
LIST VENDS          Lists all development activity names and phone numbers.
ANALYSTS            Lists system names and analysts sorted by analyst name.
SYSTEMS             Lists system names and analysts sorted by system name.
OPER VIEW           Lists overview data on operational systems.
DEVEL VIEW          Lists overview data on development/enhancement systems.
HELP                Displays this help file for on-line assistance.
RETURN              Returns control to previous menu.
EXIT                Returns control to MCASMIS main menu.


*(=============================================================================
   PROGRAM:   S05PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 29 NOVEMBER 1985
   PURPOSE:   THIS PROGRAM PROVIDES VARIOUS INFORMATION PERTAINING TO THE
              MANAGEMENT OF SYSTEMS.

   PROGRAM CALLED:  IOPICK.CMD,MAIN.CMD, S15PICK.CMD, S25PICK.CMD,
                    S35PICK.CMD, PROJLIST.CMD
   SCREENS DISPLAYED:   S05HLP, SMENU05
   TABLES USED:  SYSTEM, DOCLIST, VENDOR

   =============================================================================)

SET NULL " "                                  *( set null to blank for display )
SET VAR IO = N
SET VAR TGT DATE
SET VAR DAYS INTEGER
SET VAR PICK = GO                             *( loop control variable )

WHILE PICK = GO THEN
   NEWPAGE
   WRITE "SELECT ANY OPTION USING CURSOR KEYS AND ENTER"
   WRITE "F10 FOR HELP" AT 1 66
   WRITE " "
   CHOOSE PICK FROM SMENU05
   WRITE "INPUT ACCEPTED . . PLEASE WAIT."
   WRITE " "

   IF PICK = HELP THEN                          *( F10 pressed for help )
```

```
   NEWPAGE
   DISPLAY S05HLP
ENDIF

IF PICK = "CHG OUTPUT" THEN
   RUN IOPICK.CMD
ENDIF

IF PICK = "DOCS DUE" THEN
   RUN S15PICK.CMD
ENDIF

IF PICK = "TASK DOCS" THEN
   RUN S25PICK.CMD
ENDIF

IF PICK = "PEND DOCS" THEN
   SET POINTER #1 PT1 FOR DOCLIST WHERE DSTAT = P
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   IF PT1 NE 0 THEN
      WRITE "THERE ARE NO PENDING DOCUMENTS AT THIS TIME"
   ELSE
      NEWPAGE
      SELECT SYSNAME DOCABR DEVACT FROM DOCLIST SORTED BY SYSNAME +
         WHERE DSTAT = P
   ENDIF
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF PICK = "NEED DATA" THEN
   RUN S35PICK.CMD
ENDIF

IF PICK = "LIST SYSTS" THEN
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   SELECT SYSNAME CATEGORY LNGTITLE FROM SYSTEM SORT BY CATEGORY=D SYSNAME
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF PICK = "LIST DOCS" THEN
   NEWPAGE
```

```
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   SELECT SYSNAME DOCABR=6 DEVACT=12 DOCNAME=30 DOCDATE FROM DOCLIST +
      SORTED BY SYSNAME
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF PICK = "LIST VENDS" THEN
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   SELECT DEVACT DEVLONG=50 PHONE FROM VENDOR SORTED BY DEVACT
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF PICK = ANALYSTS THEN
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   SELECT ANALYST SYSNAME CATEGORY LNGTITLE FROM SYSTEM SORTED BY +
      ANALYST SYSNAME
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF PICK = "SYSTEMS" THEN
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
   ENDIF
   SELECT SYSNAME ANALYST CATEGORY LNGTITLE FROM SYSTEM SORTED BY +
      SYSNAME
   OUTPUT SCREEN
   SET LINES 20
ENDIF

IF PICK = "OPER VIEW" THEN
   NEWPAGE
   IF IO = Y THEN
      OUTPUT SCREEN WITH PRINTER
      SET LINES 56
```

```
      ENDIF
      SELECT SYSNAME ENV CLASS IMPDATE PRIUSER COMPLANG PGMS=4 LOC=4 +
         FROM SYSTEM SORTED BY SYSNAME WHERE CATEGORY = MCO
      OUTPUT SCREEN
      SET LINES 20
   ENDIF

   IF PICK = "DEVEL VIEW" THEN
      NEWPAGE
      IF IO = Y THEN
         OUTPUT SCREEN WITH PRINTER
         SET LINES 56
      ENDIF
      SELECT SYSNAME MENS SDPI SDPII SDPIII EXPLIFE=3 PRIUSER FROM +
         SYSTEM SORT BY CATEGORY SYSNAME WHERE CATEGORY = MCD OR +
         CATEGORY = MCE
      OUTPUT SCREEN
      SET LINES 20
   ENDIF

   IF PICK = "PEND PROJS" THEN
      RUN PROJLIST.CMD
   ENDIF

   IF PICK = "RETURN" THEN    *( return to systems management main menu )
      BREAK
   ENDIF

   IF PICK = "EXIT" THEN                *( return to MCASMIS main menu )
      QUIT TO MAIN.CMD
   ENDIF

   IF PICK NE "CHG OUTPUT" THEN
      WRITE " "
      WRITE "PRESS ANY KEY TO CONTINUE . . ."
      PAUSE
   ENDIF
   SET VAR PICK = GO                   *( reset loop control variable )
ENDWHILE
SET NULL -0-                           *( reset default null value )
CLEAR ALL VAR                          *( clear all variables )
SET VAR CHOICE = 0                     *( reset loop control variable )
RETURN


*(=============================================================================
   PROGRAM:   S11PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  7 JANUARY 1986
   PURPOSE:   ADD A NEW SYSTEM.
```

```
   PROGRAMS CALLED:  SYSLOAD.CMD
   TABLES USED:  SYSTEM
   VARIABLE FORMS USED:  SYS

   ================================================================================)

SET VAR MORE TO "Y"          *( initialize loop control variable)
WHILE MORE = Y THEN
   NEWPAGE
   DRAW SYS                  *( variable form sys with null values)
   WRITE "ENTER TO TAB TO NEXT FIELD     PGDN TO LOAD     ESC TO QUIT" +
      AT 1 1
   *( user inputs values in form and continues after pressing
      PGDN or ESCape)
   ENTER VAR VSYS VLONG VCAT VANAL RETURN PGDN ESC
   IF #RETURN = ESC THEN    *( if user pressed ESC then quit)
      BREAK
   ENDIF
   *(if operational system, prompt for and enter the following)
   IF VCAT = MCO OR VCAT = DNO THEN
      ENTER VAR VPRI VENV VCLASS VLANG VPRNO VLOC VIMP RETURN PGDN ESC
   *(if not operational, prompt for dates, exp. life and user )
   ELSE
      ENTER VAR VMENS VI VII VIII VAMENS VAI VAII VAIII +
                VEXP VPRI RETURN PGDN ESC
   ENDIF
   IF #RETURN = ESC THEN        *( quit if ESC is pressed )
      BREAK
   ENDIF
   *(load the new record into the system table)
   RUN SYSLOAD.CMD
   *( prompt for another system addition )
   FILLIN MORE USING "ADD ANOTHER SYSTEM (Y/N): " AT 11 25
ENDWHILE
SET VAR CHOICE = 0
RETURN


*(================================================================================
   PROGRAM:   S12PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  7 JANUARY 1986
   PURPOSE:   EDIT A SYSTEM.  AUTOMATIC RULE CHECKING IS ENFORCED
              SO THAT A VALUE MAY NOT BE CHANGED TO AN ILLEGAL ONE (e.g.,
              A SYSTEM NAME MAY NOT BE CHANGED TO A NULL VALUE).

   PROGRAMS CALLED:  SYSLOAD.CMD, SYSDRAW.CMD
   TABLES USED:  SYSTEM
```

```
   ================================================================================)

WRITE "ENTER THE SYSTEM ABBREVIATION OR ENTER L FOR A LIST OF ALL"
FILLIN CH1 USING "CURRENT SYSTEM ABBREVIATIONS: "
IF CH1 = L THEN
   SELECT SYSNAME LNGTITLE=60 FROM SYSTEM SORT BY SYSNAME
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
   RETURN
ENDIF
SET POINTER #1 PT1 FOR SYSTEM WHERE SYSNAME = .CH1
IF PT1 NE 0 THEN        *( matching record not found )
   WRITE "THIS SYSTEM IS NOT IN THE FILE . .YOU MUST ADD IT"
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ELSE
   NEWPAGE
   RUN SYSDRAW.CMD  *( variable form with values from record )
   WRITE "ENTER TO TAB           PGDN TO LOAD           ESC TO QUIT" +
      AT 1 1
   EDIT VAR RETURN PGDN ESC
   IF #RETURN = PGDN THEN
      *( save the change if PGDN )
      RUN SYSLOAD.CMD       *( load the new row )
      IF OKAY = T THEN      *( if load was successful )
         DELETE ROWS FROM #1  *( delete the old row )
      ENDIF
   ENDIF
ENDIF
RETURN


*(================================================================================
   PROGRAM:   S13PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:   DELETE A SYSTEM.   PROHIBITS USER FROM DELETING A SYSTEM
              FOR WHICH THERE ARE OPEN PROJECTS ON FILE.

   PROGRAMS CALLED:   SYSDRAW.CMD
   TABLES USED: PROJECT, SYSTEM

   ================================================================================)

FILLIN CH1 USING "WHICH SYSTEM ABBREVIATION TO DELETE:   "
SET POINTER #1 PT1 FOR SYSTEM WHERE SYSNAME = .CH1
IF PT1 NE 0 THEN        *( no such system name )
   WRITE "THIS SYSTEM IS NOT IN THE FILE - IT CANNOT BE DELETED"
```

```
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ELSE
   SET POINTER #2 PT2 FOR PROJECT WHERE SYSNAME = .CH1 AND STATUS = O
   IF PT2 NE O THEN  *( no open projects for this system )
      NEWPAGE
      RUN SYSDRAW.CMD  *( draw sys form with values of matching record )
      WRITE "PGDN TO DELETE" AT 1 1
      WRITE "ESC TO QUIT" AT 1 60
      EDIT VAR VSYS RETURN PGDN ESC
      IF #RETURN = PGDN THEN     *( delete the record )
         NEWPAGE
         WRITE "ARE YOU SURE YOU WANT TO DELETE THIS"
         FILLIN ANS USING "RECORD (Y/N)  "
         IF ANS = Y THEN         *( after one last chance )
            DELETE ROWS FROM #1
         ENDIF
      ENDIF
   ELSE
      WRITE " "
      WRITE "YOU MAY NOT DELETE THIS SYSTEM UNTIL THE OPEN PROJECTS FOR"
      WRITE "IT HAVE BEEN EITHER CLOSED OR DELETED."
      WRITE " "
      WRITE "PRESS ANY KEY TO CONTINUE . ."
      PAUSE
   ENDIF
ENDIF
RETURN

*(=============================================================================
   PROGRAM:   S15PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 29 NOVEMBER 1985
   PURPOSE:   PROMPTS USER FOR A TARGET NUMBER OF DAYS AND THEN DISPLAYS
              ALL MENS AND SDPI'S THAT ARE DUE WITHIN THAT PERIOD.

   TABLE USED:   SYSTEM

   ============================================================================)

RUN FIXDATE.CMD
NEWPAGE
IF IO = Y THEN
   OUTPUT SCREEN WITH PRINTER
   SET LINES 56
ENDIF
WRITE "THE FOLLOWING MENS DOCUMENTS WILL BE DUE OR ARE OVERDUE"
WRITE " "
```

```
SELECT SYSNAME MENS FROM SYSTEM SORTED BY MENS WHERE MENS LE .TGT +
   AND AMENS FAILS
IF IO NE Y THEN
   WRITE " "
   WRITE "         PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ENDIF
WRITE " "
WRITE "THE FOLLOWING SYSTEMS DECISION PAPERS WILL BE DUE OR ARE OVERDUE"
WRITE " "
WRITE "SDPI"
WRITE " "
SELECT SYSNAME SDPI FROM SYSTEM SORTED BY SDPI WHERE SDPI LE .TGT  +
   AND ASDPI FAILS
IF IO NE Y THEN
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ENDIF
WRITE " "
WRITE "SDPII"
WRITE " "
SELECT SYSNAME SDPII FROM SYSTEM SORTED BY SDPII WHERE SDPII LE .TGT +
   AND ASDPII FAILS
IF IO NE Y THEN
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ENDIF
WRITE " "
WRITE "SDPIII"
WRITE " "
SELECT SYSNAME SDPIII FROM SYSTEM SORT BY SDPIII WHERE SDPIII LE .TGT +
   AND ASDPIII FAILS
OUTPUT SCREEN
SET LINES 20
RETURN

*(=================================================================
   PROGRAM:   S21PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:   ADD A NEW DOCUMENT TO THE FILE.  AUTOMATIC ERROR CHECKING
              IS ENFORCED AS EXPLAINED IN THE USERS MANUAL.

