AUTOMATED BOOK-KEEPING SYSTEM IN AN ORGANISATION

A CASE STUDY OF ARABI TRADING COMPANY LIMITED

BY

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PGD/MCS/97/461

DEPT. OF MATHEMATICS AND COMPUTER SCIENCE

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

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A PROJECT SUBMITTED TO THE DEPARTMENT OF MATHEMATICS/
STATISTIC/COMPUTER SCIENCE, FEDERAL UNIVERSITY OF
TECHNOLOGY MINNA, IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF POST GRADUATE DIPLOMA IN
COMPUTER SCIENCE.

CERTIFICATION

I certify that the project was carried by MAHMOUD .A. ARABI of the department

of mathematics/computer of the Federal University of Technology, Minna, Niger

State.

Dr. S. A. REJU

Project Supervisor   Date

Dr. S. A. REJU

Head of Department   Date

External Examiner   Date

DEDICATION

This project is dedicated to my parents, Mal & Mrs. G. Abubakar Arabi and to my

wonderful son, Walid Mahmoud Arabi.

ACKNOWLEDGEMENT

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ABSTRACT

This project is intended to develop a computerised book keeping system for Arabi Trading Company Limited to give the organisation a basis for proper financial planning and control. Presently the organisation maintains two bank accounts with the same bank. A single hard cover note book is maintained for each bank account and transactions relating or in involving an account is recorded in its corresponding book. This system wastes time in the correlation of data for budgeting and other management decision taking.

Based on the inherent problems of the existing system and amount of funds and transaction involved there is a need for fully automated systems to manage the funds better and provide a good management information system, to replace the existing one.

The project describes the overview of the existing system.

Due to the outcome of the study, a fully automated enhancement of the existing system will be designed. The specifications for the new system will comprise of the input and output forms; data based file designed and programs development. The system procedures and implementation stages will also be analysed.

In conclusion the application of the proposed system will among other advantages or benefits entrance speedy and easy management of information and records of the project forms.

CHAPTER ONE

1.1 GENERAL INTRODUCTION

The era of manual operations in business organisations is gradually being faced out and is now being replaced by computerisation.

Most businesses in general, regardless of its size type or purpose concerned with data processing or fact processing in its operation in order to provide accurate and reliable information to both organisation and the customers. The apparent versatility of the computer system evolved from the fact that so many tools can be expressed as a series of simple and logical steps. Sometimes we ask self-this question, why has the computer system been successfully applied to perform so many tasks and obtained an accurate and reliable output?.

It is therefore important to note that one of the areas that have benefited mostly from the expansion of computer technology is the area of businesses.

Businesses of course, uses computer for a variety of tasks or jobs which include payroll processing inventory control, account receivable and account payable, information management, personal information management etc. However, of all the various applications of computers in business environment the one that is examined here is the area of bookkeeping in Accounting.

Bookkeeping provides basic accounting data by systematically recording such day to day financial information such as revenue from sale of product or service, expenses of business operations such as the cost of merchandise sold, and overhead

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expenses such as rent, wages and so forth. This is probably due to the fact that major savings can be made in the area of clerical labour since many hands are always required in manual operation.

In recognition of the above fact this project gives a clear analysis of the step by step requirements on the computerisation of an accounting system in a consultancy company involved in contract projects, a case study of Arabi Trading Company Limited.

This company is however chosen as a case study because of it's on going project with Petroleum special Fund (PTF).

1.2 AIMS AND OBJECTIVES.

The main aim of this project is to develop an automated book keeping system for Arabi Trading Company Limited. This will enable the organisation have a more efficient and reliable accounting system that will meet its present and future requirement in terms of proper financial planning and control.

1.3 SCOPE OF STUDY.

Due to the vast nature of accounting only bookkeeping will be treated as it forms the basis for any good accounting system.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

Accounting is the compilation of financial information for use in making economic decisions.

Bookkeeping is the systematic recording of monetary value of business transactions in book of accounting. It is preliminary record keeping stage of accounting. Accounting principles determine which financial events and transaction should be recorded in the bookkeeper ledgers, journals and computer printouts. The analysis and interpretation of these records is the primary function of accounting.

The various financial statements produced by accountants then furnish business and other types of organisation with the basis for their financial planning and control, and provide other interested parties (investors, the governments) with information they can use to make decisions.

2.2 DEVELOPMENT OF ACCOUNTING

Historians generally credit the 4th century Italians merchants with developing the practice of double-entry book keeping, which is the basis for modern-day accounting. The method was invented when investor sought a way of recording the financial aspects of ventures that might last for months or even years, and in which many investors had bought shares.

The Italians systems resembled its modern counterpart, the balance sheet had two sections, one listed assets and the effect of sales purchases and investments on

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assets; the other recorded shares and shareholders along with other liabilities incurred.
Thus, owners who had bought shares from the original shareholders or who had
inherited the shares could claims their portion of the profits when and if the ventures
succeeded.

Modern accounting had developed in response to changes in the legal
structure of companies, as well as to rising public demand for accurate financial
report, and to government regulations of the changes in the legal structures of
business. The development of the corporation has probably had the greatest impact
because it allowed public security of accounting records. Under earlier systems of
ownership, the sole proprietorship and the partnership public security was almost
unheard of. The rise of the multinational corporation has also increased accounting
responsibilities, for it requires foreign currency transactions reporting under a variety
of legal environments, and the adjustments of ownership and income reporting to
achieve the least costly payments within many different systems of taxes, tariffs and
other government controls.

Finally, the extraordinary increase in the number and kinds of financial
instruments that was taking place since the mid-1970's has multiplied the work
required of accounting.

2.3 FUNCTIONS OF ACCOUNTING

Accounting provides informational access to the firms financial condition for
three broad interest groups enumerated below.

(I)   It gives the firms management the information to evaluate financial

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performance over a previous period of time and to make decisions regarding the future.

(ii) It informs the general public and particularly the firms' stockholders or those interested in buying its stock about the financial status of the firm over the previous quarter or years.

(iii) It provides reports for the tax and regulatory department of the various level of governments. Accountant also performs many of the same functions for agencies of the government, non-profitable organisation and other entities.

2.4 BOOKKEEPING- THE DOUBLE ENTRY SYSTEM

Book keeping is the systematic recording of the monetary value of business transactions in a book of accounts. It is the preliminary record keeping stage of accounting.

The double entry system of book keeping enables a business to know at anytime the value of each item that is owned, how much of this value is owned to creditors and how much belongs to the business clear of debt. It also indicates the portion of this debt free ownership that is the result of the original investment in the company and the portion accruing from profits. One advantage of the double entry system is that its information is so nearly complete that it can be used as the basis for a making business decisions.

Another advantage is that errors are readily detected, since the system is based on two questions that must always balance.

THE COMPUTER

Computers were originally invented to take the rigour out of arithmetic calculations. They come into being initially as an aid to man arithmetic operation. Today, the major use of computers in most part of the world is in data process. All calculations, analysis and classifications of data done manually are now done by computers. This is because of the great advantage of speed, accuracy and cheapness with those machines have over manual and mental data processing methods. Therefore the basic functions of every computer system are input storage, control process and output which determined by the variety of programs designed largely to assist users to run jobs and to optimize systems performance.

From the foregoing analysis a computerised accounting system is expected to provide management with accurate data to evaluate costs, practice budgetary planning and review employee and executive performance. In addition the system must have checks and controls that will prevent or at most reduce fraudulent practices. More importantly a computerised accounting system of a company should allow for efficient and effective use of the computer system in such a way that all necessary book keeping activities are performed without wasting much time.

2.6 BRIEF HISTORY OF ARABI TRADING COMPANY LTD

Arabi Trading company limited was incorporated in 1976. It is a multi professional Nigerian company with international affiliations, connections and facilities. The company is designed to provide our clients with complete and comprehensive services from the feasibility stage through project design and

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evaluation to the implementation and management of projects for government

corporate industrial or commercial development.

