

**AUTOMATION OF PERSONNEL MANAGEMENT
INFORMATION SYSTEM; CASE STUDY OF
NIGER STATE PRIMARY EDUCATION BOARD.**

BY

**ABDULLAHI MAIKANO SALISU
(PGD/MCS/2001/1075)**

**BEING A PROJECT SUBMITTED TO THE
DEPARTMENT OF MATHS/COMPUTER SCIENCE,
SCHOOL OF SCIENCE AND SCIENCE EDUCATION, FEDERAL
UNIVERSITY OF TECHNOLOGY, MINNA, NIGERIA.**

NOVEMBER, 2003.

TITLE PAGE

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IN PARTIAL FULFILLMENT OF THE REQUIREMENT
FOR THE AWARD OF POST – GRADUATE DIPLOMA
IN COMPUTER SCIENCE, SCHOOL OF SCIENCE
AND SCIENCE EDUCATION, FEDERAL
UNIVERSITY OF TECHNOLOGY, MINNA,
NIGERIA.**

NOVEMBER, 2003.

DECLARATION

I, **Abdullahi Maikano Salisu** declare that this research is to the best of my knowledge, and believe, the original product of my research findings, and have not been submitted to any institutions for the award of any certificate before. All materials and ideas obtained from various sources have been duly acknowledge and I carry out the research.

Sign:..........

Date: 8-12-2003.....

CERTIFICATION

This project title “*AUTOMATION OF PERSONNEL MANAGEMENT INFORMATION SYSTEM CASE STUDY OF NIGER STATE PRIMARY EDUCATION BOARD*” by ABDULLAHI MAIKANO SALISU has met the regulation and requirement governing the Award of a postgraduate Diploma in Computer Science, Federal University of Technology, Minna. Moreover, it has been approved for its contribution to Knowledge and literacy presentation.

Mall.Y.U.Abubakar

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Project Supervisor

Sign

Date

Mr.L N. Ezeako

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Head of Department

Sign

Date

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External Examiner

Sign

Date

DEDICATION

This research work is dedicated to my mother Mallama Kande Bushira Salisu and the entire members of my family, immediate and extended and Maryam Garba Sule.

ACKNOWLEDGEMENT

All thanks are due to almighty Allah (s.w.t.) the seer of all things who saw me through this academic sojourn by providing with the necessary ~~material~~, intellectual capability, financial resources and otherwise in order to actualise the success of this programme.

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I will also seize this oppoturnity to express my profound gratitude to The Executive Chairman, Niger State Primary Education Board **Alhaji Mohammed Mohammed**, his Board members and staffs especially the Deputy Director and Chief Accountant **Alh. Yusuf Bala Mohammed** and His family for their moral, financial and logistics support towards the success of this programme.

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ABSTRACT.

As the title suggests, this projects *Automises personnel management records of Niger State Primary Education Board*. D-base IV Programming Language was use in the design of the program. The ouput falls within the specification of design format. The generated output reveals fig. I to XII, which indicate the various kinds of operation that, can be carried out. The conclusions reveals that the computerise method of record keeping has by far outweigh the previous mannual method of keeping records.

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CHAPTER ONE

1.1 Introduction

This chapter looks at the general introduction, objectives of the study, hypothesis of the study and significance of the study.

Other areas include statement of the problem, scope of the study as well as limitation of the study. The chapter discuss the Niger State Primary Education board and ends with the summary of the chapter.

1.2 General Introduction Of The Project

This research project "*AUTOMATION OF PERSONNEL MANAGEMENT INFORMATION SYSTEM; CASE STUDY OF NIGER STATE PRIMARY EDUCATION BOARD*" is aim at looking at an alternative method of documenting staff records of niger state primary education board.

It is divided into five chapters for easy understanding and references. They include;

- (i) **Chapter one**;- *Introduction*; This chapter introduces the entire project and look at issues like the objectives of the study, hypothesis tested, statement of the problem, scope and limitations of the study as well as the significance of the study. It briefly tells about the Niger State Primary education Board.
- (ii) **Chapter two**: *Literature review*. The chapter reviews related literatures. It deals with issues such as concept of personnel management, functions of the personnel management department in an organization, under this sub-heading items or issues such as recruitment and selection, manpower planning, training and development etc. where looked upon. It ended with computer application to personnel management.

- (iii) **Chapter three:** *system analysis and design.* This chapter talks about the design and analysis of the new system. It does that by reviewing the existing system i.e. looking at the method of keeping records at the board's offices, then it analysis problems encountered with this method and why it become obvious for the board to automise it personnel management records. It went ahead to analyses the input and output design of the new system as well as the files to be created. The D-base programming language is to be used in writing the program, the chapter ends with the cost and benefit analysis associated with the new system of record keeping within the board.
- (iv) **Chapter four:** *Implementation of the system.* This chapter analysis how the new system is to be implemented. It looked at the algorithm method used in the research, codes use in the program on how to access and use the program. In addition, the program output generated after running the program with the corresponding comment analysis and or discussion as well as change over procedure available to the implementors of the new system.
- (v) **Chapter five:** *Summary, conclusions and recommendations:* This is the last chapter of the project it start with the summary of research carried out with the corresponding conclusion as well as the suggested recommendations.