   TABLES USED: DOCLIST
   VARIABLE FORMS USED:  DOC

   =================================================================)
```

```
SET VAR MORE TO "Y"          *( initialize loop control )
WHILE MORE = Y THEN
   NEWPAGE
   DRAW DOC                  *( variable form with null values )
   WRITE "ENTER TO TAB TO NEXT FIELD     PGDN TO LOAD     ESC TO QUIT" +
      AT 1 1
   *(prompt for and enter the following variables)
   ENTER VAR VSYS VDOC VTIT VACT VDATE VSTAT RETURN PGDN ESC
   IF #RETURN = ESC THEN    *( quit if user pressed ESC )
      BREAK
   ENDIF
   *(load the new record into the doclist table)
   SET POINTER #1 PT1 FOR DOCLIST WHERE COUNT = LAST
   WRITE "                                                          " +
      AT 1 1
   SET ERROR VAR ERV
   LOAD DOCLIST
   .VSYS .VDOC .VTIT .VACT .VDATE .VSTAT
   END
   IF ERV = 0 THEN                *( the record was added successfully )
      NEWPAGE
      WRITE "NEW RECORD ADDED FOR ACTIVITY: "
      SHOW VAR VACT AT 1 33       *( show user the record added )
   ELSE
      WRITE "PRESS ANY KEY TO CONTINUE . . ." AT 23 10
      PAUSE
      NEWPAGE
   ENDIF
   CLEAR ALL VAR              *( see note 1 at end )
   *( prompt for another document addition )
   FILLIN MORE USING "ADD ANOTHER DOCUMENT (Y/N): " AT 11 25
ENDWHILE
SET VAR CHOICE = 0
RETURN

*(=================================================================
   PROGRAM:  S22PICK.CMD
   AUTHOR :  R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:  EDIT A DOCUMENT.  AUTOMATIC RULE CHECKING IS ENFORCED.

   TABLES USED: DOCLIST
   VARIABLE FORMS USED: DOC

   =================================================================)

FILLIN CH1 USING "ENTER THE SYSTEM ABBREVIATION:  "
FILLIN CH2 USING "ENTER THE DOCUMENT ABBREVIATION:  "
```

```
 *( the following command uses CONTAINS rather than " = " since
    some documents are classified as more than one document type )
SET POINTER #1 PT1 FOR DOCLIST WHERE DOCABR CONTAINS .CH2 AND +
   SYSNAME = .CH1
IF PT1 NE 0 THEN     *( no matching record found )
   WRITE "THIS DOCUMENT IS NOT ON FILE"
   WRITE "PLEASE CHECK AND REINPUT"
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE"
   PAUSE
ELSE
   WHILE PT1 = 0 THEN    *( while matching record is found )
      SET VAR VSYS TO SYSNAME IN #1
      SET VAR VDOC TO DOCABR IN #1
      SET VAR VTIT TO DOCNAME IN #1
      SET VAR VACT TO DEVACT IN #1
      SET VAR VDATE TO DOCDATE IN #1
      SET VAR VSTAT TO DSTAT IN #1
      NEWPAGE
      SET NULL " "           *( display null values as a blank )
      DRAW DOC WITH ALL
      SET NULL -0-           *( return null designator )
      WRITE "ENTER TO TAB TO NEXT FIELD   PGDN TO LOAD   ESC TO QUIT" +
         AT 1 1
      WRITE "PGUP FOR NEXT MATCH" AT 1 60
      *( edit all fields )
      EDIT VAR RETURN ESC PGDN PGUP
      IF #RETURN = ESC THEN   *( quit if ESC was pressed )
         BREAK
      ENDIF
      IF #RETURN = PGDN THEN  *( save changes if PGDN pressed )
         CHANGE SYSNAME TO .VSYS IN #1
         CHANGE DOCABR TO .VDOC IN #1
         CHANGE DOCNAME TO .VTIT IN #1
         CHANGE DEVACT TO .VACT IN #1
         CHANGE DOCDATE TO .VDATE IN #1
         CHANGE DSTAT TO .VSTAT IN #1
      ENDIF
      NEXT #1 PT1    *( find next matching record )
   ENDWHILE
ENDIF
RETURN

*(=====================================================================
   PROGRAM:   S23PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:   DELETE A DOCUMENT.
```

```
   TABLES USED: DOCLIST
   VARIABLE FORMS USED:  DOC

   ============================================================================)

FILLIN CH2 USING "ENTER DOCUMENT ABBREVIATION:  "
FILLIN CH1 USING "ENTER SYSTEM ABBREVIATION:  "
SET POINTER #1 PT1 FOR DOCLIST WHERE DOCABR = .CH2 AND SYSNAME = .CH1
IF PT1 NE 0 THEN        *( no such document )
   WRITE "DOCUMENT NOT ON FILE - CANNOT BE DELETED"
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE"
   PAUSE
ELSE
   WHILE PT1 = 0 THEN
      SET VAR VSYS TO SYSNAME IN #1
      SET VAR VDOC TO DOCABR IN #1
      SET VAR VTIT TO DOCNAME IN #1
      SET VAR VACT TO DEVACT IN #1
      SET VAR VDATE TO DOCDATE IN #1
      SET VAR VSTAT TO DSTAT IN #1
      NEWPAGE
      SET NULL " "  *( reset null to blank for display )
      DRAW DOC WITH ALL
      SET NULL -0-  *( reset default null value indicator )
      WRITE "PGDN TO DELETE                PGUP FOR NEXT MATCH" AT 1 1
      WRITE "ESC TO QUIT" AT 1 60
      EDIT VAR VSYS RETURN PGDN ESC PGUP
      IF #RETURN = PGDN THEN       *( delete this record )
         NEWPAGE
         WRITE "ARE YOU SURE YOU WANT TO DELETE THIS"
         FILLIN ANS USING "RECORD (Y/N)  "
         IF ANS = Y THEN
            DELETE ROWS FROM #1  *( after one last chance )
         ENDIF
      ENDIF
      IF #RETURN = ESC THEN       *( quit if ESC pressed )
         BREAK
      ENDIF
      NEXT #1 PT1
   ENDWHILE
ENDIF
RETURN


*(============================================================================
   PROGRAM:  S24PICK.CMD
   AUTHOR :  R. C. CAVALLARO
   DATE WRITTEN: 17 NOVEMBER 1985
   PURPOSE:  ALLOWS THE USER TO GET CUSTOMIZED TALLY INFORMATION
```

```
                CONCERNING NUMBER OF OCCURRENCES IN THE DATABASE.

   ==========================================================================)
SET ERROR VARIABLE ERV
NEWPAGE
WRITE "WHICH OF THE FOLLOWING TABLES DO YOU WISH TO ACCESS"
WRITE " "
LIST TABLES
WRITE " "
FILLIN CH1 USING "ENTER THE TABLE NAME: "
NEWPAGE
LIST .CH1
WRITE " "
FILLIN CH2 USING "WHICH COLUMN SHOULD BE TALLIED: "
NEWPAGE
IF IO = Y THEN
   OUTPUT SCREEN WITH PRINTER
   SET LINES 56
ENDIF
TALLY .CH2 IN .CH1
IF ERV NE 0 THEN
   OUTPUT SCREEN
   WRITE "INVALID TABLE OR COLUMN NAME WAS ENTERED; PLEASE CHECK YOUR"
   WRITE "INPUT AND TRY AGAIN."
ENDIF
OUTPUT SCREEN
SET LINES 20
SET VAR CHOICE = 0          *( redisplay query menu )
RETURN


*(==========================================================================
   PROGRAM:   S25PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 29 NOVEMBER 1985
   PURPOSE:   DISPLAYS ALL MENS AND SDPIS THAT HAVE DUE DATES IN THE FILE
              BUT HAVE NOT YET BEEN TASKED TO ANYONE TO COMPLETE.

   TABLES USED:   SYSTEM, DOCLIST

   ==========================================================================)

SET POINTER #1 PT1 FOR SYSTEM SORTED BY MENS WHERE MENS EXISTS +
   AND AMENS FAILS
NEWPAGE
IF IO = Y THEN
   OUTPUT SCREEN WITH PRINTER
   SET LINES 56
ENDIF
WRITE "MENS"
```

```
WRITE " "
IF PT1 NE 0 THEN
   WRITE "ALL MENS DOCUMENTS ON FILE HAVE BEEN COMPLETED"
ELSE
   WHILE PT1 = 0 THEN
      SET VAR TSYS = SYSNAME IN #1
      SET VAR TDOC = MENS IN #1
      SET POINTER #2 PT2 FOR DOCLIST WHERE SYSNAME = .TSYS AND +
            DOCABR = .TDOC AND DSTAT = P
      IF PT2 NE 0 THEN
         SET VAR NAME = .TSYS & .TDOC
         SHOW VAR NAME
      ENDIF
      NEXT #1 PT1
   ENDWHILE
ENDIF
IF IO NE Y THEN
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ENDIF
WRITE " "
SET POINTER #1 PT1 FOR SYSTEM SORTED BY SDPI WHERE SDPI EXISTS +
   AND ASDPI FAILS
WRITE "SDPI"
WRITE " "
IF PT1 NE 0 THEN
   WRITE "ALL SDPI DOCUMENTS THAT HAVE DUE DATES HAVE BEEN COMPLETED"
ELSE
   WHILE PT1 = 0 THEN
      SET VAR TSYS = SYSNAME IN #1
      SET VAR TDOC = SDPI IN #1
      SET POINTER #2 PT2 FOR DOCLIST WHERE DSTAT = P AND +
            DOCABR = .TDOC AND SYSNAME = .TSYS
      IF PT2 NE 0 THEN
         SET VAR NAME = .TSYS & .TDOC
         SHOW VAR NAME
      ENDIF
      NEXT #1 PT1
   ENDWHILE
ENDIF
IF IO NE Y THEN
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ENDIF
WRITE " "
SET POINTER #1 PT1 FOR SYSTEM SORTED BY SDPII WHERE SDPII EXISTS +
   AND ASDPII FAILS
WRITE "SDPII"
```

```
WRITE " "
IF PT1 NE 0 THEN
   WRITE "ALL SDPII DOCUMENTS THAT HAVE DUE DATES HAVE BEEN COMPLETED"
ELSE
   WHILE PT1 = 0 THEN
      SET VAR TSYS = SYSNAME IN #1
      SET VAR TDOC = SDPII IN #1
      SET POINTER #2 PT2 FOR DOCLIST WHERE DSTAT = P AND +
            DOCABR = .TDOC AND SYSNAME = .TSYS
      IF PT2 NE 0 THEN
         SET VAR NAME = .TSYS & .TDOC
         SHOW VAR NAME
      ENDIF
      NEXT #1 PT1
   ENDWHILE
ENDIF
IF IO NE Y THEN
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ENDIF
WRITE " "
SET POINTER #1 PT1 FOR SYSTEM SORTED BY SDPIII WHERE SDPIII EXISTS +
   AND ASDPIII FAILS
WRITE "SDPIII"
WRITE " "
IF PT1 NE 0 THEN
   WRITE "ALL SDPIII DOCUMENTS THAT HAVE DUE DATES HAVE BEEN COMPLETED"
ELSE
   WHILE PT1 = 0 THEN
      SET VAR TSYS = SYSNAME IN #1
      SET VAR TDOC = SDPIII IN #1
      SET POINTER #2 PT2 FOR DOCLIST WHERE DSTAT = P AND +
            DOCABR = .TDOC AND SYSNAME = .TSYS
      IF PT2 NE 0 THEN
         SET VAR NAME = .TSYS & .TDOC
         SHOW VAR NAME
      ENDIF
      NEXT #1 PT1
   ENDWHILE
ENDIF
OUTPUT SCREEN
SET LINES 20
RETURN

*(=============================================================================
   PROGRAM:   S31PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  7 JANUARY 1986
```

```
   PURPOSE:  ADD A NEW DEVELOPMENT ACTIVITY.

   TABLES USED: VENDOR
   VARIABLE FORMS USED: VEND

   ================================================================================)

SET VAR MORE TO "Y"          *( initialize loop control )
WHILE MORE = Y THEN
   NEWPAGE
   DRAW VEND                 *( variable form with null values )
   WRITE "ENTER TO TAB TO NEXT FIELD     PGDN TO LOAD     ESC TO QUIT" +
      AT 1 1
   *(prompt for and enter these values)
   ENTER VAR VACT VFULL VPOC VPH VADR VCITY VST VZIP RETURN PGDN ESC
   IF #RETURN = ESC THEN
      BREAK                  *( quit if user pressed ESC )
   ENDIF
   WRITE "                                                                    " +
      AT 1 1
   SET ERROR VAR ERV
   *(load the new record into the vendor table)
   LOAD VENDOR
   .VACT .VFULL .VPOC .VPH .VADR .VCITY .VST .VZIP
   END
   IF ERV = 0 THEN                 *( record was loaded successfully )
      NEWPAGE
      WRITE "NEW RECORD ADDED FOR ACTIVITY: "
      SHOW VAR VACT AT 1 33   *( show user the record added )
   ELSE
      WRITE "PRESS ANY KEY TO CONTINUE . . ." AT 23 10
      PAUSE
      NEWPAGE
   ENDIF
   CLEAR ALL VAR
   *( prompt for another activity addition )
   FILLIN MORE USING "ADD ANOTHER ACTIVITY (Y/N): " AT 11 25
ENDWHILE
SET VAR CHOICE = 0
RETURN


*(================================================================================
   PROGRAM:  S32PICK.CMD
   AUTHOR :  R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:  EDIT A DEVELOPMENT ACTIVITY.