2.7 ORGANISATION STRUCTURE (IN RELATION TO PTF PROJECTS)

ADMINISTRATIVE.

```
                    Executive Chairman
        ┌──────────────────┴──────────────────┐
        ▼                                      ▼
Executive Director                    Executive Director
(Admin/Finance)                         (Operations)
        │
        ▼
   ┌────────────────────┐
   │                    │
General Manager    Asst. Gen. Manager
  (Admin)             (Finance)
   │
   ▼
Project Manager
   │
   │
Office Staffs
```
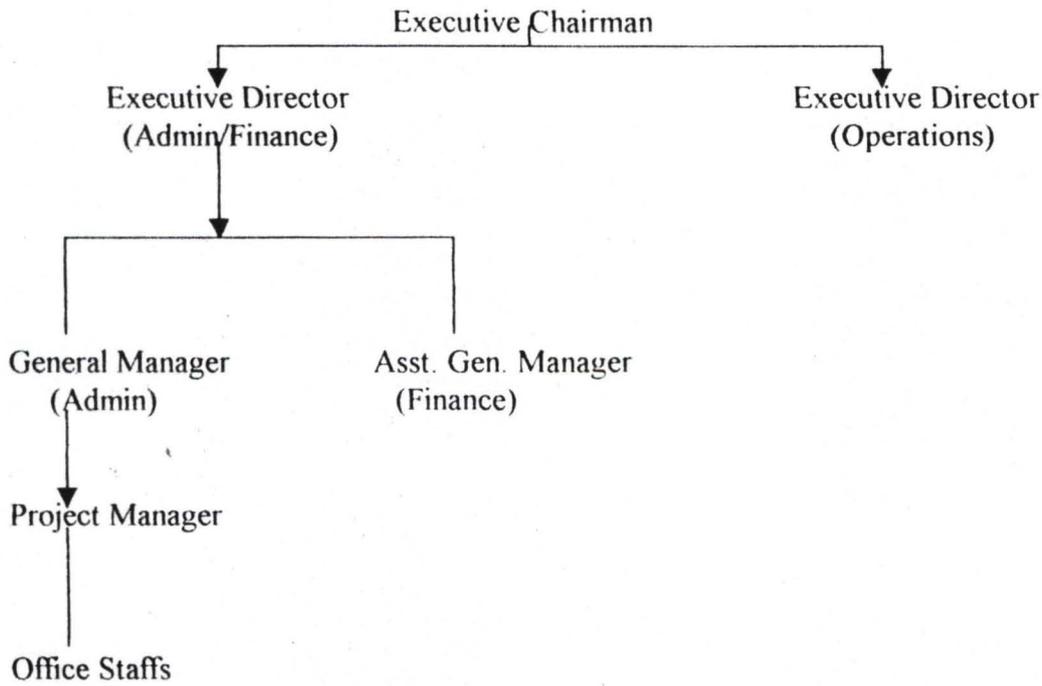
TECHNICAL

Executive Chairman

Executive Director
(Admin/Finance)

Executive Director
(Operations)

Gen Manager
(admin)

Asst Gen Manager
(Finance)

Chief Pharmacist

Project Manager
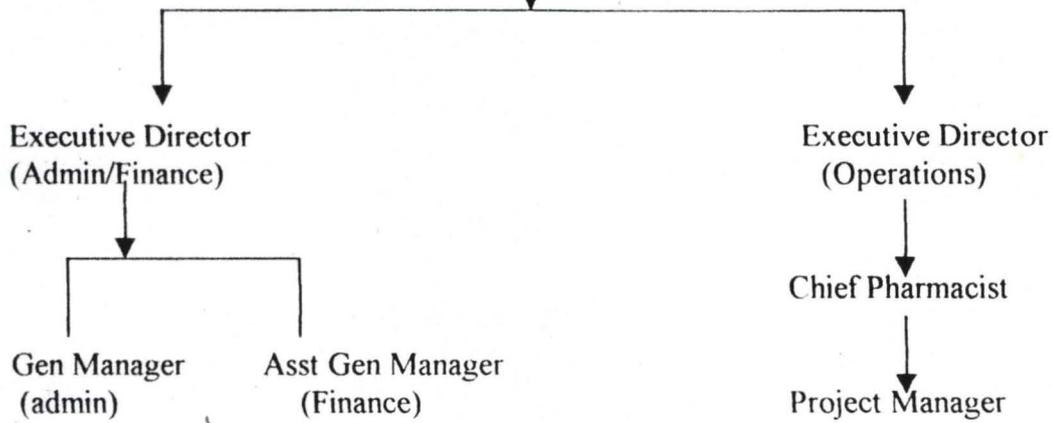
CHAPTER THREE

3.1 SYSTEMS ANALYSIS AND DESIGN

This is the process in which information on the existing system is collected, analysed and transformed into physical and logical designs of the new or improved system.

This is however, the aim of this chapter. Given this fact, the design of the proposed automated book keeping system of Bani Nigeria Limited will be based on information gathered on the existing system and suggestions made for improvement. It is designed in such a way as basic accounting entries to the cash book and the generations of reports are performed as effective as possible as in accordance with the need of the users.

In essence, this chapter will consider the system analysis aspect while the next chapter will deal with the logical design of the proposed system, which will contain design specification of the system.

3.2 FEASIBILITY STUDY

Computers were invented originally to take the rigour of arithmetic calculations. They come into being initially as an aid to human arithmetic operation. Today, the major use of computers in most part of the world is in data process. Computers now do all calculations, analysis and classifications of data done manually. This is because of the great advantage of speed, accuracy and cheapness with which those machines have over manual and mental data processing methods.

Therefore, we can use computer for the recording, classification and analysis

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of our business transactions such that at any moment in time, we can produce all the accounting records in a more timely and accurate form.

The use of computer as the heart of a data processing activity now described as electric data processing (EDP) or automatic data processing (ADP) turns what was originally a single machine into multi- machine system.

In the last decade, there has been great expansion of use of computer in most business organisation of all types in Nigeria in particular and the world in general. But this expansion has so far produced very little published materials on computerisation generally as against what is available on other fields like transportation, medicine, accounting, engineering etc. Some writers said a lot on Computerisation of business industries.

In 1979, John Shalby and Roger Hunt (1984) made an attempt to put in a book some facts on computer and society with some emphasis on commercial industry. In their book, computer studies, a first course, they dedicated so many chapters to computers and society and the commercial industry. According to them, major technological innovations have a habit of affecting the lives of individuals. A society is composed of individuals and there is tendency to use this somewhat impersonal term "society" when really we mean ourselves and our families, and friends. On balance, technology has helped the human race to become the superior member of the animal kingdom, and as a result, we have attained a more "comfortable" and higher form of existence than other members have. A classic example is the wheel which allowed heavy goods to be transported more easily and

quickly and, when the superior pulley power of oxen or a horse was enlisted with far less efforts for humans.

In system development, feasibility study is an important stage since it involves the process of gathering and interpreting facts in order to evolve a proper understanding of a system so as to diagnose the problems associated with it. The outcome of the analysis is used to determine what must be done to solve the problem that could emanate from the system.

However, in an attempt to analyse the present system of fund, management (book keeping) by the company -bara Nig Ltd, an investigation was carried out in order to determine how the efficiency of the existing system could be enhanced. Given this objective, the investigation was carried out in collaboration with the users of the existing system.

3. 3 DESCRIPTION OF EXISTING SYSTEM.

Arabi Trading Company Nig Ltd had no conventional accounting system before going into contract agreement with the Petroleum Special Trust Fund. As such a method of book keeping had to be developed to ensure proper accountability of its project funds.

The system consists of two cash books, one representing revenue and the other operational expenses. The system is manually operated; as such processing of financial reports is very difficult due to large number of transactions that have to be sorted before a report can be produced. The users of the existing system simply and just post transactions to their respective cash books and up date the balances of the

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cash book.

3.4 METHODS OF INVESTGATION.

Specifically the methods adopted in gathering information on the existing system and other considerations are stated below: -

(a) OBSERVATION: - This is by direct study of the operations of the existing system.

(b) RECORD INTERVIEW: - Written information such as forms and reports used in the operations of the system were reviewed and analysed.

(c) INTERVIEWING - This was used mainly to confirm some information gathered using the above methods. It was also used to obtain information or suggestion that can be considered relevant to the proposed system.

3.5 OBSERVATIONS ON THE EXISTING SYSTEM.

While analyzing the existing system the following problems were identified:

1. Reports necessary for financial planning and control take very long to produce and sometimes full of errors, this affecting management decision on budget and investment.

2. Bank reconciliation statements take longer than necessary to be produced. This is due to errors in calculation when reconciling bank and cash statements.

3. Due to large number of transactions being recorded in the cash book there are a lot of sorting and manual calculations to be done before a simple income and expenditure report can be generated. This is sometimes full of errors due to wrong calculation.

4. With the existing system, it is difficult to make an on the spot assessment of ledger postings thus putting limitations on budget control.

In views of the problems and shortcomings of the existing system it is therefore important that a fully automated method of the existing system be put in place to improve the performance and correct the problem of the existing system. This is to enable the new system meets future requirements of the company.

3.6 COST, BENEFIT ANALYSIS.

COST

A)   Development cost

1)   Systems analysis and Design for 4 weeks

     At #4000.00 per week   #16,000.00

2)   Software Development for 3 weeks   #9000.00

3)   Equipment purchases

     (Computer system required for the proposed system is Already available) NIL

4)   Installation (all have been already installed)   NIL

5)   Personal training for 4 weeks   #12,000.00

B)   Operating cost

1)   Supplies #2000.00 for one year   #24,000.00

2)   Equipment Maintenance (No extra cost will be incurred As a

     result of maintenance since existing computer systems Will be

     used for the proposed new system)   NIL

3)   Program / Software   #25,000.00

4)   Operating system

     (No extra cost will be incurred. This is because the operating

     System available with the computer system is compatible with

     The software being used for the proposed system).   NIL

5)   Labour Cost

     (No extra cost. The company has in its employment computer Operators that

     can be trained to use the proposed new system)   NIL

                                TOTAL   =   #86,000.00

CHAPTER FOUR

4.1 THE DESIGN OF THE PROPOSED SYSTEM

This chapter deals with the transformation of information gathered in the system analysis stage into logical and physical designs of the new or improved system; it describes the features of the system in terms of output, input, files and procedures. The later part of the chapter states the physical construction of the system. It contains the program software that would be used to achieve the physical design of the specifications.