1.3 Statement Of The Problem: Over the years, Niger State Primary Education Board has been keeping it record manually. This has lead to the board loosing several vital informations that ordinarily should not have been lost. Some of this problems include: -

- (i) Lack of accurate records.
- (ii) Difficulty of retrieving old document.

- (iii) Outright loss of documents
- (iv) Difficulty in saving new records i.e. merging it with its associates.

1.4 Objective Of The Study

The research set for itself the following objectives which it aims to achieve:

- (i) To provide alternative way of keeping record, better than what is obtainable now.
- (ii) To achieve an accurate records of staff of NSPEB like it has never been before
- (iii) To establish a large data bank that can be use easily both for keeping records as well as the retrieving of the same records.
- (iv) To inculcate the habit of using computer in the board.

1.5 Hypothesis

The hypothesis tested in this study is the NULL HYPOTHEIS (Ho) which is "Automation do not always provide effective and efficient way of keeping records in organizations."

1.6 Significance Of The Study

The significance of this research mainly aims at inculcating the computer culture in our society among others. Usually anxiety and fear or computer phobia are commonly associated with automation in organizations. The project also has as it focal point clearance of this fear.

Also this project has as it significance, a way forward for some other State owned establishments to computerize their personnel records etc. Similarly, this project will serve as a morale booster for the Niger State Primary Education Boards to

computerise its payroll system as well as project execution, which the board carry out on a regular basis.

1.7 Scope And Limitations Of The Study: -

The areas of concern of this project include among others, the focal point being the Niger State Primary Education, the records pertain to only personnel or staffs of the board, it concern only staffs who are direct employees of board who are at the headquarters of the board.

Limitations of the research however include the followings; actually the research should have cover not only personnel records but also the payroll system as well as records of projects carried out by the board. In addition, the project should have cover all offices and all employees of education authority up to the teacher in the class room, but due to financial constraints as well as time, the project was restricted to the board's headquarters.

1.8 Niger State Primary Education Board (NSPEB) :

The Niger State Primary Education Board is an agency of the Niger government, which is responsible for the management of Primary Schools in Niger State. Among its functions include; payment of primary school teachers, promotion and discipline of teachers as well as non-teaching staffs.

Rehabilitation, renovation and reconstruction of dilapidated structures of primary schools, co-ordination and management of funds meant for primary education from other agencies such as Education Tax Fund (ETF), United Nations Agencies such as UNESCO, UNDP, UNICEF etc.

1.9 Summary: -

This chapter introduces the entire project work. It deals with issues such as General introduction, which briefly discusses what we should expect to see in subsequent chapters in the project. It also dealt with the issues such as the statement of the problem, Hypothesis of the research was also stated, it also stated the significance of the study and end with brief discussion on the activities of the Niger State primary education Board and of course the summary of chapter.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter review related literature on the computerization of personnel management records of organisations. It begins with reviewing personnel management concept in which case we look at the definition and other factors to be considered in the personnel functions of an organisation, other area include recruitment and selection, manpower planning, training and development, job evaluation e.t.c. It also look at the concept of record management, and the purpose of personnel record, computer application to personnel management records as well the theoretical framework for the research. The chapter ended with the summary of the chapter

2.2 Review Of Personnel Management Concept

Emmanuel (1998) stated that management can be define as the act of planning, organising, directing and controlling of rare resources of people, information, money and technology to achieve some certain stated objective effectively and efficiently. All these require a very broad strategic plan on how the manager carries out his functions. The manager according to Emmanuel (1998) must be a person who can visualize and direct the organization in the direction, which he/she wants it to go. He/She therefore needs to forecast the future. An effective manager who is result oriented must have knowledge as regards information which he is expected to co-ordinate. It is when he knows about every bit of information he is expected to manipulate that he can maximize all the benefit to be accrued from those informations. These informations are

sourced from two-fold i.e. from within and without the organisation.

Emmanuel (1998)

According to Akanya (1998), the information a manager needs to know within the organisation include finance, capability, personnel competence information system obtain within the organization e.t.c. whereas from the external sources, we expect the manager to know about government regulations and politics that can enhance or hinder his organizations success, action or behaviour of competitors in the case of private or profit oriented organizations. Simply put therefore, the manager is expected to look at the strength and weaknesses from within the organisation and his opportunities and threats from outside the organisation.

Akanya (1998) stated that personnel management should aim at bringing together and develop into an effective organisation, the men and women who make up an enterprise and having regards for the well being of the individual and working groups, to enable it succeed. Personnel management is also concerned with the human and social implication of change in internal organisation and methods of working and of economic and social changes in the community.

The concept of personnel management according to Francis (1998), evolved from the narrow concern with the recruitment and welfare, to awareness on the part of the management, of the importance of people, there relationship with each other and the performance of the organisation as a whole with the realisation that every decision or act of management had a potential impact on employees since action of management affects the employees of an organization in some way, personnel management pervades all activities and what ever the formal arrangement of personnel

activities may be all managers have a responsibility however small it may be for the success of the personnel function.