   TABLES USED: VENDOR
   VARIABLE FORMS USED: VEND
```

```
   ========================================================================)

FILLIN CH1 USING "ENTER THE DEVELOPMENT ACTIVITY ABBREVIATION:   "
SET POINTER #1 PT1 FOR VENDOR WHERE DEVACT = .CH1
IF PT1 NE 0 THEN  *( no matching record found )
   WRITE "THIS DEVELOPMENT ACTIVITY IS NOT ON FILE"
   WRITE "PLEASE CHECK AND REINPUT"
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE"
   PAUSE
ELSE
   SET VAR VACT TO DEVACT IN #1
   SET VAR VFULL TO DEVLONG IN #1
   SET VAR VPOC TO CONTACT IN #1
   SET VAR VPH TO PHONE IN #1
   SET VAR VADR TO ADDRESS IN #1
   SET VAR VCITY TO CITY IN #1
   SET VAR VST TO STATE IN #1
   SET VAR VZIP TO ZIPCODE IN #1
   NEWPAGE
   *( variable form with values from matching record )
   SET NULL " "              *( display null values as blank )
   DRAW VEND WITH ALL
   SET NULL -0-              *(reset default null value indicator )
   WRITE "ENTER TO TAB          PGDN TO LOAD           ESC TO QUIT" +
      AT 1 1
   *( edit all fields )
   EDIT VAR RETURN ESC PGDN
   IF #RETURN = PGDN THEN  *( save changes if PGDN pressed )
      CHANGE DEVACT TO .VACT IN #1
      CHANGE DEVLONG TO .VFULL IN #1
      CHANGE CONTACT TO .VPOC IN #1
      CHANGE PHONE TO .VPH IN #1
      CHANGE ADDRESS TO .VADR IN #1
      CHANGE CITY TO .VCITY IN #1
      CHANGE STATE TO .VST IN #1
      CHANGE ZIPCODE TO .VZIP IN #1
   ENDIF
ENDIF
RETURN


*(=========================================================================
   PROGRAM:   S33PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  7 JANUARY 1986
   PURPOSE:   DELETE A DEVELOPMENT ACTIVITY.

   TABLES USED:   VENDOR
```

```
   VARIABLE FORMS USED:  VEND

   ================================================================================)

FILLIN CH1 USING "ENTER DEVELOPMENT ACTIVITY ABBREVIATION: "
SET POINTER #1 PT1 FOR VENDOR WHERE DEVACT = .CH1
IF PT1 NE 0 THEN        *( no such activity )
   WRITE "THIS DEVELOPMENT ACTIVITY IS NOT ON FILE "
   WRITE "IT CANNOT BE DELETED"
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . ."
   PAUSE
ELSE
   SET VAR VACT TO DEVACT IN #1
   SET VAR VFULL TO DEVLONG IN #1
   SET VAR VPOC TO CONTACT IN #1
   SET VAR VPH TO PHONE IN #1
   SET VAR VADR TO ADDRESS IN #1
   SET VAR VCITY TO CITY IN #1
   SET VAR VST TO STATE IN #1
   SET VAR VZIP TO ZIPCODE IN #1
   NEWPAGE
   SET NULL " "     *( display null value as a blank )
   DRAW VEND WITH ALL
   SET NULL -0-     *( reset default null value )
   WRITE "PGDN TO DELETE RECORD" AT 1 1
   WRITE "ESC TO QUIT" AT 1 60
   EDIT VAR VACT RETURN PGDN ESC
   IF #RETURN = PGDN THEN     *( delete the record )
      NEWPAGE
      WRITE "ARE YOU SURE YOU WANT TO DELETE THIS"
      FILLIN ANS USING "RECORD (Y/N)  "
      IF ANS = Y THEN
         DELETE ROWS FROM #1  *( after one last chance )
      ENDIF
   ENDIF
ENDIF
RETURN


*(================================================================================
   PROGRAM:   S34PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 17 NOVEMBER 1985
   PURPOSE:   PROMPTS USER FOR A SYSTEM ABBREVIATION AND THEN DISPLAYS
              ALL DOCUMENTS CREATED FOR THAT SYSTEM.

   TABLE USED:  DOCLIST

   ================================================================================)
```

```
SET ERR VAR ERV                *( set error variable )
FILLIN CH1 USING "WHAT IS THE SYSTEM NAME: "
NEWPAGE
IF IO = Y THEN
   OUTPUT SCREEN WITH PRINTER
   SET LINES 56
ENDIF
SELECT DOCABR DOCNAME=30 DEVACT DOCDATE FROM DOCLIST WHERE SYSNAME = .CH1
IF ERV NE 0 THEN
   WRITE "THERE ARE NO SYSTEMS BY THAT NAME ON FILE."
   WRITE "CHECK THE SPELLING AND TRY AGAIN.  REMEMBER THAT YOU "
   WRITE "COULD USE AN ASTERISK AS A WILD CARD IF YOU ARE UNCERTAIN "
   WRITE "OF THE SPELLING.  FOR EXAMPLE, USE JUMPS* TO FIND ANY NAME"
   WRITE "IN THE DATABASE THAT STARTS WITH JUMPS."
ENDIF
OUTPUT SCREEN
SET LINES 20
CLEAR CH1
SET VAR CHOICE = 0             *( reset loop control variable )
RETURN

*(=============================================================================
   PROGRAM:   S35PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 29 NOVEMBER 1985
   PURPOSE:   THIS PROGRAM PROVIDES VARIOUS INFORMATION PERTAINING TO THE
              MANAGEMENT OF SYSTEMS.

   TABLE USED:   SYSTEM

   =============================================================================)

NEWPAGE
IF IO = Y THEN
   OUTPUT SCREEN WITH PRINTER
   SET LINES 56
ENDIF
WRITE "THESE SYSTEMS HAVE NO ANALYSTS ASSIGNED"
SELECT SYSNAME IN SYSTEM SORT BY SYSNAME WHERE ANALYST FAILS
IF IO NE Y THEN
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . . ."
   PAUSE
ENDIF
WRITE " "
WRITE "THESE OPERATIONAL SYSTEMS ARE MISSING NUMBER OF PROGRAMS"
SELECT SYSNAME IN SYSTEM SORT BY SYSNAME WHERE PGMS FAILS AND CATEGORY = MCO
IF IO NE Y THEN
```

```
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . . ."
   PAUSE
ENDIF
WRITE " "
WRITE "THESE OPERATIONAL SYSTEMS ARE MISSING LINES OF CODE"
SELECT SYSNAME IN SYSTEM SORT BY SYSNAME WHERE LOC FAILS AND CATEGORY = MCO
IF IO NE Y THEN
   WRITE " "
   WRITE "PRESS ANY KEY TO CONTINUE . . ."
   PAUSE
ENDIF
WRITE " "
WRITE "THESE SYSTEMS HAVE NO INDICATED PRIMARY USER"
SELECT SYSNAME IN SYSTEM SORT BY SYSNAME WHERE PRIUSER FAILS
OUTPUT SCREEN
SET LINES 20
RETURN


*(=================================================================
   PROGRAM:   S44PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  17 NOVEMBER 1985
   PURPOSE:   PROMPTS USER FOR DOCUMENT TYPE AND THEN DISPLAYS ALL
              SYSTEMS THAT HAVE HAD THAT TYPE DOCUMENT PREPARED.

   TABLES USED:   DOCLIST, DOCUMENT

   =================================================================)

SET ERR VAR ERV                *( set error variable )
FILLIN CH1 USING "WHAT IS THE DOCUMENT ABBREVIATION (e.g RS): "
NEWPAGE
IF IO = Y THEN
   OUTPUT SCREEN WITH PRINTER
   SET LINES 56
ENDIF
SELECT SYSNAME DEVACT DOCNAME=35 DOCDATE FROM DOCLIST SORTED BY +
   SYSNAME WHERE DOCABR CONTAINS .CH1
IF ERV NE 0 THEN
   WRITE "THERE ARE NO DOCUMENTS ON FILE FOR THAT ABBREVIATION."
   WRITE "PLEASE ENSURE THAT YOU SPELLED THE ABBREVIATION CORRECTLY."
   WRITE " "
   WRITE "PRESS L TO LIST ALL THE VALID ABBREVIATIONS,"
   SET VAR ANS TEXT
   FILLIN ANS USING "OR ANYTHING ELSE TO ABORT  "
   IF ANS = L THEN
      SELECT DOCABR DOCTITLE DOCREF FROM DOCUMENT SORTED BY +
             LIFECAT DOCABR
```

```
   ENDIF
   CLEAR ANS
ENDIF
OUTPUT SCREEN
SET LINES 20
CLEAR CH1
SET VAR CHOICE = 0            *( reset loop control variable )
RETURN

*(=============================================================================
   PROGRAM:   S64PICK.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN:  17 NOVEMBER 1985
   PURPOSE:   DISPLAYS ALL DOCUMENTS CREATED BY A GIVEN DEVELOPMENT
              ACTIVITY AND THE SYSTEMS FOR WHICH THOSE DOCUMENTS WERE
              CREATED.

   TABLES USED:   DOCLIST, VENDOR

   =============================================================================)

SET ERR VAR ERV                *( set error variable )
FILLIN CH1 USING "ENTER DEVELOPMENT ACTIVITY ABBREVIATION (e.g. DSA):  "
NEWPAGE
IF IO = Y THEN
   OUTPUT SCREEN WITH PRINTER
   SET LINES 56
ENDIF
SELECT SYSNAME DOCABR DOCNAME=20 DOCDATE DEVACT FROM DOCLIST SORTED BY  +
   SYSNAME WHERE DEVACT CONTAINS .CH1
IF ERV NE 0 THEN
   WRITE "THERE ARE NO DEVELOPMENT ACTIVITIES ON FILE BY THIS NAME"
   SET VAR ANS TEXT
   WRITE " "
   WRITE "PRESS L FOR A LIST OF ALL VALID DEVELOPMENT ACTIVITIES,"
   FILLIN ANS USING "OR ANYTHING ELSE TO ABORT  "
   IF ANS = L THEN
      SELECT DEVACT DEVLONG FROM VENDOR SORTED BY DEVACT
   ENDIF
   CLEAR ANS
ENDIF
OUTPUT SCREEN
SET LINES 20
CLEAR CH1
SET VAR CHOICE = 0            *( reset loop control variable )
RETURN

SMENU00
```

```
COLUMN SYSTEMS MANAGEMENT MAIN MENU
ADD
CHANGE
DELETE
QUERY
MANAGEMENT REPORTS
RETURN TO MCASMIS MAIN MENU


SMENU01
COLUMN SYSTEMS MANAGEMENT ADD MENU
ADD A NEW SYSTEM
ADD A NEW DOCUMENT
ADD A NEW DEVELOPMENT ACTIVITY
RETURN TO SYSTEMS MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU


SMENU02
COLUMN SYSTEMS MANAGEMENT EDIT MENU
EDIT A SYSTEM
EDIT A DOCUMENT FOR A SYSTEM
EDIT DEVELOPMENT ACTIVITY INFORMATION
RETURN TO SYSTEMS MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU


SMENU03
COLUMN SYSTEMS MANAGEMENT DELETE MENU
DELETE A SYSTEM
DELETE A DOCUMENT
DELETE A DEVELOPMENT ACTIVITY
RETURN TO SYSTEMS MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU


SMENU04
COLUMN SYSTEMS MANAGEMENT QUERY MENU
CHANGE OUTPUT DEVICE
CUSTOMIZED TALLY OF COLUMN
SELECT DOCUMENTS BY SYSTEM
SELECT SYSTEMS BY DOCUMENT TYPE
LIST DATA DICTIONARY
SELECT DOCUMENT & SYSTEM BY DEVELOPMENT ACTIVITY
SELECT ALL INFORMATION ABOUT ONE SYSTEM
RETURN TO SYSTEMS MANAGEMENT MAIN MENU
RETURN TO MCASMIS MAIN MENU


SMENU05
```

```
ROW SYSTEMS MANAGEMENT MANAGEMENT REPORTS
CHG OUTPUT
DOCS DUE
TASK DOCS
PEND DOCS
PEND PROJS
NEED DATA
LIST SYSTS
LIST DOCS
LIST VENDS
ANALYSTS
SYSTEMS
OPER VIEW
DEVEL VIEW
HELP
RETURN
EXIT

*(=============================================================================
   PROGRAM:   SYSDRAW.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 21 NOVEMBER 1985
   PURPOSE:   SETS ALL OF THE VARIABLE CONTENTS BEFORE DRAWING THE
              FORM SYS FOR EDITING VARIOUS DATA.

   VARIABLE FORM USED: SYS

=============================================================================)
SET VAR VSYS TO SYSNAME IN #1
SET VAR VLONG TO LNGTITLE IN #1
SET VAR VCAT TO CATEGORY IN #1
SET VAR VANAL TO ANALYST IN #1
SET VAR VMENS TO MENS IN #1
SET VAR VI TO SDPI IN #1
SET VAR VII TO SDPII IN #1
SET VAR VIII TO SDPIII IN #1
SET VAR VAMENS TO AMENS IN #1
SET VAR VAI TO ASDPI IN #1
SET VAR VAII TO ASDPII IN #1
SET VAR VAIII TO ASDPIII IN #1
SET VAR VEXP TO EXPLIFE IN #1
SET VAR VPRI TO PRIUSER IN #1
SET VAR VENV TO ENV IN #1
SET VAR VCLASS TO CLASS IN #1
SET VAR VLANG TO COMPLANG IN #1
SET VAR VPRNO TO PGMS IN #1
SET VAR VLOC TO LOC IN #1
SET VAR VIMP TO IMPDATE IN #1
SET NULL " "                          *( null values displayed as blanks )
```

```
DRAW SYS WITH ALL
SET NULL -0-                          *( redefine null value indicator )
RETURN

*(=============================================================================
   PROGRAM:   SYSLOAD.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 17 NOVEMBER 1985
   PURPOSE:   THIS PROGRAM ADDS A NEW SYSTEM TO THE DATABASE
              USING THE VARIABLE VALUES INPUT INTO THE VARIABLE FORM
              SYS.   ERROR CHECKING IS ENFORCED BY
              THE RULES EXISTING IN THE DATA DICTIONARY.