4.2 OUTPUT SPECIFICATION

Output refers to the results and information that are generated by a system. The output from a computer system is required primarily to communicate the results of processing to users or other system or more importantly, to provide a permanent (hard) copy of these of this result for consultation. The design process of the output begins by the identification of the output the system must produce.

It is as a result of this that in designing output for the proposed system, the needs of the users were fully considered specifically, the output of the proposed system is designed to generate three (3) types of report viz:

Income and expenditure reports, transaction reports and statement of accounts.

4.3 INPUT SPECIFICATION

Having considered the output that needs to be generated by the proposed

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system there is the need to design the input, which will bring about the output.

Input refers to the mode of entering data into a system. The consideration for input designs is very important because it serves as the point of most contact for the users with the system and it is prone to errors. Based on this, the input design should be made to attain the following objectives:

(I) To produce a cost effective method of input

(ii) To achieve the highest level of accuracy

(iii) To ensure that the input is acceptable and understood by the users.

Basically, the above objectives were considered in designing the input for the proposed system, which is mainly in an interactive method. This is done through dialoging with an online system in which the computer system prompts you for entry. In data entry, the coding method, in which conditions, words, ideals or relationships are expressed by a code are developed to reduce input task, control errors and speed the entails process. Therefore, with code fewer details are necessary for input without loss of information. In addition, the input is designed to reject non-existing codes and in appropriate data entered. This is further accompanied by a message, which gives instruction to the user.

However, the input data into the system is the transaction data, which is contained in a source document called voucher. For instance, when a transaction takes place, the details of such transaction be it transfer of funds or expenditure transactions are entered into the source document and based on the entries on this document, the user will key in the data into the system.

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The format of the source document is hereby attached.

4.4 FILE DESIGN

The design of the files defines the description of all the files that are used and their structures. Therefore, all the files that are used in this system are fully described in this section.

The proposed computerised system for Arabi Trading company Limited consists mainly of two master files.

The description of contents and structure of each of the database files being used are as follows:

MTFL DBF (Master file 1): This file contains details of Bank accounts operated and there current cashbook balances.

FIELD NAME	FIELD DESCRIPTION	TYPE	WIDTH
1.Acct-code	Acct-code	Character	2
2.Date	Date A/C Opened	date	8
3.File	Account Name	Character	10
4.In-Balance	Opening balance	Numeric	10
5.CR-Balance	Current balance	Numeric	10

STFL.DBF (Master file2).

This keeps records of all transactions

| S/No	FIELD NAME	FIELD DESCRIPTION	TYPE	WIDTH
1.	Date	Date of transaction	Date	8
2.	Cheque Number	Cheque Number	Character	6
3.	Bank	Transaction bank	Character	7
4.	Amount	Transaction Amount	Numeric	10
5.	Voucher No.	Voucher No	Character	3
6.	Remark	Transaction Remark	Character	24
7.	Code	Account code	Character	2
8.	S/No.	Transaction Serial No	Numeric	3
9.	Transaction code	Transaction code	Character	2

MSTFL .DBF: - This contains sorted data from the statement file for inquiry purposes.

S.No	FIELD NAME	FIELD DESCRIPTION	TYPE	WIDTH
1.	Date	Date of transaction	Character	2
2.	Chq-No.	Cheque Number	Character	6
3.	Amount	Transaction Amount	Numeric	16
4.	Code	Account Code	Character	2
5.	Balance	Cash book balance	Numeric	14
6.	Remark	Remark	Character	24
7.	Tran.Code	Transaction Code	Character	10

Print file: - Prin. TXT: - This holds data for editing before printing. It is a text file.

4.5 DESCRIPTION OF SYSTEMS PROCEDURES

The input data is the data contained on the transaction vouchers which are posted into the transaction file, this provides input for the updating of the master files.
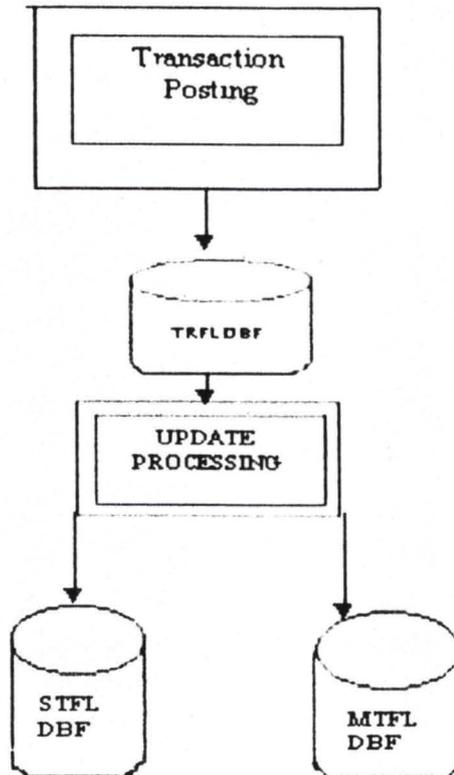
After transactions have been posted and the master files which contains the current balance and the statement file which contains records of transaction are updated. There will be need for reports to be generated periodically.

Reports to be generated periodically are extracted from the statement file STFL .DBF. This is represented by the systems flow chart below.
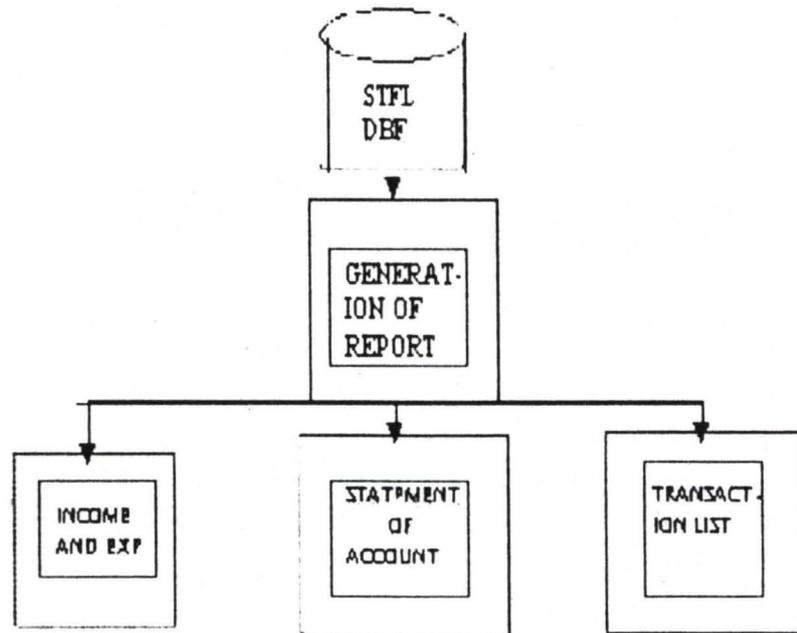
However, the procedures of the proposed system will be completely menu based where an interactive user could accomplish a task by selecting the menu.

4.6 THE PHYSICAL DESIGN OF THE SYSTEM

This section deals with the physical construction of the logical design described above. It has to do with program specification for output, input, files and processing into computer software. The designing of the computer software is important to ensure that the actual programs produced perform all the tasks intended and to allow for future modification to be performed in an efficient manner and with minimum destruction to the design of the system. Therefore, the documentation of the specification is specified in the appendix.

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4.7 SYSTEM IMPLEMENTATION

After the physical system has been designed, the next stage is to turn the design into a working system and then to monitor the operation of the system to ensure that it is working efficiently and effectively.

Therefore, system implementation is the stage of system development when the conception requirement of the new system and the overall objectives are to be transformed into physical reality. This stage is very important because it is most crucial stage in achieving a successful new system and in giving the users confidence that the new system will work and be effective.