Francis (1998) further stated that the range of activities considered appropriate to the personnel function is wide. It activities regarded as coming within the sphere of personnel management include recruitment and selection, employees services (e.g. welfare, safety, health) training and education, remuneration (e.g. pay scales/ranges, job evaluation and grading merit awards, fringe benefits). organization of work (e.g. hours shift – working, holidays), Industrial relations (e.g. trade union relationship, negotiation, joint consultation, disputes and grievance procedures, redundancy procedures).manpower planning (e.g. manpower forecasting, labour turnover and absentecism analysis.

Akanya (1998) stated that in recent years, there has been an increasing awareness of the effect of organisational structure on efficiency and good relations within an organisation. And the identification and resolution of problem which arise from inappropriate structures or from changes due to technological and administrative development are now seen as important functions of the personnel specialist. Senior or top level management development which involves them in the assessment of the organisations requirement in terms of management, manpower, formulations and implementation of scheme to provide for adequate and suitable management succession, the preparation and development and training programmes for individual managers or officers and the formulation and implementation of performance review and appraisal schemes for managerial staffs.

Akanya (1998) further states that personnel practitioners need to acquire a range of specialist skills and knowledge in order to equip them to

deal with the range of activities for which they are responsible. They have to be familiar with the detailed provision of the new considerable body of legislation affecting the people at their places of work, to be able to offer advise on, and assist in the formulation of appropriate personnel policies. They may have to become expert in complex management techniques such as manpower forecasting and budgeting and to keep abreast of develop in these areas. They may have to be knowledgeable about how to assess their respective merits to draw up training schemes for various categories of workers, to understand the better points of work-study technique.

In response to this need for personnel manage and related techniques, Training in personnel work has expanded considerable in recent years. This is evidenced by the number of courses offered by the Nigeria Institute of Management, Institute of Personnel Management of Nigeria, National Institute of Policy and Strategic Studies (NIPSS) Kuru and Administrative Staff College of Nigeria (ASCON) to train personnel practitioners.

Functions Of Personnel Department

According to Emmanuel (1998) the functions of Personnel Management department in organisations vary from one organisation to another, however the following are common with most organisations

- i – Recruitment and selection.
- ii – Manpower planning
- iii – Training and Development
- iv – Staff appraisal
- v – Job evaluation
- vi – Salary, wages and conditions of service
- vii – Industrial relation

viii Communication

ix Personnel record management.

3.1 Recruitment And Selection: - The personnel Management as a system plays a key role in recruitment and selection of employees into organisations. The personnel department is at advantage because it knows the work force needs of the organisation and it is its duty to provide these required work force needs. To be able to do this, the personnel department use to prepare a concise job description and specification and stating clearly the title of job and the responsibility required. The physical condition required for the job and other information such as the qualifications required, experience, salary and condition of service would be provided. Based on this the personnel department looks for suitable people who will meet the success of any organisation is so much dependent on the resources available to it, the staff of the personnel department must therefore take great care in selecting the right person, Emmanuel (1998).

3.2 Manpower Planning: - Personnel management as a system perform the vital role which cuts across other department in an organisation. Manpower planning is a specialist function which should be left in hands of those who can perform the function adequately in an organisation. In performing this role, personnel department adopts a system whereby it evaluates the existing manpower resources of the organisation and then forecast the labour requirements of the organisation.

3.3 Training And Development: - After establishing a manpower plan for the organisation and having also attended to the recruitment and selection procedures, personnel department now focuses its attention on training

and development of the employees. Training is a short-term process of learning specific skill by both junior and intermediate staffs.

Development on the other hand, is a long – term learning process designed to develop senior officers in order to acquire them with changes in technology and management methods. Personnel management department collects information in area of training through discussions with other heads of department and through other document in the organisation, Emmanuel (1998).

2.3.4 Staff Appraisal: - Staff appraisal is a process of determining the success, failure and effectiveness of all functionaries in an organisation toward the set objectives. It is therefore, the duty of the personnel people to devise a system, whereby all functionaries within an organisation could be appraised to find out if they are performing the task allocated to them satisfactorily. Staff appraisal, when properly carried out, has advantages both to the organisation and the employees, Emmanuel (1998)

2.3.5 Job Evaluation: - Job evaluation is a process of analysing and assessing relative worth of jobs in an organisation in order to place them on an acceptable rank order which can be used as basis for pay structure. it is a design that helps to determine the correct salary to be paid to every job to ensure fair play and justice to all and sundry .The personnel department is directly involved in this process and should ensure that the method used should be acceptable to all concerned.Emmanuel (1998)

2.3.6 Salary, Wages And Condition Of Service:-

Salary, wages and condition of service go along way in motivating workers in an organisation. To do this effectively staffs of personnel

department must take into consideration all necessary factors required for attaining an acceptable salary and wages for employees.