   TABLES USED: SYSTEM
   VARIABLE FORMS USED: SYS

   ============================================================================)" +
WRITE "
   AT 1 1
SET NULL -0-
SET ERROR VAR ERV
*(load the new record into the system table)
LOAD SYSTEM
   .VSYS .VLONG .VCAT .VANAL .VMENS .VI .VII .VIII .VEXP .VPRI .VENV .VCLASS +
   .VLANG .VPRNO .VLOC .VIMP .VAMENS .VAI .VAII .VAIII
END
IF ERV = 0 THEN                  *( the load was successful )
   SET VAR OKAY = T
   NEWPAGE
   WRITE "NEW RECORD ADDED FOR SYSTEM: "
   SHOW VAR VSYS AT 1 31          *( show user the record added )
ELSE
   WRITE "PRESS ANY KEY TO CONTINUE . . ." AT 24 10
   PAUSE
   NEWPAGE
ENDIF
SET VAR CHOICE = 0
RETURN
```


TTC CROSS REFERENCE MENU

A - LIST ALL TTC'S THAT WERE MODIFIED BY A GIVEN PROJECT.

B - LIST ALL PROJECTS THAT MODIFIED A PARTICULAR TTC.

```
*(=============================================================================
   PROGRAM:   TTCXREF.CMD
   AUTHOR :   R. C. CAVALLARO
   DATE WRITTEN: 7 JANUARY 1986
   PURPOSE:   THIS PROGRAM PROVIDES THE CAPABILITY TO ASCERTAIN EITHER
              WHICH TTC'S WERE MODIFIED BY A PARTICULAR PROJECT, OR WHICH
              PROJECTS MODIFIED A GIVEN TTC.  IT IS USEFUL IN ATTEMPTS TO
              FIND OUT WHY PROBLEMS SURFACED SUDDENLY IN A GIVEN AREA.

   SCREEN DISPLAYED: TTCSCRN
   TABLES USED: TTC

   =============================================================================)

SET VAR ANS = C
WHILE ANS NE A AND ANS NE B THEN
   NEWPAGE
   DISPLAY TTCSCRN
   FILLIN ANS USING "ENTER EITHER A or B: "
ENDWHILE

WRITE " "
IF ANS = A THEN
   SET VAR PRID TEXT
   FILLIN PRID USING "PLEASE ENTER MPI PROJECT ID: "
   NEWPAGE
   SELECT TTC FROM TTC SORTED BY TTC WHERE MPI-ID = .PRID
ELSE
   SET VAR CODE TEXT
   FILLIN CODE USING "PLEASE ENTER THE TTC: "
   NEWPAGE
   SELECT MPI-ID FROM TTC SORTED BY MPI-ID WHERE TTC = .CODE
ENDIF
CLEAR ANS
CLEAR PRID
CLEAR CODE
RETURN
```

APPENDIX B

DATA DICTIONARY

A. TABLES IN THE DATABASE

Table: REPORTS
Read Password: NO
Modify Password: NO

Column definitions

#	Name	Type	Length	Key
1	RNAME	TEXT	8 characters	yes
2	RDATA	TEXT	132 characters	

Current number of rows: 93

==========

Table: DOCUMENT
Read Password: NO
Modify Password: NO

Column definitions

#	Name	Type	Length	Key
1	DOCABR	TEXT	13 characters	
2	DOCTITLE	TEXT	45 characters	
3	DOCREF	TEXT	12 characters	
4	LIFECAT	TEXT	2 characters	

Current number of rows: 33

==========

Table: DOCLIST
Read Password: NO
Modify Password: NO

Column definitions

#	Name	Type	Length	Key
1	SYSNAME	TEXT	11 characters	yes
2	DOCABR	TEXT	13 characters	
3	DOCNAME	TEXT	109 characters	
4	DEVACT	TEXT	16 characters	
5	DOCDATE	DATE	1 value(s)	
6	DSTAT	TEXT	1 characters	

Current number of rows: 234

==========

Table: SYSTEM
Read Password: NO
Modify Password: NO

Column definitions

#	Name	Type	Length	Key
1	SYSNAME	TEXT	11 characters	yes
2	LNGTITLE	TEXT	72 characters	
3	CATEGORY	TEXT	3 characters	
4	ANALYST	TEXT	10 characters	
5	MENS	DATE	1 value(s)	
6	SDPI	DATE	1 value(s)	
7	SDPII	DATE	1 value(s)	

```
 8 SDPIII    DATE        1 value(s)
 9 EXPLIFE   TEXT        3 characters
10 PRIUSER   TEXT        9 characters
11 ENV       TEXT       10 characters
12 CLASS     TEXT        2 characters
13 COMPLANG  TEXT       10 characters
14 PGMS      INTEGER     1 value(s)
15 LOC       INTEGER     1 value(s)
16 IMPDATE   DATE        1 value(s)
17 AMENS     DATE        1 value(s)
18 ASDPI     DATE        1 value(s)
19 ASDPII    DATE        1 value(s)
20 ASDPIII   DATE        1 value(s)

Current number of rows:     102
```

==========

```
Table: VENDOR
Read Password: NO
Modify Password: NO

Column definitions
# Name      Type      Length          Key
1 DEVACT    TEXT       16 characters yes
2 DEVLONG   TEXT       54 characters
3 CONTACT   TEXT       20 characters
4 PHONE     TEXT       13 characters
5 ADDRESS   TEXT       20 characters
6 CITY      TEXT       15 characters
7 STATE     TEXT        2 characters
8 ZIPCODE   TEXT        5 characters

Current number of rows:      39
```

==========

```
Table: FORMS
Read Password: NO
Modify Password: NO

Column definitions
# Name      Type      Length          Key
1 FNAME     TEXT        8 characters yes
2 FDATA     TEXT       80 characters

Current number of rows:     161
```

==========

```
Table: RULES
Read Password: NO
Modify Password: NO

Column definitions
# Name      Type      Length          Key
1 NUMRULE   INTEGER     1 value(s)
2 AND/OR    TEXT        4 characters
3 COLNAME1  TEXT        8 characters
4 TABLE1    TEXT        8 characters
5 BOOLEAN   TEXT        4 characters
6 COLNAME2  TEXT        8 characters
7 TABLE2    TEXT        8 characters
8 RULVALUE  TEXT       40 characters

Current number of rows:      52
```

==========

```
Table: PROJECT
```

```
Read Password: NO
Modify Password: NO

Column definitions
# Name      Type      Length          Key
1 MPI-ID    TEXT       10 characters yes
2 ACTIV-ID  TEXT       10 characters
3 PROJ-ID   TEXT        3 characters
4 SYSNAME   TEXT       11 characters
5 CAT       TEXT        1 characters
6 PRIORITY  INTEGER     1 value(s)
7 FUNCPO    TEXT       15 characters
8 ACTIVPO   TEXT       15 characters
9 STATUS    TEXT        1 characters
10 DEVACT   TEXT       16 characters
11 PROJNAME TEXT       79 characters
12 STRUCW/T DATE        1 value(s)
13 DATEREQ  DATE        1 value(s)
14 REODUE   DATE        1 value(s)
15 SCHEDDUE DATE        1 value(s)
16 COMPLETE DATE        1 value(s)
17 TESTCOND INTEGER     1 value(s)
18 TESTED   INTEGER     1 value(s)

Current number of rows:      14

================================================================================

Table: TTC
Read Password: NO
Modify Password: NO

Column definitions
# Name      Type      Length          Key
1 MPI-ID    TEXT       10 characters
2 TTC       TEXT        3 characters

Current number of rows:      12

================================================================================

Table: DELIVER
Read Password: NO
Modify Password: NO

Column definitions
# Name      Type      Length          Key
1 MPI-ID    TEXT       10 characters
2 DELIVER   TEXT       79 characters

Current number of rows:      20

================================================================================

Table: DOCHIST
Read Password: NO
Modify Password: NO

Column definitions
# Name      Type      Length          Key
1 SYSNAME   TEXT       11 characters
2 DOCABR    TEXT       13 characters
3 DOCNAME   TEXT      109 characters
4 DEVACT    TEXT       16 characters
5 DOCDATE   DATE        1 value(s)
6 DSTAT     TEXT        1 characters