Below are the output screens:
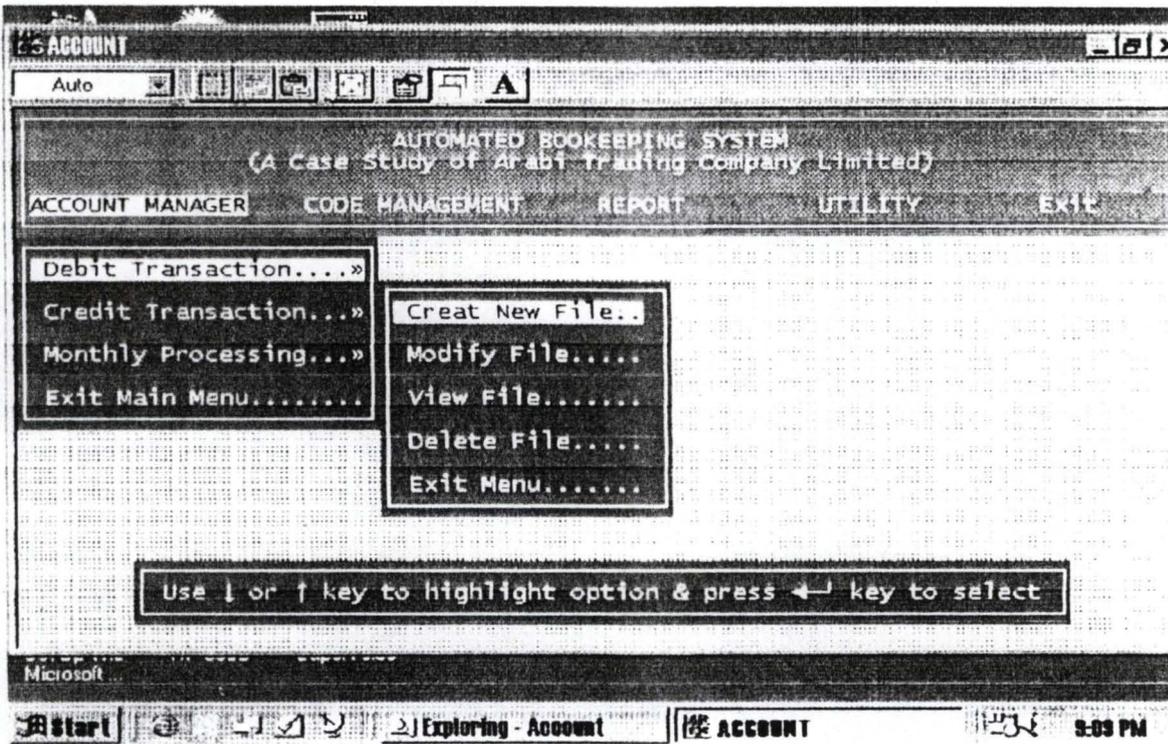

Figure 1: Debit Transaction Submenus
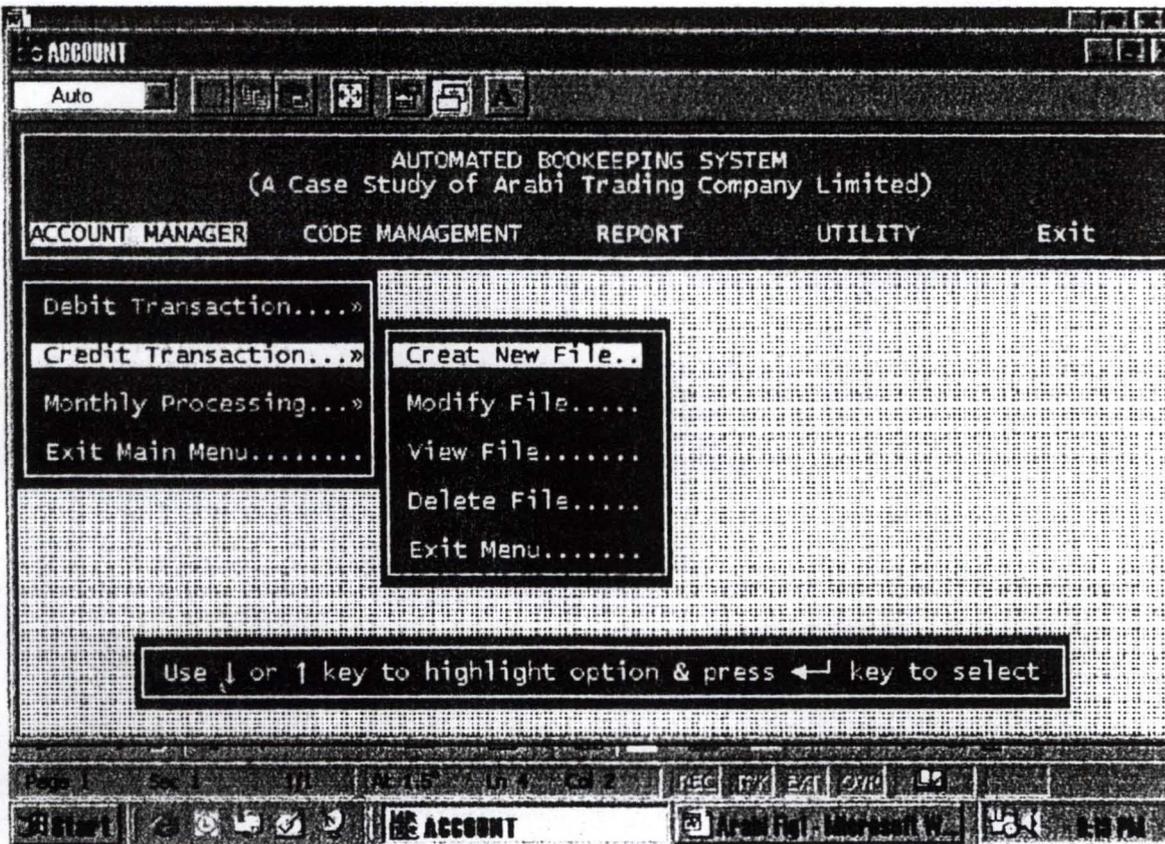
**Figure** 2: Credit Transaction Submenus
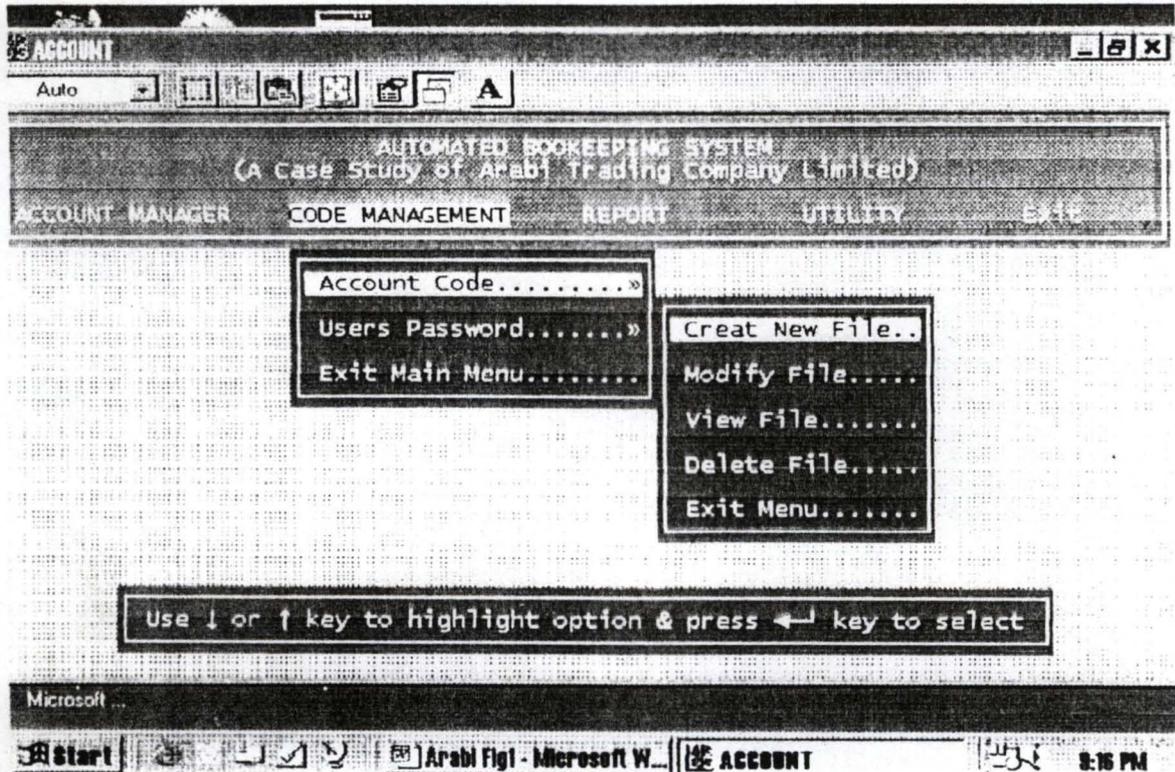
Figure 3: Account Code Submenus
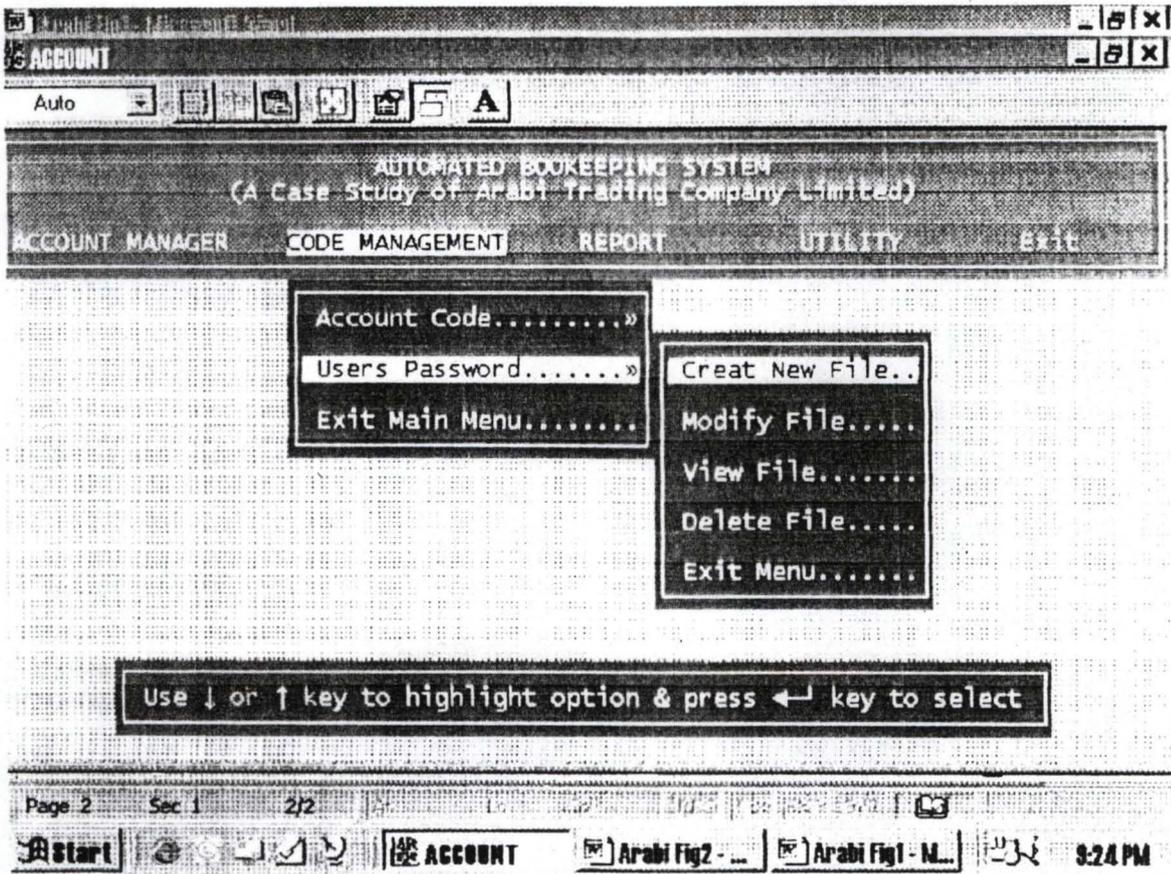
Figure 4: Users' Password Submenus
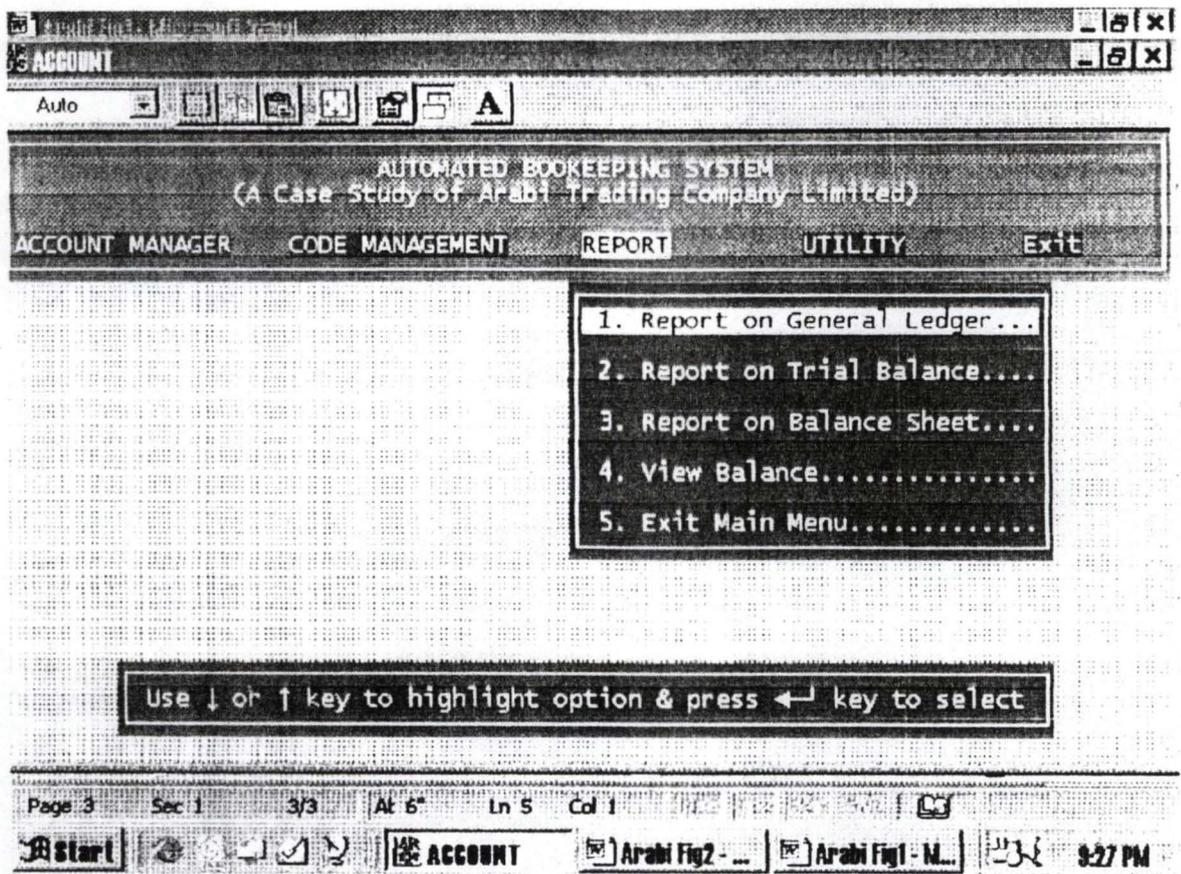
Figure 5: Report Menu Options
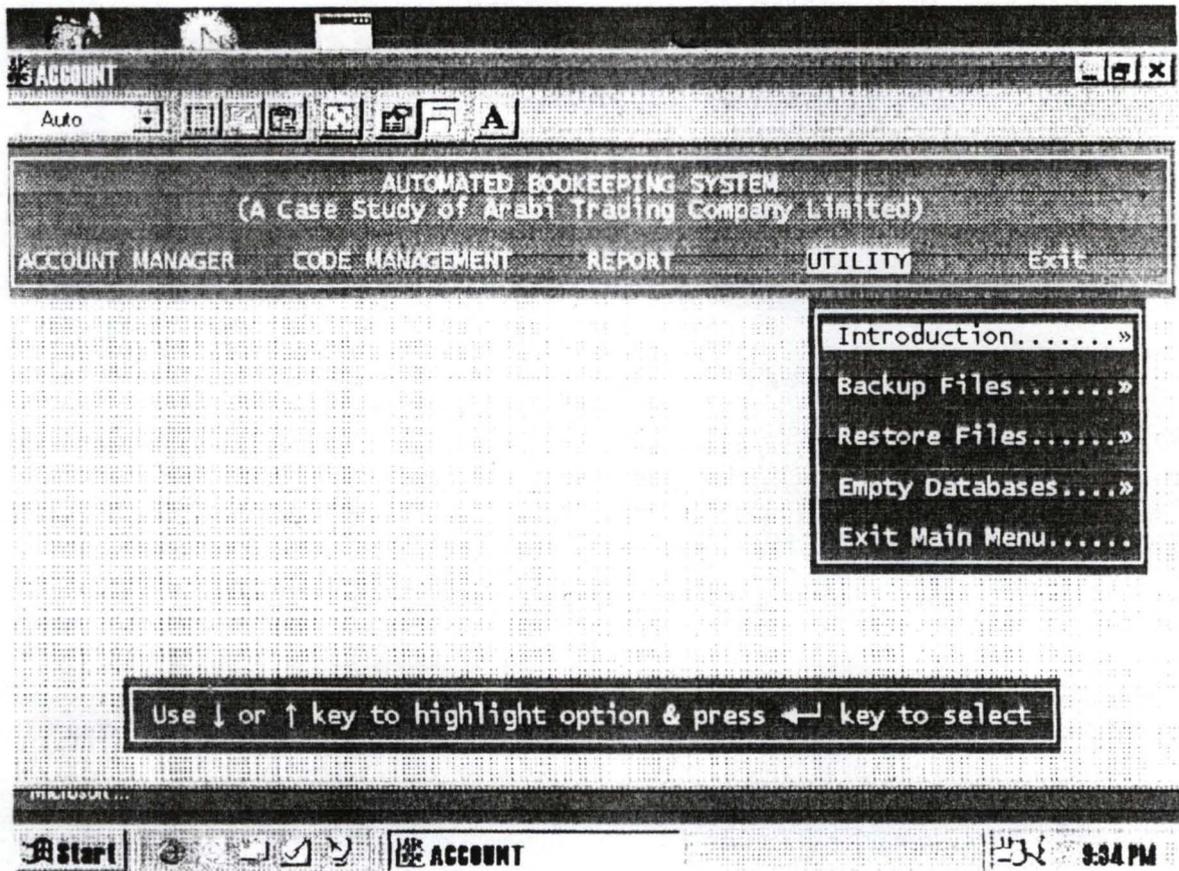
Figure 6: Utility Menu Options

CHAPTER FIVE

5.1 SYSTEM REQUIREMENTS

The system requirement has to do with the computer configuration needed for the new system. A computer configuration is a collection of hardware that forms a complete computer system. The selection the computer configuration is done to suite both the current and foreseeable future needs of the organisation with respect to the volume and types of data to be processed.