2.3.7 Industrial Relations:- Peace and harmony are quite essential within an organisation. Personnel department most is able to cope with problems of industrial relations right from the grassroots levels. To be able to do this, the staff of personnel department must possess an up-to-date knowledge of history of the union they have to deal with. They must be familiar with the current legislation on industrial matters and ensure compliance. They must always be familiar with the organisation's procedure on matters related to unions and above all possess negotiation skill in order to safeguard the interest of the organisation at all times. Emmanuel (1998)

2.3.8 Communication;- This is the most difficult function for the personnel specialists. It is the first skill the staff of personnel department should possess. They must be able to communicate effectively. It is by effective communication that conflicts in organisations can be reduced to a tolerable level.

2.3.9 Personnel Record Management: - Another major function of the personnel department is the storage of data and information about the employees in an organisation. This involves keeping of personnel records for effective management and prompt retrieval. It is the duty of the personnel department to develop records that are simple, easy to maintain, accurate, comprehensive and relevant to the need of the organisation. The personnel records should be duplicate and should be maintained and updated from time to time.

2.4 Concept Of Record Management: - Records Management can be defined as the art of preserving essential records accurately in an organisation and subsequent speedy retrieval as information for decision making. It is also a

close study of modern management techniques on filing and retrieval system, provision of modern office equipment and machinery, accommodation and facilities as well as organisation and management of registries. Francis (1998).

It is quit obvious that records are as important as manpower, finance and material resources. Information, in other words is the product of processed data or records. The commonest system in any organisations of maintaining, storage and retrieval of personnel records and information is the use of files in the correspondence registries as stated by Francis (1998). Furthermore, he stated that most registries are dingy places, ill equipped poorly staffed and ventilated. In addition, some officers' take no regards for record and they are not aware of the importance of registries as the nerve centre and livewire of the organisation. Francis (1998).

Although the principles and concepts of personnel records management are universal, each organisation or office has its specific features and problems which need to be identified before a suitable solution can be found. As observed, antiquated method need to be modernized. The problem of record management is becoming more acute on daily basis because of the accelerated accumulation of papers, including personnel papers which make their control ever more difficult. This can however be solve or simplified by the application of modern management techniques including provision of appropriate filing equipment, adequate accommodation, staff development and training, motivation, proper classification, indexing, filing and numbering of files.

.5 Purpose Of Personnel Records: -

According to Akanya (1998) Personnel records are kept for a variety of reason (which he itemise below) depending on the objectives, function and

environment of the organisation. The following are regarded as being pertinent;

- (i) To furnish the much needed information on organisation work force, which is useful for both internal and external management of the organisation.
- (ii) To provide accurate information on manpower planning in terms of educational qualifications, cognate experience, knowledge and skills of employees, their potentials and placement opportunities.
- (iii) To generate information on human resource research. That is, necessary information is supplied to validate hiring selection, placement and promotion criteria.
- (iv) To furnish information on employee strength and weaknesses so that appropriate training and development scheme can be designed and implemented in a systematic fashion.
- (v) To provide information on how best to conduct industrial employee-relations.
- (vi) To generate information on the capability and productive profiles of each employee.

That is, manpower recognition which will assist in determining bonus payments, advancement or promotion, demotion, transfers etc.

- (vii) Provide factual data as a base for decision making in every area of personnel work e.g. manpower forecasting and planning, recruitment and selection, training and development and health and safety, Akanya (1998)

2.6 Computer Application To Personnel Management: -

According to Francis (1998) Computer has a very wide application. The fact is computer can be programmed to perform a variety of tasks that involved little or no mathematics. The computer system can provide information to management for decision making. For the staff of personnel department, it provides information required for;

- (i) Planning for human resources needs of an organisation.
- (ii) Finding and hiring employees
- (iii) Training and compensating staffs.
- (iv) Retirement of staffs

In addition, the personnel department can use computer to store the employee records for proper and easy retrieval of information. The ability of the computer to perform these various functions is due to the availability of application packages.

An application package is a program or set of programs designed to perform a specific task, such as pay roll, sales ledger, personnel records etc. These packages include d – bases, word processing, spreadsheets packages etc. All these have direct impact on personnel management, Francis (1998).

When applied to personnel management, a good d- base management system can process personnel information in a variety of ways. For instance, it could display the information on the screen or by printing a report.

Additionally, the record of all employees can be stored and retrieved as required. Its ability to sort and search data allows information to be retrieved in an orderly manner. Francis (1998)

Other areas of application of computer to personnel management has to do with communication / terminal emulator packages which allows the manager to talk to other people through the computer. This is a good device for collecting data on applicants, crosschecking with referees and sending information to shortlisted candidates or those offered places.

Data on employees in various branches can also be transferred easily and promptly for use. As stated earlier, therefore, the aims of personnel records is to a large extent, determined by the aims of the organisation in general and the aims of the personnel department in particular. This is because the personnel records should be seen as a subset of the personnel information system.

Theoretical Framework

The theoretical framework of this research is the system theory. A system is simply a combination of parts forming a complex whole. One of its important characteristics is that it is composed of hierarchy of subsystems. That is the parts, which forms the major system may themselves be system and their parts may be subsystems.