Current number of rows:       0

================================================================================
```

Table: PROJHIST
Read Password: NO
Modify Password: NO

Column definitions

#	Name	Type	Length	Key
1	MPI-ID	TEXT	10 characters	
2	ACTIV-ID	TEXT	10 characters	
3	PROJ-ID	TEXT	3 characters	
4	SYSNAME	TEXT	11 characters	
5	CAT	TEXT	1 characters	
6	PRIORITY	INTEGER	1 value(s)	
7	FUNCPO	TEXT	15 characters	
8	ACTIVPO	TEXT	15 characters	
9	STATUS	TEXT	1 characters	
10	DEVACT	TEXT	16 characters	
11	PROJNAME	TEXT	79 characters	
12	STRUCW/T	DATE	1 value(s)	
13	DATEREQ	DATE	1 value(s)	
14	REQDUE	DATE	1 value(s)	
15	SCHEDDUE	DATE	1 value(s)	
16	COMPLETE	DATE	1 value(s)	
17	TESTCOND	INTEGER	1 value(s)	
18	TESTED	INTEGER	1 value(s)	

Current number of rows: 0

==========

Table: TTCHIST
Read Password: NO
Modify Password: NO

Column definitions

#	Name	Type	Length	Key
1	MPI-ID	TEXT	10 characters	
2	TTC	TEXT	3 characters	

Current number of rows: 0

==========

Table: DLVRHIST
Read Password: NO
Modify Password: NO

Column definitions

#	Name	Type	Length	Key
1	MPI-ID	TEXT	10 characters	
2	DELIVER	TEXT	79 characters	

Current number of rows: 0

B. COLUMNS IN ALPHABETICAL ORDER

Column definitions

Name	Type	Length	Table	Key
ACTIV-ID	TEXT	10 characters	PROJECT	
			PROJHIST	
ACTIVPO	TEXT	15 characters	PROJHIST	
			PROJECT	

ADDRESS	TEXT	20	characters	VENDOR	
AMENS	DATE	1	value(s)	SYSTEM	
ANALYST	TEXT	10	characters	SYSTEM	
AND/OR	TEXT	4	characters	RULES	
ASDPI	DATE	1	value(s)	SYSTEM	
ASDPII	DATE	1	value(s)	SYSTEM	
ASDPIII	DATE	1	value(s)	SYSTEM	
BOOLEAN	TEXT	4	characters	RULES	
CAT	TEXT	1	characters	PROJECT	
				PROJHIST	
CATEGORY	TEXT	3	characters	SYSTEM	
CITY	TEXT	15	characters	VENDOR	
CLASS	TEXT	2	characters	SYSTEM	
COLNAME1	TEXT	8	characters	RULES	
COLNAME2	TEXT	8	characters	RULES	
COMPLANG	TEXT	10	characters	SYSTEM	
COMPLETE	DATE	1	value(s)	PROJHIST	
				PROJECT	
CONTACT	TEXT	20	characters	VENDOR	
DATEREQ	DATE	1	value(s)	PROJHIST	
				PROJECT	
DELIVER	TEXT	79	characters	DELIVER	
				DLVRHIST	
DEVACT	TEXT	16	characters	DOCLIST	
				VENDOR	yes
				PROJECT	
				PROJHIST	
				DOCHIST	
DEVLONG	TEXT	54	characters	VENDOR	
DOCABR	TEXT	13	characters	DOCHIST	
				DOCLIST	
				DOCUMENT	
DOCDATE	DATE	1	value(s)	DOCHIST	
				DOCLIST	
DOCNAME	TEXT	109	characters	DOCLIST	

				DOCHIST	
DOCREF	TEXT	12	characters	DOCUMENT	
DOCTITLE	TEXT	45	characters	DOCUMENT	
DSTAT	TEXT	1	characters	DOCHIST	
				DOCLIST	
ENV	TEXT	10	characters	SYSTEM	
EXPLIFE	TEXT	3	characters	SYSTEM	
FDATA	TEXT	80	characters	FORMS	
FNAME	TEXT	8	characters	FORMS	yes
FUNCPO	TEXT	15	characters	PROJHIST	
				PROJECT	
IMPDATE	DATE	1	value(s)	SYSTEM	
LIFECAT	TEXT	2	characters	DOCUMENT	
LNGTITLE	TEXT	72	characters	SYSTEM	
LOC	INTEGER	1	value(s)	SYSTEM	
MENS	DATE	1	value(s)	SYSTEM	
MPI-ID	TEXT	10	characters	DELIVER	
				DLVRHIST	
				PROJHIST	
				TTC	
				PROJECT	yes
				TTCHIST	
NUMRULE	INTEGER	1	value(s)	RULES	
PGMS	INTEGER	1	value(s)	SYSTEM	
PHONE	TEXT	13	characters	VENDOR	
PRIORITY	INTEGER	1	value(s)	PROJECT	
				PROJHIST	
PRIUSER	TEXT	9	characters	SYSTEM	
PROJ-ID	TEXT	3	characters	PROJECT	
				PROJHIST	
PROJNAME	TEXT	79	characters	PROJECT	
				PROJHIST	
RDATA	TEXT	132	characters	REPORTS	
REQDUE	DATE	1	value(s)	PROJHIST	
				PROJECT	

RNAME	TEXT	8 characters	REPORTS	yes
RULVALUE	TEXT	40 characters	RULES	
SCHEDDUE	DATE	1 value(s)	PROJHIST	
			PROJECT	
SDPI	DATE	1 value(s)	SYSTEM	
SDPII	DATE	1 value(s)	SYSTEM	
SDPIII	DATE	1 value(s)	SYSTEM	
STATE	TEXT	2 characters	VENDOR	
STATUS	TEXT	1 characters	PROJECT	
			PROJHIST	
STRUCW/T	DATE	1 value(s)	PROJECT	
			PROJHIST	
SYSNAME	TEXT	11 characters	DOCLIST	yes
			SYSTEM	yes
			PROJECT	
			PROJHIST	
			DOCHIST	
TABLE1	TEXT	8 characters	RULES	
TABLE2	TEXT	8 characters	RULES	
TESTCOND	INTEGER	1 value(s)	PROJHIST	
			PROJECT	
TESTED	INTEGER	1 value(s)	PROJECT	
TESTED	INTEGER	1 value(s)	PROJHIST	
TTC	TEXT	3 characters	TTC	
			TTCHIST	
ZIPCODE	TEXT	5 characters	VENDOR	

C. COLUMN DESCRIPTIONS

ACTIV-ID The internal document control number used ny each activity to identify a given project originated by an MPI-ID.

ACTIVPO The name of the activity project officer with primary responsibility for this project.

ADDRESS The mailing address of the development activity.

AMENS The ACTUAL date the MENS was completed.

ANALYST The name of the MPI-40 analyst who has responsiblity for this system.

AND/OR An R:base column name used for data edit/entry checking in conjunction with the RULES function.

ASDPI The ACTUAL date that the System Decision Paper One was completed.

ASDPII The ACTUAL date that the System Decision Paper Two was completed.

ASDPIII The ACTUAL date that the System Decision Paper Three was completed.

BOOLEAN Used by the R:base RULES function for data editing/entering.

CAT The project category which may be (P)roduction mod, (T)est cycle, or (S)tandalone.

CATEGORY An abbreviation denoting whether the system is Marine Corps or DOD/DON and whether it is operational or being developed.

CITY The city in which the development activity is located.

CLASS The class designation of the system according to MCO P5231.1.

COLNAME1 Used by the R:base RULES function for data editing/entering.

COLNAME2 Used by the R:base Rules function for data editing/entering.

COMPLANG The programming language(s) in which the system is written,

COMPLETE The date that the project was completed. As such, this date also indicates the date that the project was closed.

CONTACT Point of contact in that development activity.

DATEREQ The date of the MPI request that originated the project.

DELIVER The deliverable(s) contracted to be received in conjunction with a given project.

DEVACT The development activity abbreviation.

DEVLONG The long title of the development activity.

DOCABR The document(s) abbreviation. Multiple documents are indicated by a slash between the abbreviations (e.g. UM/MM/OM).

DOCDATE The date of the life cycle document.

DOCNAME The title of the life cycle document.

DOCREF The reference for the life cycle document.

DOCTITLE The long title of the life cycle document type (e.g. RS = Requirements Statement).

DSTAT The status indicator of the document indicating whether the document is completed or pending.

ENV The environment in which the system processes.

EXPLIFE The expected life of the automated system.

FDATA Used by the R:base FORMS function in defining the formatted forms for data entry and editing.

FNAME Used by the R:base FORMS function in defining the formatted forms for data entry and editing.

FUNCPO The functional analyst assigned as the cognizant officer for the project.

IMPDATE The date that the system was implemented.

LIFECAT Indicates whether the life cycle document type is a development item or a configuration item.

LNGTITLE The long title of the system.

LOC The number of thousands of lines of code in the system.

MENS The SCHEDULED due date for the MENS document.

MPI-ID The control number of the MPI source document that originated a project. This is the key field for all projects.

NUMRULE Used by the R:base RULES function for data editing/entering.

PROJ-ID The alphanumeric identifier assigned at the installation to which the project request was forwarded.

PGMS The number of computer programs that comprise the system.

PHONE The phone number of the development activity.

PRIORITY The priority assigned by the functional manager for that project

PRIUSER The primary user of the system.

PROJNAME A short description of the purpose of the project.

RDATA Used by the R:base REPORTS function.

REQDUE The requested due date specified in the project request.

RNAME Used by the R:base REPORTS function.

RULVALUE Used by the R:base REPORTS function.

SCHEDDUE The scheduled due date as negotiated with the development activity.

SDPI The SCHEDULED due date of the System Decision Paper One.

SDPII The SCHEDULED due date of the System Decision Paper Two.

SDPIII The SCHEDULED due date of the System Decision Paper Three.

SORTNBR Used by the R:base REPORTS function to print the systems properly sorted by category.

STATE The state in which the development activity is located.

STATUS The status of the project which is either (O)pen or (C)losed.

STRUCW/T The date that the structured walk through was conducted by the MPI functional analysts.

SYSNAME The system name abbreviation.

TABLE1 Used by the R:base RULES function for data editing/entering.

TABLE2 Used by the R:base RULES function for data editing/entering.

TESTCOND The total number of test conditions identified for satisfactory testing of the project.

TESTED The number of test conditions tested to date.

TTC The type transaction code which must be modified, deleted or created by the project.

ZIPCODE The zip code of the development activity.

D. ERROR MESSAGES

D01-THIS SYSTEM IS NOT ON FILE
Probable Cause: You tried to add or change a document specifying a system name that does not exist in the database.
Corrective Action: You must first add this system name using option 1 of the Systems Add Menu.

D02-DOC ABBREVIATION IS A MANDATORY FIELD
Probable Cause: You tried to add or change a document without specifying a document abbreviation.
Corrective Action: You must enter a value for this field.

D03-INVALID DOCUMENT ABBREVIATION
Probable Cause: You tried to add or change a document while specifying an invalid document abbreviation. Valid document abbreviations are contained in MPI Document number DOC-MPR-AIS. If one document combines two or more document types, the document abbreviations must be separated by a slash. For example, UM/MM/OM.
Corrective Action: Reinput after verifying according to above rules. Contact the data base administrator if a new document requirement causes the above rules to be unattainable.

D04-DEVEL ACTIVITY IS A MANDATORY FIELD
Probable Cause: You tried to add or change a document without specifying a development activity. Documents should only be on file after they have been assigned to a development activity for action. Therefore, this field may not be left blank.
Corrective Action: Specify a development activity.

D05-INVALID DEVELOPMENT ACTIVITY
Probable Cause: You tried to add or change a development activity that was not in the database. You must first add this development activity using option 2 from the Systems Management Add Menu. If more than one development activity is responsible for the document, the activity abbreviations must be separated with a slash. For example, DSA/IDEA.
Corrective Action: Verify and reinput.

D06-STATUS IS A MANDATORY FIELD

Probable Cause: You tried to add or change a life cycle document without specifying the status. The status must be entered.
Corrective Action: Enter a value for the status.

D07-INVALID STATUS, MUST BE P OR C
Probable Cause: You entered an invalid status for the life cycle document. All documents must either be pending or completed.
Corrective Action: Enter a status of either P or C.

P01-MPI ID IS A MANDATORY FIELD
Probable Cause: You tried to add or change a project without specifying a value for MPI-ID. This field is a key for the database and may not be left blank.
Corrective Action: Enter an MPI-ID.

P02-SYSTEM NAME IS A MANDATORY FIELD
Probable Cause: You tied to add or change a project without specifying the system name. Each project must be associated with a system and this field may not be left blank.
Corrective Action: Enter a system name.

P03-THIS SYSTEM IS NOT ON FILE
Probable Cause: You tried to add or change a project specifying a system name that does not exist in the database.
Corrective Action: You must first add this system name using option 1 of the Systems Add Menu.

P04-STATUS MUST BE O OR C
Probable Cause: You entered an invalid status for the project. The status must be either O (for open) or C (for closed).
Corrective Action: Enter a valid status.

P05-CATEGORY MUST BE P, S OR T
Probable Cause: You entered an invalid category for the project. The category must be P (for production mod), S (for stand alone) or T (for Test Cycle modification).
Corrective Action: Enter a valid category.

P06-DEVEL ACTIVITY IS A MANDATORY FIELD
Probable Cause: You tried to add or change a project without specifying a development activity. Since every project is opened for a specific activity, this field may not be left blank.
Corrective Action: Enter a development activity.

P07-INVALID DEVELOPMENT ACTIVITY
Probable Cause: You tried to add or change a development activity that was not on file. You must first add this activity using option 2 from the Systems Management Add Menu. If more than one activity is responsible for the project, the activity abbreviations must be separated with a slash. For example, HQMC/MCCDPA, KCMO.
Corrective Action: Verify and reinput.

P08-INVALID NUMBER TESTED
Probable Cause: You tried to input a number of test conditions that have been tested that was either more than the total number of test conditions, or when the total number of test conditions has not yet been input.
Corrective Action: Verify and reinput.

S01-SYSTEM NAME IS A MANDATORY FIELD
Probable Cause: You tried to add or change a system without specifying a system abbreviation. This value is a key field for the database and may not be left blank.
Corrective Action: Enter a system abbreviation.

S02-SYSTEM NAME MUST BE UNIQUE
Probable Cause: You tried to add or change a system abbreviation that already is defined for another system. The system abbreviation must be a unique value. Systems that are undergoing major enhancements should have an asterisk appended to the system name to make the name unique. For example, ARMS and ARMS* are two existing systems in the database.
Corrective Action: Enter a unique system abbreviation.

S03-INVALID CATEGORY
Probable Cause: You tried to add or change a system with an invalid category. Valid categories are MCO, MCD, MCE, DNO or DNE. See the discussion of categories in this manual for more detail concerning categories.
Corrective Action: Input a valid category.

S04-INVALID CLASS-MUST BE I,II OR -0-
Probable Cause: You tried to add or change a system while specifying an invalid class. Class definitions are contained in MCO P5231.1. Valid classes are I, II or a null value if you are uncertain.
Corrective Action: Input a valid class.

V01-DEVEL ACTIVITY IS A MANDATORY FIELD
Probable Cause: You tried to add or change a development activity without specifying the abbreviation for that activity. This is a key field and may not be left blank.
Corrective Action: Enter an abbreviation for the development activity.

V02-THIS ACTIVITY ALREADY EXISTS
Probable Cause: You tried to add or change a development activity while specifying an abbreviation of an activity that already exists. The activity abbreviation must be unique.
Corrective Action: Input a unique development activity abbreviation.

APPENDIX C
USER'S MANUAL

A. GETTING STARTED

1. System Requirements.

The Marine Corps Automated Systems Management Information System (MCASMIS) is designed to run in conjunction with the R:base 5000[1] Database Management System on the IBM PC, PC-XT, PC-AT and 100% compatible microcomputers.

Your system must have the following:

- DOS, version 2.0 or higher.
- 237K of main memory available after system configuration. A minimum of 320K is recommended.
- A color or monochrome monitor.
- A hard disk drive and one double-sided, double-density 5.25 inch floppy disk drive.

2. Overview.

MCASMIS is an integrated systems and project management information system designed to enhance the sponsorship of the many automated systems centrally managed at Headquarters, U.S. Marine Corps. Information concerning automated systems and projects that are ongoing concerning those systems is available in many different formats.

The following chapters will provide detailed explanations of all of the options available for each of the management functions.

In order to preserve the integrity of the database, there are certain functions which are restricted to the database administrator. These include archiving records to a history file, packing the database to recover space assigned to records that have been deleted, removing all

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[1]R:base 5000 is a registered trademark of Microrim, Inc., Bellevue, Washington.

history records to a diskette to recover hard disk space, and reorganizing the database structure to accommodate future requirements. All such requests should be forwarded to the database administrator for action.

3. Special Considerations.

a. On-Line help.

The system was designed to be menu driven and should be self descriptive in most cases. From any of the menu screens (which are lists of options surrounded by a double-lined border), you may press F10 to get on-line instructions concerning that particular screen. Further, in many of the query options, an on-line display of valid arguments is offered if no records that match your response are found in the database.

b. Case distinction.

There is no distinction made between upper and lower case in any queries made against the database. For example, while searching for a system by the name of RMS, an input of rms, RMS, Rms, etc., would all work exactly the same. While entering or editing a record, however, you should remember that the data that is retrieved will be displayed in the case in which it was entered. If you enter a record into the database with a first name of john, then john will always be displayed when this record is selected, even though John or JOHN was the string on which you were searching.

c. Null values.

Within R:base, null values are stored as the symbol, -0-. This is the symbol that will be displayed when you edit a record, in order to distinguish it from a field that contains all blanks. The less experienced user might find the difference between a blank and a null value to be a bit nebulous. However, the distinction is indeed important in record selection. While entering data and receiving

reports, however, null values will be displayed as blanks. This approach was taken to give the output a more professional appearance. For the purpose of reports there really is no difference between null values and blanks.

d. Rules.

R:base allows rules to be defined from a global perspective which performs many of the editing functions. Any attempt to enter or change a record that violates any of these rules will be disallowed and you will be shown an appropriate error message and number on the screen. Refer to Appendix B for more information on each of these error numbers.

e. Date format.

The default format for all dates has been set to dd mmm yyyy. For convenience in inputting or editing data, you also have the option of entering dd/mm/yy if that format is more natural. That is, inputting a value of 1 Feb 1985 will result in exactly the same value being stored as when 1/2/85 is input. If, while attempting to input a date, R:base responds with an error message saying that a valid date is required, check the format and reenter according to the above guidelines.

f. Backup copies.

Yoe are advised to make frequent backup copies of the database in order to assist in recovering from inadvertent loss of data due to machine or operator error.

4. Booting the System.

MCASMIS was designed to run on a hard disk. It was designed so that your R:base 5000 programs reside in a separate directory called RBASE. All of the MCASMIS programs should reside on a separate directory to facilitate backing up the programs and data. From this directory, type in the command,

MCASMIS

and the system will take over. Remember that this will only work properly if your directory with the R:base 5000 programs reside on a directory called RBASE. The directory with MCASMIS programs may have any name. Figure C.1 shows the MCASMIS Main Menu that is displayed upon first entering the system.

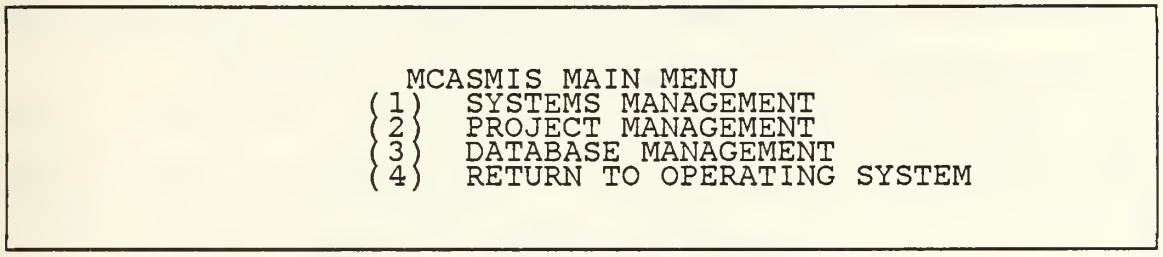

Figure C.1 MCASMIS Main Menu.

5. Exiting From R:base.