However, with this newly developed system, a computer with high speed and large memory capacity is require even though the software used to write the program for the new system i.e. has facility for memory management.

Arabi Trading Company Ltd. has a complete system, which has a Pentium processor, 1007MHZ processing speed and 1.2GB of disk space. Windows '95 operating system. It also has an UPS (uninterrupted power supply) and 5L laser jet printer, which is more than adequate to run the new system.

In summary, a computer with the above mentioned specifications but not necessarily Windows '95 as operating system, a DOS operating system can also be used to run the program efficiently and effectively. Diskettes are also required for backup purposes.

5.2 SYSTEM CONVERSION

Having confirmed above that the new system is working efficiently, there is need to carry out file setup, file conversion and change over. These are done to aid the transformation of the existing system to the newly developed one.

Since the files have not been used before data was keyed in newly from the cashbook, the data was later printed and every single entry was cross checked from the cashbook to ensure that the right data was keyed in.

However, system conversion is not completed until the actual change over from the existing system to the new system takes place. Change over is the stage of moving over from the old system to the newly developed one. The change over may be achieved in a number of ways VIZ: Direct change over, parallel running, pilot running and staged change over.

Given the four changes over method above, parallel running is chosen for this system. This implies processing the current data by both the old and the new systems. Its main attraction is that the old system is kept alive and operational until the new system has been proved for at least one system cycle using life data in the real operational environments of place, people, equipment and time. In addition, its gives and opportunity of comparing the result of the new system with the existing one before acceptance by the users thereby promoting users confidence.

5.3 CONCLUSION AND RECOMMENDATION

The continued substitution of computer based systems for manual procedures have in modern days, become worldwide affairs. This is due to its relevant in virtually all aspect of human endeavour. This interest is intensified by the capability of computers in performing a given set of procedure with all the necessary accuracy. It is no subjected to committing error and its ability to accomplish any task makes it applicable in the present time.

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However, it would be accepted that a computer procedure needs to be in a way to achieve the benefit of computer usage in terms of speed, full automation of procedure avoid constant problems, ensure data security and so on. It is recognition of their fact that a newly design fully automated computerised accounting system for the management of Arabi Trading Company Ltd. is recommended.

Specifically, Arabi Trading Company Limited derives the following benefits from the newly design system:

(I) Enhances the operation of the accounting department of Arabi Trading Co. Ltd.

(II) Timely generation of necessary report.

(III) Maintenance of data security.

(IV) Generation of a wider variety of reports that could not be generated with the old system.

(V) Provisions of automated procedures especially in terms of computation that is required during data entry.

(vi) Errors can easily be detected during bank reconciliation.

Given the above benefits of the newly design system, and the availability of the system requirement i.e. the hardware, the system conversion can commence as soon as possible. In addition, the intending user of this new system needs to be trained for about two (2) weeks on the usage of the system.

Conclusively the pursuance of the installation of this newly designed system needs to be absolute as all the procedures have been tested and confirmed efficient. Therefore, Its application in the accounting department of Arabi Trading company