According to Martins, (1979) system concept emphasized the relationship between the parts. The system theory sees an organisation as a social system whose survival depends on its capacity to maintain relative consistency of its processes and relationship within and without the system.

According to Griffith, (1980) system may be opened or closed. An open system is related to and exchanges matters within environment, whereas a close system is not. An open social system has a self-regulating tendency towards constant balance in its response to internal and external pressures. It may respond either by reaction, which restores it to its original state or by a shift in its emphasis.

Related to this project therefore, the personnel management department is seen as a sub- system within the Niger State Primary Education Board as the main

system. Hence, the success of the Niger State Primary Education Board as system is dependent on the success of the sub-systems within the board. Therefore, the automation of the personnel management information system is aimed at enhancing the efficiency and effectiveness of the personnel management records of the personnel management and hence the board.

CHAPTER THREE

SYSTEM ANALYSIS AND DESIGN

Introduction

The system analysis and design involves assessing and analysing the existing system in order to help in designing the proposed system. The review is considered important because the design of the new system largely owe its success to information obtained from the existing records.

In line with this, this chapter begins with the description of the existing methods, with its associated problems so that the new proposed system can be designed to solve the problems as well as case record keeping and retrieval system. It will also consider the input design of the new system, files to be created and the expected output format.

Other areas of interest in this chapter include, the choice of programming language to be used, the cost and benefit analysis of the system and the algorithm method that will be used to accomplish the automation of the Personnel Management information system of the Niger State Primary Education Board.

3.2 The Existing System

The existing system forms the basis for the development of a new system.

Therefore adequate care must be taken and a thorough review in order to ascertain and determine areas of problems with a view of taking corrective measures for present as well as future needs of the organisation.

Basically, the present method of record keeping in Niger State Primary Education Board is characterised by paper work and file handling. The department of Personnel Management at the Board's headquarters is charged with the responsibility of keeping these records. Should there arise any need for the retrieval of any particular staff records, such request will be sent to the Personnel

Management Department, which in turn search for the records and forwards it to those requesting for it.

This method however is too tedious and there exist the tendency that accurate and complete records may not be obtained afterwards.

3.3 Problems Of The Existing System

The present method of records keeping at the Niger State Primary Education Board is associated with many problems. These arise as a result of expansion in manpower, regular and irregular movement of staffs within and without the board e.t.c. The manual method of keeping records cannot cope with the above irregular activities. Hence the problems associated with such system include; loss of vital information, insecurity of data, late retrieval of necessary details and loss of other associated which slow down and general inefficiency in the conduct of good business.

The overall effect therefore meant that organisation that faces such problems would not be able to meet up its stated objectives.

In specific terms, the problems associated with managing staff records at the Niger State Primary Education Board include

- (i) Incorrect, incomplete and inaccurate documentation
- (ii) Increase search time which is a manifestation of poor retention and retrieval procedures.
- (iii) Poor storage facilities as manifest of decayed infrastructures.
- (iv) Absence of validation mechanism which is a function of the problems originally inherit in import data collection to ensure that it is correct and updating to ensure its currency, reliability and verifiability.
- (v) Uncontrollable access, misplacement and loss of vital documents.
- (vi) Increase retention of useless and outdated records, which is indicative of absence of regular record census.

- (vii) Lack of safe guards on the confidentiality accuracy and relevance personnel information.
- (viii) Low calibres of staffs are put incharge of records, arising from low value attached to record mis-information about the value of good record keeping in an orgainsation.
- (ix) Explosive volumes of records which is tantamount to over creation or over generation of data and attendant duplication.

4 **The Design Of New System**

The design of the propose system is done to suit the analysis and problem identified above. The design takes cognisance of the software that would be applicable to the computerisation of the existing records at the Niger State Primary Education Board. It considers both the required input and output as well as database files that will be required by the system.

The physical design of the propose system has to do with the program specification for input/output, database files and processing into computer softwares. The design of the computer softwares is important to ensure that the actual programs produced perform all tasks as intended and to allow for future modification to be performed in an effecient manner and with minimum destruction to the design of the system.

3.4.1 Input Design

For computer to perform the task of data processing, data needs to be sent into the system in the form of input. The system states the sources and type of data that need to be supplied into its. This is important because if the data supplied are correct, definitely the result the computer will give would be right, this is in consonance with the saying in computer parlance, that "Garbage in Garbage out" (GIGO). It is in recognition of this that the input

of the proposed system is designed to produce a cost-effective method, achieve the highest level of accuracy and ensure that the input is acceptable to and understood by the usher(s).

For this propose system, the data needed are the personnel information of the employees which is provided at the point of joining the board. Other informations include be transfers, promotions, demotions, discipline and so on. All these are needed in order to update the information contain in the system.