The final two options in most of the menu screens allow you to either return to the last menu or to return directly to the top menu. This last option was included in order to avoid having to page back through all of the preceding menus when you want to leave this application.

B. SYSTEMS MANAGEMENT

1. General.

If option 1 is selected from the MCASMIS Main Menu, you will be presented with the menu shown in Figure C.2. These options depict standard data manipulation functions that will route you to the appropriate menu for detailed selection as described in succeeding sections.

2. Adding Systems Records.

Figure C.3 shows the options that are available if you elect to choose the add option from the previous menu.

a. Adding a system.

When the need arises to add a new system into the existing database, you should select option 1 from the

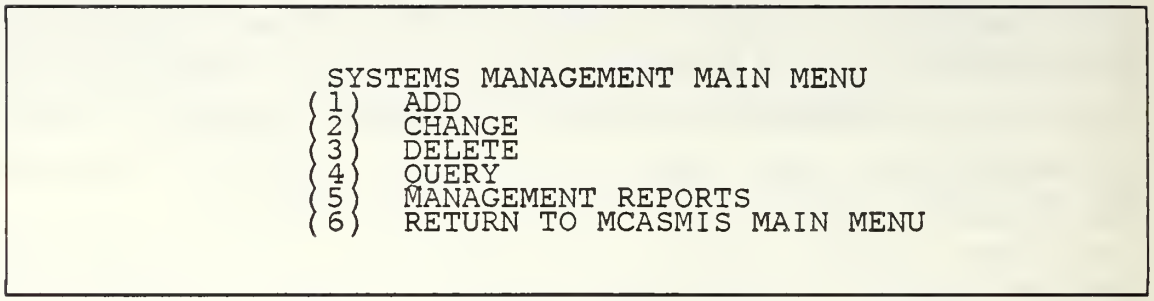

Figure C.2 Systems Management Main Menu.

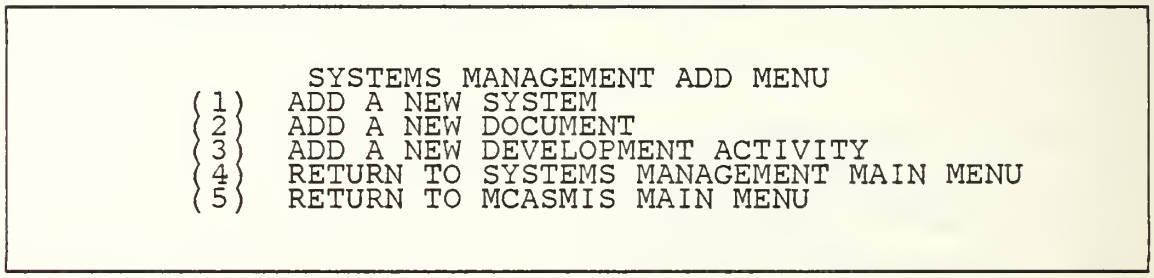

Figure C.3 Systems Management Add Menu.

Add Menu. A skeleton input form will be displayed on the screen and you will input the system abbreviation, system name, category and the name of the analyst who has primary responsibility for that system. Valid categories to be input and their meanings are:

- MCO - Marine Corps Operational System
- MCD - Marine Corps System under Development
- DNO - Operational System DON/DOD
- DND - DON/DOD System under Development

You will then be prompted to input additional items based on the category of that system. If the category was an operational system, you will be prompted for a different series of input than if the system was undergoing development. Any value not available should be left blank and a null value will be assigned to that field in the database.

The system name that is added must be UNIQUE. That is, that name should not already exist in the database. This is required because the system name is a key item that must point to a unique set of values that are functionally dependent on that system name. The Rules that are inherently defined in the data dictionary will preclude you from adding a non-unique system name, and it will provide an error message if you should attempt to do so.

Finally, you are given one last opportunity to abort from this add function by pressing the escape key (ESC), or to add the record by pressing the page down key (PGDN). Pressing the enter key (ENTER) allows you to tab to the next input area.

If you added a system, the name of the system added will be displayed and you will be asked if another system is to be added. This add process continues until you indicate that no more records are to be added by answering this prompt with anything other than "Y".

b. Adding a document.

Option 2 provides the capability to add a new life cycle document. This record should be added at the time that the task of preparing a specific document is assigned, with a status of P (for pending). You will be presented with a skeleton form to input values for the system name, the document abbreviation, the document name, the development activity, the document date and the status. If the document abbreviation satisfies more than one type, they should be separated by slashes. For example, a single document that serves as both a user's manual and a program maintenance manual should be input as UM/MM. Like the previous option, values unavailable for any field should be left blank and a null value will be stored in the record. The Enter key is used to tab to the next input area, PGDN to save the record and ESC to quit without saving and return to

the add menu. If the record is added, you are shown the name of the activity that was added and you are asked if another document is to be added. This process continues until you respond to this prompt with anything other than "Y".

c. Adding a development activity.

The first time that a new development activity is contracted to perform work, that activity should be added to the database. Selection of option 3 provides a skeleton input form that will prompt you for development activity abbreviation, full name of the activity, point of contact, phone number and full address. Blank fields will be stored as null values and the Enter, PGDN and ESC keys provide the same features as indicated in the other add options. You are allowed to input additional development activities until anything other than a "Y" is input to the continue prompt.

d. Finished adding.

Option 4 will return control to the Systems Management Main Menu.

e. Return to MCASMIS main menu.

Selection of the last option will bypass all intermediate menus and control is passed directly to the main menu.

3. Editing Systems Data.

Figure C.4 is the menu presented to you if the edit option is chosen from the main menu.

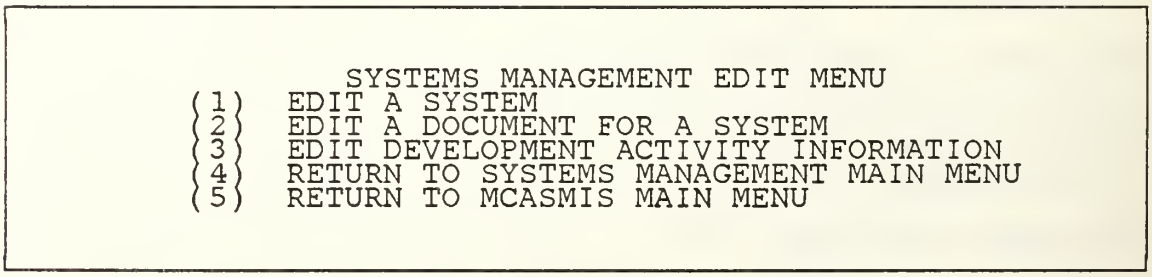

Figure C.4 Systems Management Edit Menu.

a. Editing a system.

You are prompted to enter the abbreviation for the system and a form is presented for editing. Use this option to change analyst name, category, assigned due dates for life cycle documents, or any other data element pertaining to the system. All current values for that record are displayed, and any of the values may be changed. Pressing the ENTER key TABS to the next input area, PGDN loads the record after changes are complete, and ESC quits the process and returns to the edit menu. Control is returned to the edit menu when you press ESC or have elected to load the edited system.

b. Editing a document.

When you select this option, you are prompted to enter the system and document abbreviation that is to be modified. A form is presented and any value may be changed by inputting the new value in the highlighted field and pressing PGDN to store it. A common use of this option would be to change the status from P to C when the document is delivered. Enter tabs to the next input area, PGUP finds the next match and ESC quits without editing. There may be multiple records in the file for a certain document type for one system, so you may have to page through the unwanted ones in order to get to the document in error.

c. Editing development activity information.

If a development activity record needs to be changed due to changes in address, name, point of contact, etc., option 3 should be selected and you will be prompted for the name of that activity. Any value in the record may be changed by typing over the old information in the highlighted area and pressing PGDN to save it. ENTER tabs to the next input area and ESC quits without modifying the record contents.

d. Finished editing.

Option 4 returns control to the Systems Management Main Menu.

e. Return to MCASMIS main menu.

Selection of this option bypasses all intermediate menus and control is passed directly to the main menu.

4. Deleting Systems Records.

Figure C.5 is the menu presented when option 3 is selected from the Systems Management Main Menu. In all of the following delete options, you are asked to verify that the record should be deleted before that deletion is executed. This ounce of prevention may seem cumbersome if you tire of giving commands more than once. However, the additional safety against inadvertently deleting a record by hitting a wrong key will more than compensate for this inconvenience.

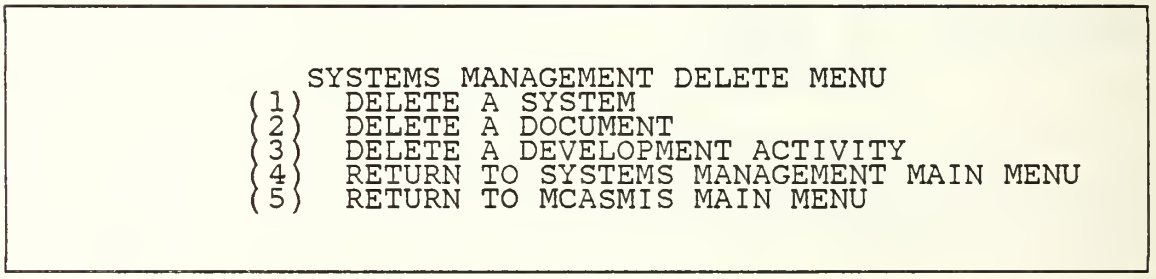

Figure C.5 Systems Management Delete Menu.

a. Deleting a system.

You are prompted for a system name when this option is selected. A form is presented which contains all current values for that record. You press PGDN to delete this record or ESC to quit the process without deleting. If any open projects are on file for the system, you are advised that deletion will not be allowed until those projects are either closed or deleted. However, it should be noted that documents pertaining to any system that is deleted must be deleted individually using option 2 of this menu.

b. Deleting a document.

You are prompted for a document and a system abbreviation and is then shown records that satisfy those criteria one at a time. You press PGDN to delete that document, PGUP to find the next matching document, or ESC to quit and return to the delete menu.

c. Deleting a development activity.

You are prompted for a development activity abbreviation and is then shown the fields for that selection on a labeled form. You again press PGDN to delete that record or ESC to quit without deleting. Control is returned to the delete menu when no matching record is found or ESC is pressed.

d. Finished deleting.

Option 4 returns control to the Systems Management Main Menu.

e. Return to MCASMIS main menu.

Selection of this option bypasses all intermediate menus and control is passed directly to the main menu.

5. The Systems Query Process.

Selecting option 4 from the main menu displays the menu shown in Figure C.6 to you. Queries are generally nonrecurring, ad hoc request that require you to first answer a prompt to delineate the search criteria. This subsystem is designed to answer the types of questions that are presented below.

a. Changing the designated output device.

Option one enables you to change the output device from the screen to printer. If this option is selected, the menu shown in Figure C.7 is presented for you to designate the output device. Once chosen, the output device remains in effect until the current menu is exited, or you again change the output designation using this option. There are two important features of this option as follows.

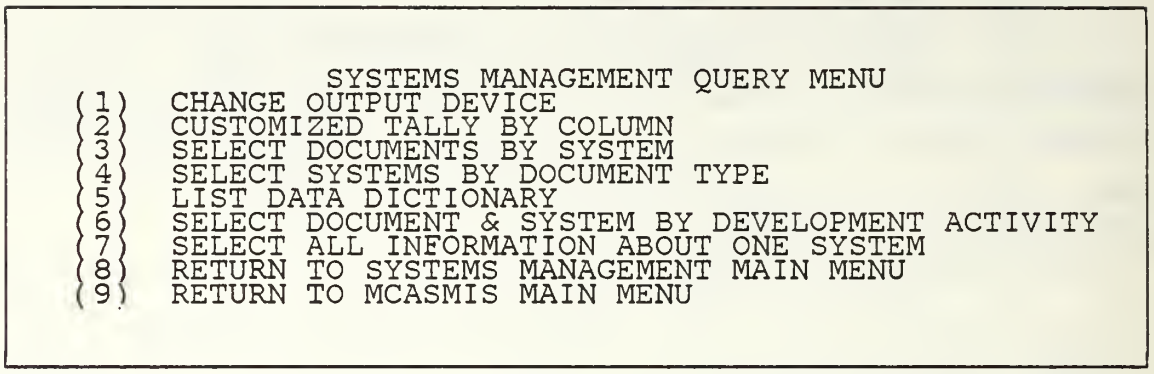

Figure C.6 Systems Management Query Menu.

When the printer is selected as the output device, output will be routed simultaneously to the screen also. This allows you the opportunity to manually adjust the paper form feed at the top of each new page of output before proceeding by pressing any key.

Not all of the queries and management reports may be routed directly to the printer. Those reports which disallow this designation (for example, those that use skeleton forms), are specified in the help screens for each subsystem. Having the output designation set to printer when choosing these restricted options will have no effect and the output will still be presented to the screen.

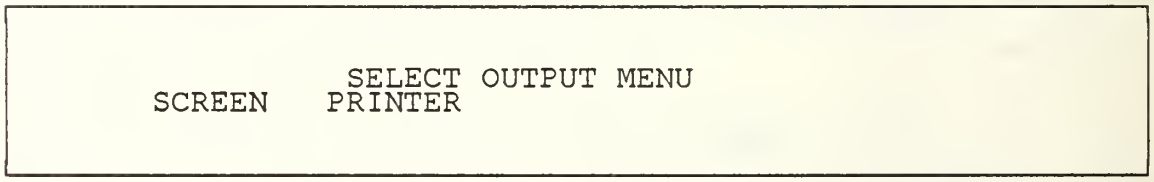

Figure C.7 Select Output Menu.

b. Customized tally by column.

This is one of the more flexible queries in the subsystem. It provides a count of the number of occurrences with each value in the database. For example, "tally analysts in system" would list the names of every analyst on

file and how many systems for which they had responsibility. Similarly, "tally devact in doclist" would search the doclist table and provide the names of every development activity and how many documents each had prepared. You are first presented with a list of all tables in the database. After choosing one of these tables, you are presented with a list of columns that comprise the table selected. Appendix B lists all tables, columns and column definitions. Although this option does require some familiarity with the database structure, a little practice using this command in conjunction with the data dictionary provided will reap great benefits in establishing valuable insight into the contents of the database. The possibilities are endless; for example: How many projects for each system could be obtained by, tally sysname in project. Or tally docabr in doclist would give information on how many of each type life cycle document existed on file.

c. How well is this system documented?

After selecting option 3, you are prompted for a system abbreviation. The document abbreviation, document title, development activity and document date are displayed for all documents that pertain to that system. The output includes documents that are currently being prepared as well as those that have been completed.

d. Where can I find a sample of a Functional Description?

To get an idea of what documents exist, and what development activities have experience in writing that particular document type, you select option 4 and are prompted for a document abbreviation. You are then presented with the system name, development activity, document title and document date for all documents that match

that abbreviation.

e. What are the database definitions?

Option 5 provides an on-line data dictionary that lists all column names with the tables names that contain that field, plus a listing of each individual table with format of the fields and whether or not that field is a key value. Key fields enable faster searching by indexing the values of those fields separately and the inexperienced user should not be concerned with this information. Although not essential, it is recommended that this option be designated to the printer output device.

f. What documents has this contractor authored before?

After selecting option 6, you are prompted to input an abbreviation for a development activity. You are then shown the system name, document abbreviation, document title, document date and development activity for all documents on file for which this activity authored or coauthored. The development activity is displayed because in many cases, the document was coauthored by more than one contractor and this fact should be known when evaluating this question.

g. Selecting all information about a system.

You are prompted for a system abbreviation and are shown all information pertaining to that system on a labeled form. After pressing any key, the query menu will be redisplayed.

h. Finished querying.

Option 8 returns control to the Systems Management Main Menu.

i. Return to operating system.

Option 9 bypasses all intermediate menus and control is returned directly to the operating system.

6. Systems Management Reports.

While the preceding options are often useful in generating answers to ad hoc requests, this option is really the backbone of the Systems Management subsystem. Figure C.8 depicts the sixteen options that are available to you after selecting the Management Reports Option from the Systems Management Main Menu.

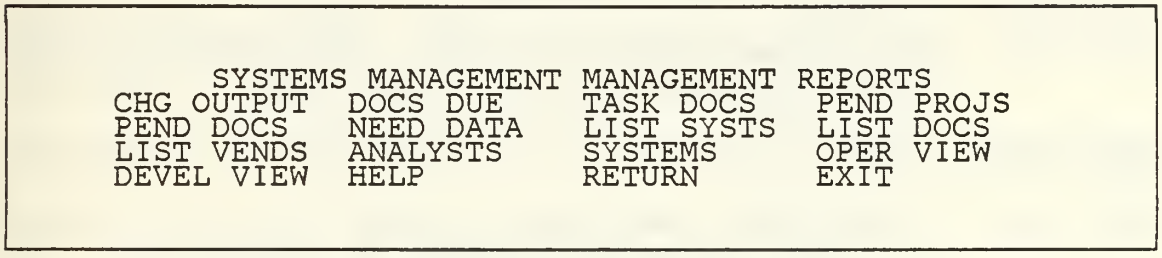

Figure C.8 Systems Management Management Reports.

Table X provides a list of the reports that are generated upon your request.

C. PROJECT MANAGEMENT

1. General.

Selection of option 2 from the MCASMIS Main Menu will cause the menu shown in Figure C.9 to be presented. This menu should look very familiar since it is virtually identical to the initial options presented under Systems Management. The following sections provide detailed descriptions of each of these options.

2. Adding Project Records.

Figure C.10 shows the options that are available if you select the add option from the previous menu.

a. Adding a new project.

To add a new project to the database, you select option 1 and are presented with a skeleton form in which to input various pieces of information.

The MPI-ID, system name and development activity fields are mandatory and may not be left blank. The system

TABLE X

SYSTEMS MANAGEMENT REPORTS

CHG OUTPUT	Enables you to change the output device to which the selected reports are routed to screen or screen with printer.
DOCS DUE	These options prompt you for the number of days in the future on which to base the search, and display the system name and the scheduled date that the indicated document was due but as yet has not been completed.
TASK DOCS	Provides a listing of the system names and the scheduled dates for all indicated documents that have assigned due dates, but have not yet been tasked to anyone to complete.
PEND DOCS	Lists all pending documents (not yet completed/ delivered).
PEND PROJS	Lists all open projects for a given system. You are prompted to enter a system name for this option.
NEED DATA	Checks the database and provides a listing of data items that are missing for operational systems.
LIST SYSTS	Provides a listing of all automated systems in the database sorted by category and system name.
LIST DOCS	Provides a listing of all documents in the database sorted by system.
LIST VENDS	Provides a listing of all development activities and their phone numbers in alphabetical order.
ANALYSTS	Provides a listing of analyst name, system name, category and long title sorted by analyst.
SYSTEMS	Provides the same listing as ANALYSTS except the sort order is by system name.
OPER VIEW	Provides an overview of Marine Corps operational systems.
DEVEL VIEW	Provides an overview of Marine Corps enhancement and development systems.
HELP	Provides on-line help for the above management reports.
RETURN	Returns control to the Systems Management Main Menu.
EXIT	Leaves the MCASMIS System and returns control to the operating system after closing the database.

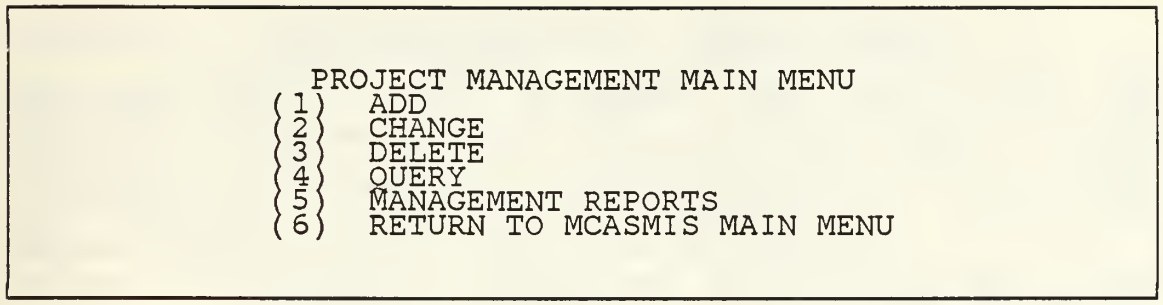

Figure C.9 Project Management Main Menu.

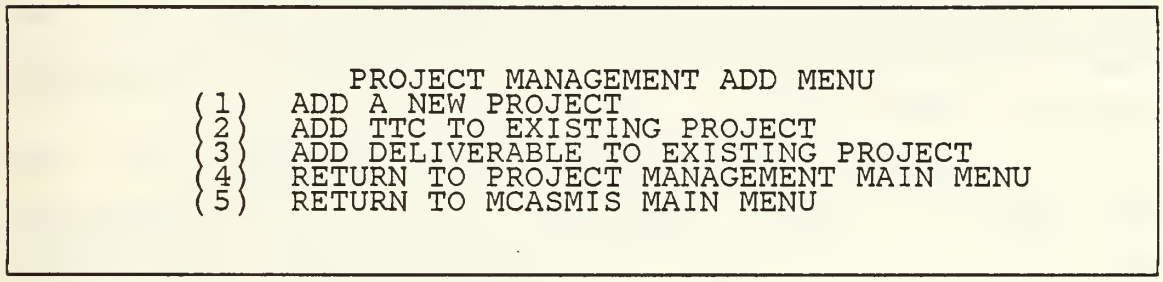

Figure C.10 Project Management Add Menu.

name and development activity that are being added must already be in the database. If not, an error message will be displayed and you should use the appropriate option from the Systems Management subsystem to add this record.

The status field refers to whether the project is open or closed. Enter an O if the project is just being added, later using the change process to modify the status to C for closed.

Valid categories are P if the project entails a production modification to an existing application, an S if the project is a stand alone product, or a T if the project is included in a Test Cycle environment.

All other values may be left blank if the information is not available at the time the project is being opened.

After entering the applicable data, you press PGDN to load the new record or ESC to abort the load process. ENTER allows you to tab repeatedly to the next input area. If PGDN is pressed, the entered information is validated in accordance with the rules specified above. If the information is valid, the record is added and you are so informed. If not, an appropriate error message is displayed.

If the project being added pertains to either JUMPS/MMS or REMMPS, you are then prompted to enter the Type Transaction Codes (TTC) that are being modified, deleted or created by this project.

After adding any project, you are given the opportunity to add the names of one or more deliverables that are to be received as part of that project. The ENTER key loads the deliverable, and ESC aborts the process and returns to the Project Management Add Menu.

b. Adding a TTC to an existing project.

Option 2 provides the capability to add a TTC to an already existing project. Often times, after a project has been submitted, subsequent analysis of the problem or requirements uncover ramifications to additional TTCs than those that were originally identified. This option permits the addition of those TTCs and maintains the integrity of the database.

You are first prompted to enter the MPI project ID number of the existing project. If no such project is on file, an error message is displayed. If the project number is valid (i.e., it already exists on file), you are presented with a form to add as many TTCs as desired.

Control is returned to the Project Management Add Menu when you indicate that you do not desire to add a TTC to any more projects at the given prompt.

c. Adding a deliverable to an existing project.

Option 3 allows you to add a deliverable to an existing project. As in the option for adding a TTC to an existing project, you are prompted to enter the MPI project ID number and the validity of this number id first checked before prompting you to input the deliverable.

Control is returned to the Project Management Add Menu when you indicate that deliverables are not to be added to any more projects.

d. Finished adding.

Option 4 will return control to the Project Management Main Menu.

e. Return To MCASMIS main menu.

Selection of option 5 will bypass all intermediate menus and pass control directly to the main menu.

3. Editing Project Data.

If you select the change option from the main menu, Figure C.11 is presented.