Limited will meet both the present and future needs of the accounting activities of the organisation.

```
\Set Talk off
Set Echo off
Set Bell off
Set Stat off
Set Scor off
Set Safe off
Set Conf off
Set Esca off
Set Wrap on
set proc to clap
set century on
Set date to brit
private sc_hpop  // Saves horizontal popup
clear
*do floor
*do warn
do xpublic
do initial
x = inkey (2)
Set color to w+/br, ,
*do lftcarpet
*do lc1
do lc2
@ 00,00 clear to 05,79
@ 00,00 to 05,79 color "w+/r"
cbn1="AUTOMATED BOOKEEPING SYSTEM"
cbn2="(A Case Study of Arabi Trading Company Limited)"
@ 01,(80-len(cbn1))/2 say cbn1
@ 02,(80-len(cbn2))/2 say cbn2

Do while .t.
@21,08 clea to 23,71
@21,08 to 23,71
@22,10 say 'Use '+chr(25)+' or '+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217) +' key to select'
@ 04,01 prompt "ACCOUNT MANAGER"
@ 04,20 prompt "CODE MANAGEMENT"
@ 04,40 prompt "REPORT"
@ 04,55 prompt "UTILITY"
@ 04,70 prompt "Exit"
menu to ch1
ave screen to sc_hpop
o case
case ch1 = 1
    do AM
case ch1 = 2
    do CM
case ch1 = 3
    do REPorter
case ch1 = 4
    do UTY
othe
```

```
        exit
Endcase
Restore Screen from sc_hpop
Enddo
clear
@23,01 say "Bookkeeping Software, Undergoes Normal Shut Down...!!!"
?
?
Return
*/-----------------------Menu Choice for Credit Scheme------------------------
Procedure AM
private sc_vpop
Do while .t.
Set color to w+/b
@ 06,00 clear to 14,24
@ 06,00 to 14,24

@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use '+chr(25)+' or '+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217) +' key to select'
@ 07,1 prompt " Debit Transaction....»"
@ 09,1 prompt " Credit Transaction...»"
@ 11,1 prompt " Monthly Processing...»"
@ 13,1 prompt " Exit Main Menu........"

menu to fchoice
Save screen to sc_vpop
Do case
  CASE fchoice = 0
    loop
  case fchoice = 1
    do debit
  case fchoice = 2
    do credit
  case fchoice = 3
    do process
  othe
    exit
Endcase
clea
Restore Screen from sc_vpop
Enddo
Return

/-------------------------------Procedure Loan Request-----------------------
Procedure debit
Do while .t.
et color to w+/b
@ 08,25 clear to 18,44
@ 08,25 to 18,44
```

```
       case bchoice = 2
          do mcredit
       case bchoice = 3
          do vcredit
       case bchoice = 4
          do dcredit
       case bchoice = 0
          loop
       other
          exit
  Endcase
  clea
  Restore Screen
  Enddo
  Return


*/-----------------------Menu Choice for Code Management----------------------
Procedure CM
private sc_vpop
Do while .t.
Set color to w+/b
@ 06,20 clear to 12,44
@ 06,20 to 12,44

@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use '+chr(25)+' or '+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217) +' key to select'
@ 07,21 prompt " Account Code.........»"
@ 09,21 prompt " Users Password.......»"
@ 11,21 prompt " Exit Main Menu........"

menu to fchoice
Save screen to sc_vpop
Do case
   CASE fchoice = 0
      loop
   case fchoice = 1
      do coder
   case fchoice = 2
      do users
   othe
      exit
Endcase
clea
Restore Screen from sc_vpop
Enddo
Return


*/-----------------------Menu Choice for Table Files----------------------
Procedure coder
Do while .t.
```

```
Set color to w+/b

@ 08,45 clear to 18,63
@ 08,45 to 18,63

@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use '+chr(25)+' or '+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217) +' key to select'
@ 09,46 prompt " Creat New File.."
@ 11,46 prompt " Modify File....."
@ 13,46 prompt " View File......."
@ 15,46 prompt " Delete File....."
@ 17,46 prompt " Exit Menu......."

menu to tchoice
Save screen
Do case
  case tchoice = 1
    do ccoder
  case tchoice = 2
    do mcoder
  case tchoice = 3
    do vcoder
  case tchoice = 4
    do dcoder
  case tchoice = 0
    loop
  other
    exit
Endcase
Restore Screen
Enddo
Return

*/----------------------Menu Choice for Table Files----------------------
Procedure users
Do while .t.
Set color to w+/b

@ 08,45 clear to 18,63
@ 08,45 to 18,63

@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use '+chr(25)+' or '+chr(24)+' key to highlight option & press
+chr(17)+chr(196)+chr(217) +' key to select'
@ 09,46 prompt " Creat New File.."
@ 11,46 prompt " Modify File....."
@ 13,46 prompt " View File......."
@ 15,46 prompt " Delete File....."
@ 17,46 prompt " Exit Menu......."
```

```
menu to tchoice
Save screen
Do case
  case tchoice = 1
     do cusers
  case tchoice = 2
     do musers
  case tchoice = 3
     do vusers
  case tchoice = 4
     do dusers
  case tchoice = 0
     loop
  other
     exit
Endcase
Restore Screen
Enddo
Return


*/----------------------Menu Choice for Report Program-----------------------
Procedure reporter
private sc_vpop
Do while .t.
Set color to w+/b
@ 06,39 clear to 16,71
@ 06,39 to 16,71


@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use '+chr(25)+' or '+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217) +' key to select'

@ 07,40 prompt " 1. Report on General Ledger..."
@ 09,40 prompt " 2. Report on Trial Balance...."
@ 11,40 prompt " 3. Report on Balance Sheet...."
@ 13,40 prompt " 4. View Balance..............."
@ 15,40 prompt " 5. Exit Main Menu............."

menu to fchoice
Save screen to sc_vpop
Do case
  CASE fchoice = 0
     loop
  case fchoice = 1
     do rep1
  case fchoice = 2
     do rep2
  case fchoice = 3
     do rep3
  case fchoice = 4
```

```
        do rep4
    othe
        exit
Endcase
clea
Restore Screen from sc_vpop
Enddo
Return
*/------------------------Menu Choice for manager------------------------
Procedure UTY
private sc_vpop
Do while .t.
Set color to w+/b
@ 06,55 clear to 16,77
@ 06,55 to 16,77

@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use '+chr(25)+' or '+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217) +' key to select'
@ 07,56 prompt " Introduction.......»"
@ 09,56 prompt " Backup Files.......»"
@ 11,56 prompt " Restore Files......»"
@ 13,56 prompt " Empty Databases....»"
@ 15,56 prompt " Exit Main Menu......"

menu to fchoice
Save screen to sc_vpop
Do case
    CASE fchoice = 0
        loop
    case fchoice = 1
        !attrib +r intro.txt
        !edit intro.txt
    case fchoice = 2
        do bf
    case fchoice = 3
        do RFile
    case fchoice = 4
        do empty
    othe
        exit
Endcase
clea
Restore Screen from sc_vpop
Enddo
Return
*----------------------------- PROCEDURE EMPTY.PRG ---------------------------------
proc empty
@21,08 clear to 23,71
@21,08 to 23,71
do while .t.
```

```
    x=inkey()
    if upper (chr(x)) $ "DRA"
      exit
    endif
      x=0
    enddo
    if upper (chr(x)) $ "R"
      @08+i,03 clea to 19,77
      @22,02 clea to 23,77
      fb="ENTER ACCOUNT CODE or Press Enter Key on Code to Exit"
      @23,02 clea to 23,77
      @23,(80-len(fb))/2 say fb
      loop
    endif
    if upper (chr(x)) $ "A"
      clear
      close all
      return
    endif
    Dele
    Pack
    i=i+2
    @22,02 clea to 23,77
    loop
     Else
    I=1
Endif
Enddo
retu
*----------------------------------- EOF----------------------------------------
*----------------------------- PROCEDURE cusers.prg -----------------------------
proc cusers
clear
set color to w+/b
set proc to header
do head
subh="Registration of New Passwords Users"
@05,(80-len(subh))/2 say subh

 use password
 index on usercode to usercode

 @07,03 say "REG. DATE"
 @07,14 say "REG. TIME"
 @07,27 say "USER'S CODE"
 @07,43 say "USER'S NAME"
 I = 1
Do while .t.
   *----------------------- Initialization of Variables-------------------
  xregdate=dtoc(date())
  xregtime=time()
  xusercode=space(05)
```

```
xusername=space(30)
1 < 10
    @ 08+I,03 get xregdate pict "99/99/9999"
    @ 08+I,14 get xregtime pict "99:99:99"
    clear gets
  do while .t.
    fb="ENTER USER'S CODE or Press Enter Key on User's Code to Exit"
    @23,02 clea to 23,77
    @23,(80-len(fb))/2 say fb
    @ 08+I,29 get xusercode pict "99999"
    read
    if xusercode=space(05)
      clear
      close all
      return
    endif
    go top
    seek xusercode
    if found()
      fb="USER'S CODE ALREADY EXIST, Press Any Key To Retry"
      @23,02 clea to 23,77
      @23,(80-len(fb))/2 say fb
      set cons off
      wait " "
      @23,02 clea to 23,77
      xusercode=space(05)
      loop
    endif
    exit
  enddo
  do while .t.
    @ 08+I,43 get xusername pict "@!"
    read
    if xusername=space(30)
      @23,02 clea to 23,77
      fb="USER'S NAME CANNOT BE EMPTY, Press Any Key To Retry"
      @23,(80-len(fb))/2 say fb
      set cons off
      wait " "
      @23,02 clea to 23,77
      loop
    endif
    exit
  enddo

  @22,02 clea to 23,77
  set proc to saver
  do boye
    x=0
    do while x=0
     x=inkey()
     if upper (chr(x)) $ "SRA"
```

```
         exit
      endif
        x=0
      enddo
     if upper (chr(x)) $ "R"
        @08+i,03 clea to 19,77
        @22,02 clea to 23,77
        fb="ENTER USER'S CODE or Press Enter Key on Code to Exit"
        @23,02 clea to 23,77
        @23,(80-len(fb))/2 say fb
        loop
      endif
     if upper (chr(x)) $ "A"
        clear
        close all
        return
      endif
     appen blank
     repl regdate   with ctod(xregdate)
     repl regtime   with xregtime
     repl usercode  with xusercode
     repl username  with xusername
     i =i+2
       @22,02 clea to 23,77
       loop
       Else
      I=1
.ndif
.nddo
etu
----------------------------------- EOF------------------------------------
------------------------------ PROCEDURE musers.prg ---------------------------------
)roc musers
:lear
;et color to w+/b
;et proc to header
Jo head
;ubh="Modification of Registered User's Password"
@05,(80-len(subh))/2 say subh

 use password
 index on usercode to usercode

 @07,03 say "REG. DATE"
 @07,14 say "REG. TIME"
 @07,27 say "USER'S CODE"
 @07,43 say "USER'S NAME"
 I = 1
Do while .t.
    *----------------------- Initialization of variables-------------------
    xregdate=dtoc(date())
    xregtime=time()