3.4.2 Input Specification Format

Input specification format refers to how datas are inputed into computer system. Error(s) could be encountered in the input process and obviously, this will lead to wrong or incorrect output. Hence, the new system is designed base online where data entry is made through question and answer approach in which the system prompts the user for data entry. The new system is equally design to reject errors. This is achieved using coding system such that non-existing codes are rejected outright. The algorithm [in chapter four] indicate that not less 18 and not more 20 datas are needed to be supplied by employees, thus any employee who has less than 18 and more than 20 data will have to re-input his/her data using the process of looping in the flowchart.

The input data into the new system is based on informations obtain employce files from the personnel management department.

Specifically, there are points of data entry into the system that is the registration of employee. In this case details such as file number, surname First name, date of birth e.t.c will be inputed.

3.4.3 Files To Be Created

The new system is to be design using the database management system. This requires storing the data to be use in a database file. The design of database files define the description of all the files that will be used in the propose system.

It includes the description of the content of the file use and their structures. The structure stalls the field names, field type and width associated to each file.

The propose computerisation of personnel management information system of the Niger State Primary Education Board is designed to use 2 database files namely;

MASTER DBF and DEPARTMENT DBF. The description and contents of the file are as follows;

MASTER DBF: This database file is like a reference file which contains all the details of all the employees of the board at any point in time. It structure is as stated below:

<u>FIELD NAME</u>	<u>FIELD DESCRIPTION</u>	<u>FIELD TYPE</u>	<u>WIDTH</u>
FN	STAFF FILE NO	CHARACTER	6
SURNAME	SURNAME	"	15
F. NAME	FIRST NAME	"	20
O. NAME	OTHER NAME	"	20
DOB	DATE OF BIRTH	DATE	8
POB	PLACE OF BIRTH	CHARACTER	15
ORIGIN	STATE OF ORIGIN	CHARACTER	12
LG A	LOCAL GOVT. AREA	CHARACTER	15
TOWN	TOWN OF ORIGIN	CHARACTER	15

SEX	SEX	CHARACTER	2
AGE	AGE	CHARACTER	2
HADDR	HOME ADDRESS	CHARACTER	30
PAADDR	POSTAL ADDRESS	CHARACTER	30
PQUAL	PRESENT QUALIFICATION	CHARACTER	20
PEXPR	PREVIOUS EXPERIENCE	CHARACTER	20
NKIN	NAME OF NEXT OF KIN	CHARACTER	20
AKIN	ADD. OF NEXT OF KIN	CHARACTER	30
DOA	DATE OF APPOINTMENT	DATE	8
PCODE	POSITION CODE	CHARACTER	2
DCODE	DEPARTMENT CODE	CHARACTER	1

DEPARTMENT DBF: This database file is a file that contain all the existing departments at the Niger State Primary Education Board the structure of the file is shown below:

<u>WNO</u>	<u>FIELD NAME</u>	<u>FIELD DESCRIPTION</u>	<u>FIELD TYPE</u>	
	<u>WIDTH</u>			
	P CODE	POSITION CODE	CHARACTER	2
2	PNAME	POSITION DESCRIPTION	CHARACTER	20

3.4.4 System Output

A computer performs its expected task internally and the result may not be produced unless it is directed to do so. Output refers to the result obtained as a result of operations performed on data sent into the computer in the form of input. The output from a computer system is required primarily to communicate the result of processing to users or other system or more importantly to provide a permanent copy of these results for consultation.

The proposed system will produce two forms of reports namely soft copy and hard copy. The soft copies are reports displayed on the computer screen while the hard copy are those printed on paper. However, the reports to be generated may be in-group base on either position or department or general listing of all staff records in the board as the case may be.

3.4.5 Output Specification Format

This is the expected result of the job carried out. It is required to communicate the result of processing to users and more so provide a hard copy for consultation.

Specifically, the output is expected in two format i.e (i) Soft copy on the screen of the monitor and (ii) Hard copy in the form of printed copy on paper. For the **soft copy** output, the following informations are to be generated;

1. Record of individual employee
2. Record of or total number of employees of the board.
3. Record of staffs according to their departments.
4. Update of records at regular interval (i.e quarterly).

For **Hard copy** however, the following is expected

- 1- Print out of individual employees' record.
- 2- Print out of the entire records of all employees of the board.
- 3- Print out of employees records according to their departments.
- 4- Print out of promotions and other updating operations carried out by the board.

3.5 Programming Language Chosen

In the early days, programs were developed in a file-processing environment. In this environment, user requirements are treated in isolation,

with application program operating almost independently. Files and records are designed in such a way as to satisfy individual operational needs, thus imposing organisational barriers with regards to the data.

In most information system however, it is desirable to have the ability to jump over these imposed barriers and access data right across the organisation.

This lead to the introduction of database environment. In database environment, datas are view as a whole irrespective of their type.

Furthermore, the integration of data of different types is liked by logical relationships through a DBMS.

The features of DBMS are as follows: -

1. Data Integration

In a database, informations from several files are co-ordinated, accessed and operated upon as though it is in a single file. Logically, the information is centralised, physically the data may be located in different files. In addition, it is possible for two or more application to be sharing compatible data.