```
          PROJECT MANAGEMENT EDIT MENU
(1)  EDIT A PROJECT
(2)  EDIT A DELIVERABLE FOR A PROJECT
(3)  RETURN TO PROJECT MANAGEMENT MAIN MENU
(4)  RETURN TO MCASMIS MAIN MENU
```

Figure C.11 Project Management Edit Menu.

a. Editing a project.

You are prompted to enter the MPI project identification number. If no such project exists, an error message is displayed. If valid, a form is presented with all values displayed for that project and you may edit any desired field except for the MPI ID field. ENTER tabs to the next input field, PGDN loads the record and you are informed of a successful load, and ESC aborts the edit process.

No priority may be assigned or changed to a value that is higher than the number of projects on file for that development activity that have an open status. The system will automatically assign it a priority of the highest number if the field is left blank or if an attempt is made to assign a priority that is too large.

Also, if the priority is modified during this edit process, all other priorities for open projects for that activity are automatically adjusted. After modifying a priority, get a listing of projects by priority (option 5 from the Project Management Query Menu) to see the results.

Control is returned to the Project Management Edit Menu when you elect to either load the modified record, or abort by pressing the ESC key.

b. Editing a deliverable for a project.

As in the previous option, you are prompted to enter an MPI project identification number and this input is validated. If valid, you are shown all deliverables on file for that project, one at a time, and are permitted to modify the description of that deliverable.

Since there may be more than one deliverable for any project, you may have to page through all of them before getting to the one desired. PGDN loads the modified record, PGUP finds the next deliverable for that project and ESC aborts the process and returns to the Project Management Edit Menu.

c. Finished editing.

Option 3 returns control to the Project Management Main Menu.

d. Return to the MCASMIS main menu.

Selection of this option bypasses all intermediate menus and returns control directly to the main menu. The built in RULES preclude editing data to an illegal value in all of the editing options.

4. Deleting Project Records.

Figure C.12 is the menu presented when option 3 is selected from the Project Management Main Menu. As in the Systems Management delete process, you are asked to verify the deletion before execution.

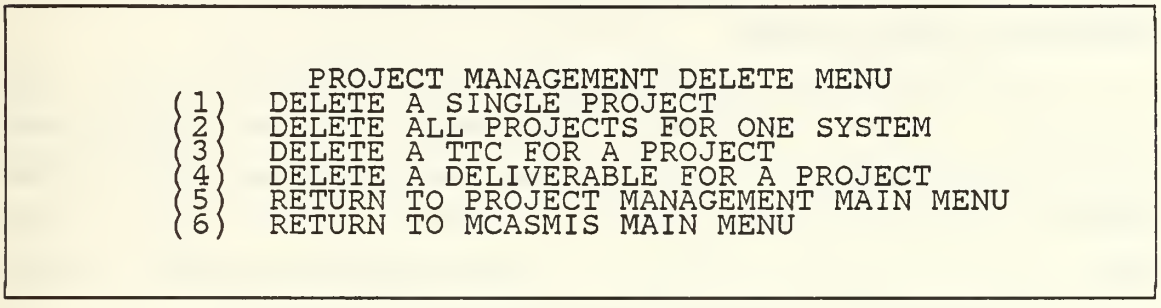

Figure C.12 Project Management Delete Menu.

a. Deleting a single project.

You are prompted to enter the MPI project identification number and an error message is displayed if the project is not on file. If the record is found, a form with all values for that project is displayed and you press either PGDN to delete the record or ESC to abort the delete process.

If PGDN is pressed, you are asked to verify that the delete is correct before proceeding.

When a project is deleted, all projects of lower priority are automatically adjusted. Also, all TTC and deliverable records on file for this project are automatically deleted when the project is deleted.

b. Deleting all projects for one system.

You are prompted to enter the system abbreviation and are given the opportunity to verify that the delete should be executed. Again, all priorities are automatically adjusted as a result of any projects deleted by this option. TTC and deliverable records for these projects are also automatically deleted.

c. Deleting a TTC for a project.

You are prompted to enter the MPI project identification number and are then shown all TTC records on file for that project one at a time. Pressing PGDN deletes the TTC, PGUP finds the next TTC record for that project and ESC aborts the process and returns control to the Project Management Delete Menu.

d. Deleting a deliverable for a project.

After answering the prompt for the MPI project identification number, you are shown all deliverable records one at a time and again press PGDN to delete the record, PGUP to find the next match or ESC to return control to the Project Management Delete Menu without deleting.

e. Finished deleting.

Option 5 returns control to the Project Management Main Menu.

f. Return to MCASMIS main menu.

Selection of this last option again bypasses all intermediate menus and returns control to the main menu.

5. The Project Query Process.

Selecting the query option from the Project Management Main Menu will display the menu shown in Figure C.13.

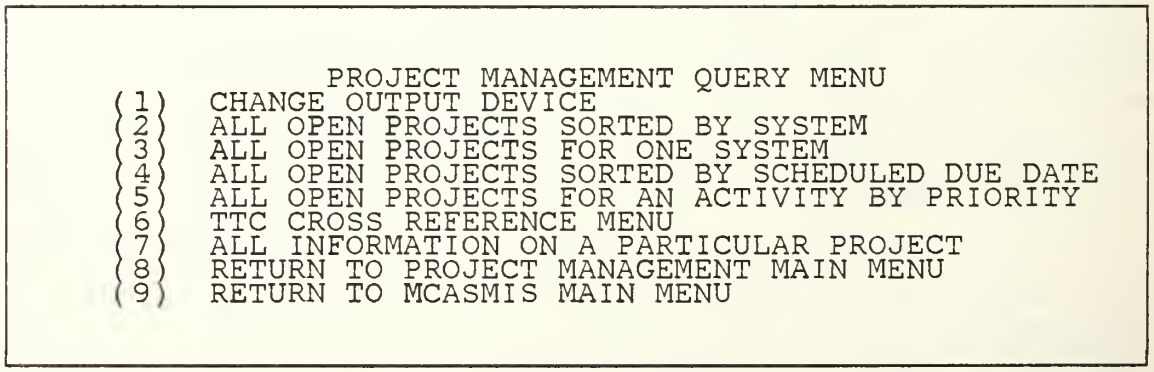

Figure C.13 Project Management Query Menu.

The following types of questions are answered by this subsystem.

a. Changing the output device.

This option works exactly the same as it does in the systems management subsystem.

b. In which systems is work being performed?

This option provides the overall picture of all open projects sorted by the system in which the work is being performed, and the priority assigned to that project. The scheduled due date of each project is also included and you can see at a glance which projects and which systems require additional attention.

c. What work is being done in my system?

This option provides the responsible analyst to get a listing of all open projects for that system sorted by priority.

d. Which projects are scheduled to be completed next?

All open projects are listed sorted by the scheduled due date. Projects that are overdue can be seen at a glance and given immediate attention.

e. What projects are being done at one activity?

You are prompted to input the activity abbreviation and are shown a listing of all open projects for that activity sorted by priority.

f. Which project(s) modified TTC 020?

This option could be invaluable for tracking down the cause of a production problem. Also available with this option is the answer to, "what TTCs were modified by a given project". You elect which criterion to set.

g. Selecting all information about a project.

You are prompted for the MPI project identification number and are then shown all information pertaining to that system on a labeled form. Any TTC or deliverable information connected with that project is also displayed.

h. Finished querying.

Option 8 returns control to the Project Management Main Menu.

i. Return to MCASMIS main menu.

Selection of this last option bypasses all intermediate menus and returns control directly to the main menu.

6. Project Management Reports.

Figure C.14 depicts the menu presented when the management reports option is selected from the Project Management Main Menu.