```

```
@09,36 say "Total Credit (CR)....:# "
@10,36 say "Differences..........:# "

use
use trans
sum dr to mtdr
sum cr to mtcr
@08,60 say mtdr pict '9,999,999,999.99'
@09,60 say mtcr pict '9,999,999,999.99'
differ=mtcr-mtdr
@10,60 say differ pict '9,999,999,999.99'
do while .t.
  @09,03 to 11,30 doub
  xtvno=space(05)
  fb="ENTER TRANSACTION VOUCHER No. or Press Enter Key on V/No.to Exit"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  @10,04 say "VOUCHER NUMBER..: " get xtvno pict "99999"
  read
  if xtvno=space(05)
    clear
    close all
    return
  endif
  index on tvno to tvno
  go top
  seek xtvno
  if .not. found()
    fb="VOUCHER NUMBER DOES NOT EXIST, Press Any Key To Retry"
    @23,02 clea to 23,77
    @23,(80-len(fb))/2 say fb
    set cons off
    wait " "
    @23,02 clea to 23,77
    xtvno=space(05)
    loop
  endif
  xtransdate=transdate
  xchequeno=chequeno
  xacctcode=acctcode
  xacctname=acctname
  xtranstype=transtype
  xdetails=details
  xdr=dr
  if xtranstype<>"DR"
    fb="THIS IS NOT A DEBIT TRANSACTION, Press Any Key To Retry"
    @23,02 clea to 23,77
    @23,(80-len(fb))/2 say fb
    set cons off
    wait " "
    @23,02 clea to 23,77
    loop
```

```
xans=" "
@22,15 say 'Proceed With Cleaning of Database Files [Y/N] 'get xans pict "!"
read
if xans="Y" .or. xans="N"
  exit
endif
ddo
f xans="N"
  clea
  close all
  return
endif
21,08 clear to 23,71
21,08 to 23,71
22,10 say 'Please Wait, Cleaning of Database Files in Progress...!!!'
inkey(3)
t curs off
e
sele 1
    use coder
    zap
sele 2
    use trans
    zap
sele 3
    use password
    zap
use
t curs on
eturn
--------------------------- PROCEDURE ccoder.prg ---------------------------
roc ccoder
lear
et color to w+/b
et proc to header
lo head
ubh="Registration of New Account Code for Account Transaction"
@05,(80-len(subh))/2 say subh

use CODER
index on acctcode to acctcode

@07,03 say "REG. DATE"
@07,14 say "REG. TIME"
@07,27 say "ACCOUNT CODE"
@07,43 say "ACCOUNT NAME\DESCRIPTION"
I = 1
Do while .t.
    *---------------------- Initialization of Variables-------------------
    xregdate=dtoc(date())
    xregtime=time()
    xacctcode=space(05)
```

```
      @23,02 clea to 23,77
      xacctcode=space(05)
      loop
    endif
    xacctname=acctname
    exit
  enddo
    @ 08+I,43 get xacctname pict "@!"
    clea gets

    @22,02 clea to 23,77
    set proc to saver
    do duba
      x=0
      do while x=0
       x=inkey()
       if upper (chr(x)) $ "VRA"
         exit
       endif
         x=0
      enddo
      if upper (chr(x)) $ "R"
         @08+i,03 clea to 19,77
         @22,02 clea to 23,77
         fb="ENTER ACCOUNT CODE or Press Enter Key on Code to Exit"
         @23,02 clea to 23,77
         @23,(80-len(fb))/2 say fb
         loop
      endif
      if upper (chr(x)) $ "A"
         clear
         close all
         return
      endif

      i=i+2
      @22,02 clea to 23,77
      loop
       Else
      I=1
Endif
Enddo
retu
*----------------------------------- EOF-----------------------------------------
*---------------------------- PROCEDURE dcoder.prg --------------------------------
proc dcoder
clear
set color to w+/b
set proc to header
do head
subh="Deletion of Unwanted/Obsolete Registered Account Code"
@05,(80-len(subh))/2 say subh
```

```
     set proc to saver
   do boye
     x=0
     do while x=0
      x=inkey()
      if upper (chr(x)) $ "SRA"
        exit
      endif
        x=0
     enddo
     if upper (chr(x)) $ "R"
        @07,03 clea to 19,77
        @22,02 clea to 23,77
        fb="ENTER TRANSACTION VOUCHER No. or Press Enter Key on V/No.to Exit"
        @23,02 clea to 23,77
        @23,(80-len(fb))/2 say fb
        loop
      endif
      if upper (chr(x)) $ "A"
        clear
        close all
        return
      endif
    use
     use trans
     appen blank
     repl regdate   with ctod(xregdate)
     repl tvno      with xtvno
     repl transdate with xtransdate
     repl acctcode  with xacctcode
     repl acctname  with xacctname
     repl details   with xdetails
     repl chequeno  with xchequeno
     repl transtype with xtranstype
     repl dr        with xdr
     repl cr        with xcr
@07,03 clea to 19,78
@22,02 clea to 23,78
Enddo
retu
*------------------------------ PROCEDURE mdebit.prg --------------------------------
proc mdebit
clear
set color to w+/b
set proc to header
do head
subh="Modification of Posted Debit Transaction"
@05,(80-len(subh))/2 say subh
do while .t.
     @07,35 TO 11,76 DOUB
     @07,47 say " TRANSACTION STATUS "
     @08,36 say "Total Debit (DR).....:# "
```

```
@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use '+chr(25)+' or '+chr(24)+' key to highlight option & press
+chr(17)+chr(196)+chr(217) +' key to select'
@ 09,26 prompt " Creat New File.."
@ 11,26 prompt " Modify File....."
@ 13,26 prompt " View File......."
@ 15,26 prompt " Delete File....."
@ 17,26 prompt " Exit Menu......."

menu to ch2
Save screen
Do case
  case ch2 = 0
     loop
  case ch2 = 1
     do cdebit
  case ch2 = 2
     do mdebit
  case ch2 = 3
     do vdebit
  case ch2 = 4
     do ddebit
  other
     exit
Endcase
Rest Screen
Enddo
Return


*/---------------------Menu Choice for Billing-----------------------
Procedure credit
Do while .t.
Set color to w+/b
@ 08,25 clear to 18,44
@ 08,25 to 18,44

@21,08 clear to 23,71
@21,08 to 23,71
@22,10 say 'Use '+chr(25)+' or '+chr(24)+' key to highlight option & press
'+chr(17)+chr(196)+chr(217) +' key to select'
@ 09,26 prompt " Creat New File.."
@ 11,26 prompt " Modify File....."
@ 13,26 prompt " View File......."
@ 15,26 prompt " Delete File....."
@ 17,26 prompt " Exit Menu......."

menu to bchoice
Save screen
Do case
   case bchoice = 1
      do ccredit
```

```
    use CODER
    index on acctcode to acctcode

    @07,03 say "REG. DATE"
    @07,14 say "REG. TIME"
    @07,27 say "ACCOUNT CODE"
    @07,43 say "ACCOUNT NAME\DESCRIPTION"
    I = 1
Do while .t.
    *----------------------- Initialization of Variables-------------------
    xregdate=dtoc(date())
    xregtime=time()
    xacctcode=space(05)
    xacctname=space(30)
if I < 10
        @ 08+I,03 get xregdate pict "99/99/9999"
        @ 08+I,14 get xregtime pict "99:99:99"
        clear gets
      do while .t.
        fb="ENTER ACCOUNT CODE or Press Enter Key on acct Code to Exit"
        @23,02 clea to 23,77
        @23,(80-len(fb))/2 say fb
        @ 08+I,29 get xacctcode pict "99999"
        read
        if xacctcode=space(05)
          clear
          close all
          return
        endif
        go top
        seek xacctcode
        if .not. found()
          fb="ACCOUNT CODE DOES NOT EXIST, Press Any Key To Retry"
          @23,02 clea to 23,77
          @23,(80-len(fb))/2 say fb
          set cons off
          wait " "
          @23,02 clea to 23,77
          xacctcode=space(05)
          loop
        endif
        xacctname=acctname
        exit
      enddo
        @ 08+I,43 get xacctname pict "@!"
        clea gets

        @22,02 clea to 23,77
        set proc to saver
        do kashe
          x=0
          do while x=0
```

```
    @07,35 TO 11,76 DOUB
    @07,47 say " TRANSACTION STATUS "
    @08,36 say "Total Debit (DR).....:# "
    @09,36 say "Total Credit (CR)....:# "
    @10,36 say "Balance..............:# "
    use
    use trans
    sum dr to mtdr
    sum cr to mtcr
    @08,60 say mtdr pict '9,999,999,999.99'
    @09,60 say mtcr pict '9,999,999,999.99'
    differ=mtcr-mtdr
    @10,60 say differ pict '9,999,999,999.99'
do while .t.
  @09,03 to 11,30 doub
  xtvno=space(05)
  fb="ENTER TRANSACTION VOUCHER No. or Press Enter Key on V/No.to Exit"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  @10,04 say "VOUCHER NUMBER..: " get xtvno pict "99999"
  read
  if xtvno=space(05)
    clear
    close all
    return
  endif
  index on tvno to tvno
  go top
  seek xtvno
  if found()
    fb="VOUCHER NUMBER ALREADY EXIST, Press Any Key To Retry"
    @23,02 clea to 23,77
    @23,(80-len(fb))/2 say fb
    set cons off
    wait " "
    @23,02 clea to 23,77
    xtvno=space(05)
    loop
  endif
  exit
enddo
  @12,03 to 19,76 doub
do while .t.
  xtransdate=ctod(" / / ")
  fb="ENTER TRANSACTION DATE"
  @23,02 clea to 23,77
  @23,(80-len(fb))/2 say fb
  @13,04 say "TRANSACTION DATE.: "get xtransdate pict "99/99/9999"
  read
  if (dtoc(xtransdate))=space(08)
    fb="TRANSACTION DATÉ CANNOT, Press Any Key To Retry"
    @23,02 clea to 23,77
```

```
      endif
      exit
    enddo
      @12,03 to 19,76 doub
      @13,04 say "TRANSACTION DATE.: "get xtransdate pict "99/99/9999"
      @13,36 say "CHEQUE No..: "get xchequeno pict "99999"
      @13,56 say "ACCOUNT No..: "get xacctcode pict "99999"
      @15,04 say "ACCOUNT NAME.: "get xacctname pict "@!"
      @15,52 say "TRANSACTION TYPE..: "get xtranstype pict "!!"
      @17,04 say "DETAILS..: "get xdetails pict "@!"
      @17,47 say "AMOUNT..: "get xdr pict "9,999,999,999.99"
      clea gets
      @22,02 clea to 23,77
      set proc to saver
    do jara
      x=0
      do while x=0
       x=inkey()
       if upper (chr(x)) $ "MRA"
         exit
       endif
         x=0
      enddo
      if upper (chr(x)) $ "R"
         @07,03 clea to 19,77
         @22,02 clea to 23,77
         fb="ENTER TRANSACTION VOUCHER No. or Press Enter Key on V/No.to Exit"
         @23,02 clea to 23,77
         @23,(80-len(fb))/2 say fb
         loop
      endif
      if upper (chr(x)) $ "A"
         clear
         close all
         return
      endif
      @12,03 to 19,76 doub
      use
      use current  && ----- Validation Check for Current Month Processing
      pdate=tdate
      mprocess=tprocess
      mth=month(pdate)
      yr=year(pdate)
      realyr=yr
      namemth1=cmonth(pdate)
      public mthcode
      mthcode=mth  &&------------- Transfer Current Month in Database to Memory Variable
@07,03 clea to 19,78
@22,02 clea to 23,78
Enddo
retu
```

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