2. Elimination Of Data Redudancy: -

Data redundancy occurs when the same data appears in more than one file, this leads to wastage of storage space and duplication of efforts during data entry. One basic feature of DBMS is that it eliminates data reducdancy since datas are not duplicated in files.

3. Data Independence; -

Another feature of DBMS is that it ensures data independence because application programs are isolated from the physical or logical storage of data. This feature seeks to allow for change in the content and organisation of physical data without re-programming of applications.

4. Data Integrity: -

This is an important feature of DBMS. Since data is stored once without duplication, the information retrieved is consistent, as only one update is needed for required if there is a change in data.

3.6 Cost And Benefit Analysis

This subchapter deals with cost associated as well as benefits to be derived from the computerisation of personnel records of the Niger State Primary Education Board.

3.6.1 Cost Analysis

In order to determine the cost of operating the proposed system, it is necessary to recognise the various ways in which cost may be incurred. Cost incurred are usually in the following categories.

(a) **Development cost;**

(i) Computer hardware.

3.IBM Computers with the following configuration pentium 133

Mhz.

16 MB RAM

20 GB Hard Disk

SVGA Monitor (@N160, 000 each = N480, 000

UPS

3-UPS (250 Volts) @N65, 000 each =N195, 000

Computer Printers

1 Laserjet Printer (Laser 4 Plus) =N150, 000

1 Epson Printer (LQ2170) =N 70, 000

(iii)	Personnel Training	
	3 Operators	@ N8, 000 per month
	For two months	=N16, 000
	TOTAL DEVELOPMENT COST	=N936, 000

B System Operating Cost

(i)	Program Maintenance	
	1 Programmer	@ N10, 000
	Per month for 1 year	=N120, 000
(ii)	Installation of Air-condition	=N 90, 000
(iii)	Utilities (Light)	=N 15, 000
(iv)	Supplies of computer papers And other consumables	=N 15, 000
(v)	Labour cost	
	Two computer operators @	=N 5, 000
	Per month per operator for 1 year	=N120, 000
(vi)	Miscellaneous expense	=N 15, 000

**TOTAL SYSTEM OPERATING
COST** **=N375, 000**

=N936, 000

+ 375, 000

OVERALL TOTAL COST **# 1,311, 000**

3.6.2 Benefit Analysis Of The Proposed System

It is expected that alot of benefit will derived from this propose computrization of the Niger State Primary Education Board's staff records. Notably among them includes the followings.

1. Enhance the efficient operation of the board in terms of personnel control and discipline.

2. Create speedy ways of responding to enquiry in order to provide a reliable way of formulating policy.
3. Avoidance of constant problems as being experienced with the existing system.
4. Creation of speedy ways of generating reports from the system.
5. Maintenance of data security.
6. Allow for carrying out major changes in the design of the system since the new system is fully documented.

7 Summary

The Chapter deals with the system analysis and design. Under which the existing system was reviewed and found to be inadequate with the changing trend and technological growth of our time, hence the need for computerisation.

Problems of the existing system amongst others include, lack of security for document, difficulty in retrieving data, incorrect inaccurate and incomplete data among others.

The design of a new system was therefore propose giving the format of its inputs, files to be created as well output design. The DMBS was chosen as the programming language because of it distinguishing characteristics which include, elimination of data redundancy, safeguards of data intergrity, allowance for data integration as well as data independence. The cost associated with the implementation of the new system is estimated at N1.3 Million. This if compared with the benefits to be derived is reasonably acceptable. Benefits associated with the system include, establishment of correct and accurate records for staff, easy retrieval and insertion of data or records, security of records and information e.t.c.

CHAPTER FOUR

IMPLEMENTATION OF THE SYSTEM

INTRODUCTION

This chapter (Implication of the system) deals mainly with how the system works. Specifically it looks at the methods used to solve the problem at hand. It discusses among others, the algorithm, and the codings of the program(s) the documentation that is how to access the program and use it.

Others include, comment, analysis or discussion in the output of the program as the case may be. The last item dealt with, has to do with the change over procedure and then the summary of the chapter.

2.1 Algorithm

Algorithm can be defined as a set of unambiguous rules that define how a particular problem or class of problems can be solved in a finite sequence of steps.

Algorithm has three (3) basic conditions. They are:

Conditions for Algorithms.

- i. Definiteness
- ii. Effectiveness
- iii. Finiteness

Definiteness: - This is to say each instruction in the list (i.e Sequence of instructions) must be clear and unambiguous ie the algorithm should be precise.

- ii **Effcetiveness:** - This is to say every instruction must be sufficiently basic. That a person using only pencil and paper can in principle carry it out. It is not enough that each operation be definite as in (i) above but it must also be feasible (ie executable).

Finiteness: - Algorithms should have a finite number of instructions and if we are to trace out the instructions of the algorithm, then for all cases the algorithm must terminate after a finite number of steps.

2.3 **Methods of Algorithms**

- 1 English Language (Natural)
- 2 Flow chart
- 3 Pseudocode
- 4 Decision Tree
- 5 Decision Table.