```
        PROJECT MANAGEMENT MANAGEMENT REPORTS
(1)  CHANGE OUTPUT DEVICE
(2)  OPEN PROJECTS THAT ARE OVERDUE OR DUE SOON
(3)  PROJECTS BY FUNCTIONAL OR ACTIVITY PROJECT OFFICER
(4)  LOG OF PROJECTS BY DATE OF MPI REQUEST
(5)  LOG OF DELIVERABLES FOR PROJECTS ON FILE
(6)  LOG OF PROJECTS BY SCHEDULED DUE DATE
(7)  TEST CYCLE STATUS REPORT
(8)  RETURN TO PROJECT MANAGEMENT MAIN MENU
(9)  RETURN TO MCASMIS MAIN MENU
```

Figure C.14 Project Management Management Reports.

Table XI provides a list of the reports that are generated at your request.

D. DATABASE MANAGEMENT

1. General

Most of the functions of the Database Management subsystem should be restricted to the system manager located at Headquarters, U.S. Marine Corps. Only option 1 should be used by all other users of the system. Future versions of the MCASMIS system will incorporate security to ensure that unauthorized users of these options do not jeopardize the integrity of the database.

TABLE XI

PROJECT MANAGEMENT REPORTS

1 - Enables you to change the output device to which the subsequent reports are routed.

2 - Provides a detailed report by system of all open projects including the priority and scheduled due date.

3 - Provides a list of projects under the cognizance of either a functional or activity project officer sorted by MPI ID number.

4 - Provides a detailed log of all MPI requests, with the most recent requests shown first.

5 - Provides a detailed listing of all deliverables on file, sorted by MPI project identification number.

6 - Provides a listing of all open projects, with the earliest scheduled due dates appearing first.

7 - Produces a test cycle status report sorted by activity project identifiers for use in tracking the quality control being performed by the development activity.

Unfortunately, because of the special configuration considerations involved with the distributed processing sites, this security cannot be added at the present, since these remote sites require the capabilities of option 1 to transmit their input data to HQMC for consolidation.

Figure C.15 shows the menu that is displayed to you when the database management option is selected from the main menu.

```
        DATABASE MANAGEMENT MAIN MENU
    (1) UNLOAD DATA TO SEND TO HQMC
    (2) MERGE DATA FROM DISTRIBUTED SITES
    (3) PACK DATABASE TO RECOVER UNUSED SPACE
    (4) ARCHIVE RECORDS
    (5) REMOVE ALL ARCHIVED RECORDS TO HISTORY
    (6) RETURN TO MCASMIS MAIN MENU
```

Figure C.15 Database Management Main Menu.

2. Unloading Data to Send to HQMC

This is normally the only option that should ever be selected by any user other than the system manager at HQMC. It enables you to unload all data pertaining to projects, including associated TTC and deliverable records, for subsequent transmittal to HQMC for consolidation. It is envisioned that this file will be small enough to allow rapid transmission over standard voice telephone lines from micro to micro. While 2400 baud modems will provide faster response, the current 1200 baud modems should be sufficient to accomplish this data transfer.

Of course, depending on the urgency of the need for updated data, the diskette containing this data could even be mailed if the situation so dictated.

You should first have a pre formatted diskette that does not contain any data already on it. You are presented with the prompt for which drive will contain the data that is to be unloaded. Only drives A and B are valid for this purpose. After properly answering this prompt, all of the data is automatically unloaded and you are returned to the MCASMIS Main Menu.

It is very important that no additional data be added at the remote site until the new database diskette is returned from HQMC. This manual coordination is required to keep the data synchronized because of the unique peculiarities of the configuration.

When the new diskette is returned from HQMC, you should load that diskette into either drive A or B, and from the MCASMIS directory, issue the DOS copy command with that drive. For example,

COPY A:MCMIS*.RBS

This command should be typed exactly as shown, including the asterisk, with only the drive designator allowed to change to be either A or B as appropriate.

3. Merging Data from Remote Sites at HQMC

The data that was unloaded by you at the remote site is in an ASCII file with embedded R:base 5000 commands that will allow merging this data into the MCASMIS database. If this data was transmitted over telephone lines, the receiver should give it a filename of "OUT#DATA". If the data diskette was received via mail, it will already have this filename.

The receiver simply places this diskette into either drive A or B, and answers the first question with that drive letter. A message is displayed telling you to standby while the data is input and all duplicate records are automatically deleted.

You should then insert an empty, formatted diskette into either drive A or B, and answer the next prompt for which drive should contain the data to be returned to the remote site. Then, the data is automatically reloaded, all space is recovered from the deleted records, and both the hard disk and the floppy diskette will contain the updated, complete database.

The floppy diskette will then be mailed to the remote site. You will use the DOS copy command to copy the new database at the remote site, and the system can then continue to be used. Control is returned to the Database Management Main Menu at the conclusion of this action.

4. Packing the Database

When records are deleted from the database, the space formerly occupied by those records is still not useable until the database is either packed or reloaded. Option 3 allows the system manager to recover this unuseable space. Drives A, B or C may be designated at the first prompt as the drive to be used for scratch files. After this prompt is correctly answered, every thing else is performed automatically by the MCASMIS system, and control is returned to the Database Management Main Menu.

5. Archiving Records

As the database gets too large, access times for all queries and other processing increases. Periodically, the system manager can select this option to archive those document and project records that are no longer current. For example, all development item documents for systems life cycle management need no longer be retained once the system has been implemented. Similarly, projects that have been completed can be archived periodically. Once archived, these records remain in the database in a different table, and will no longer be retrievable from the main MCASMIS system. They will, however, still be available to the system manager using the R:base programming language, or CLOUT.

After selecting this option, you are presented with another menu and given the opportunity to archive either documents or projects.

a. Archiving Documents

This option will archive all development item documents for a system that has been implemented. You are prompted for the system abbreviation, and the MCASMIS system does everything else. Upon completion, control is returned to the previous menu to archive additional records, or return to the Database Management Main Menu.

b. Archiving Projects

You are first prompted for a date. All projects that were completed prior to this date will be archived, and the rest will remain in the main MCASMIS system. It may be desireable to archive records by calendar year, by test cycle, monthly, or some other appropriate schedule.

While the archival of document records causes no problems, since all documents are input centrally at HQMC, project archival should be performed in close coordination with remote sites, since they also have to be archived at

those sites at the same time. Failure to do this will result in the projects returning to the database the next time data is transmitted to HQMC from those remote sites.

When a project record is archived, all associated TTC and deliverable data is also archived automatically. Only completed projects may be archived. Control is returned to the archival menu at the completion of this function.

6. Removing Archived Records to History

Archiving records simply moves them to another table within the MCASMIS database in order to increase the responsiveness of the MCASMIS system. No space on the disk is recovered by that action.

As disk space becomes a concern, those records that have been archived can be removed to a floppy diskette for permanent retention using option 5 of the Database Management Main Menu.

You may designate either drive A or B for this purpose. After inserting an empty, formatted diskette into one of these drives, the prompt is answered and the system takes over. Upon completion, you must then execute either option 2 or 3 from the Database Management Main Menu before that space will be recovered.

E. SUGGESTIONS AND COMMENTS

MCASMIS is a prototype system. The primary purpose of this project is to publish a functional model of a system for user perusal. While the system has been carefully checked for syntactical and logic errors, it cannot be assumed to be completely validated. Any errors that are discovered may be brought to the attention of the author.

Similarly, comments and suggestions concerning additions and deletions to this system are encouraged. It is only through this iterative process that an optimal system can be developed. Please forward all such comments to:

MAJ R. C. Cavallaro

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