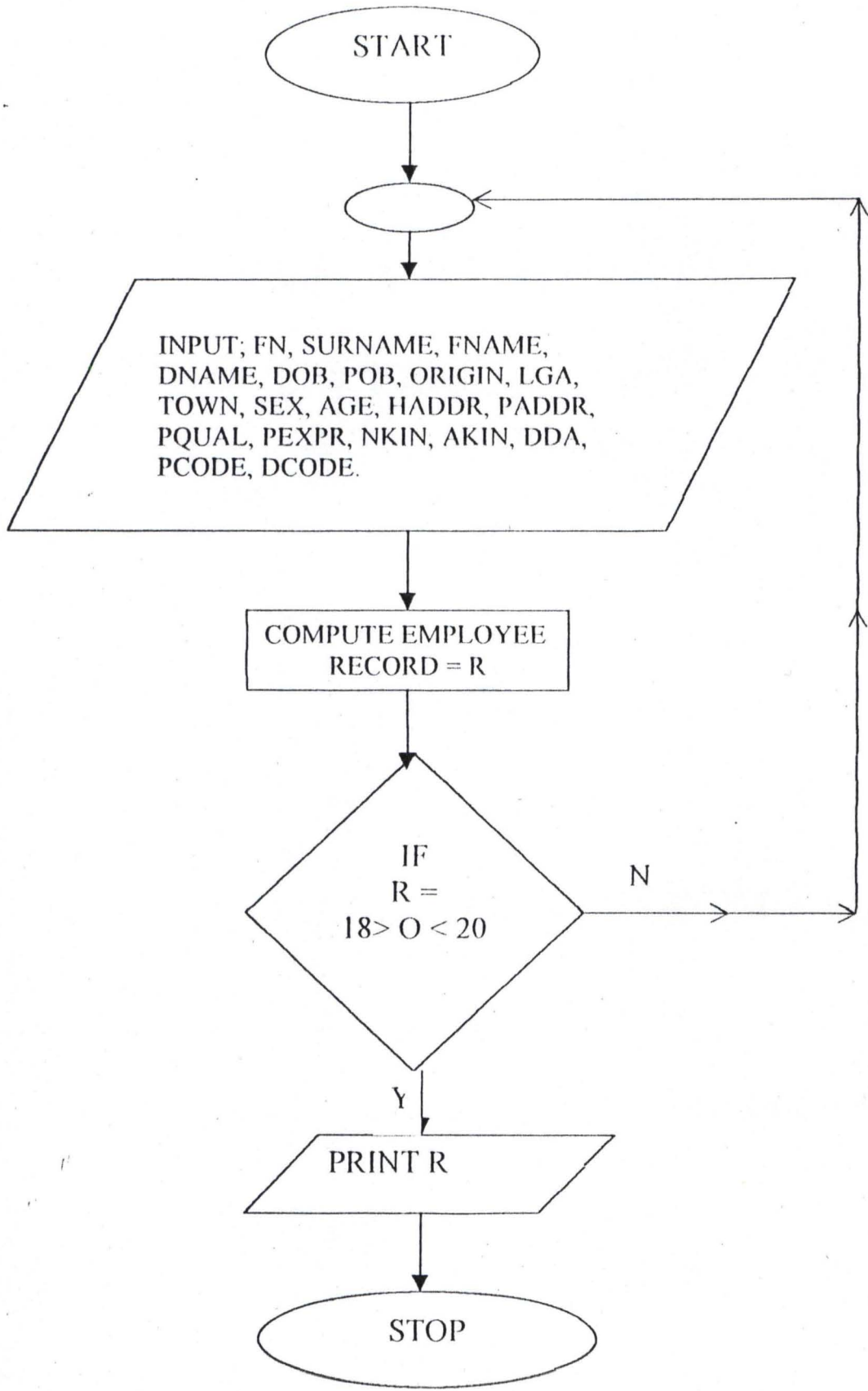
For the purpose of this write up however, the flow chart method of algorithm will be used.

Flow Chart

This is the pictural (graphical) representation of steps taken to solve a specific problem.

This form places each processing step in a “box” and uses arrows to indicate the next step. Different shaped boxes stand for different kinds of operation.

Therefore, the flow chart for the automation of personnel management information system of NSPEB is as follows:



Flowchart for NSPEB employee record

4.3 Program listing (ie Coding the Program)

This involves the process of assigning codes to specific operation (step) within the main program. The sub-program themselves comprises of piece of information that make up the entire program. The program is listed / coded under the following headings.

A PERSONNEL DATA UPDATE

B DATA ENQUIRY

C REPORT GENERATOR

Q SYSTEM EXIT.

The alphabets A, B, C, Q are used in the coding process at the first level menu. This is to make it easier for the user to access any of the specific file(s) he may like to work on. Supposing a user want to print the record of an employee of the board all he needs is to click on code "C" another menu (ie Report generator menu) will appear on the screen. On that menu, he should click on option or code "D" which contains individual seperate records.

The details on the working of each of the coding process above will be examining in next sub – chapter below ie how to access and use the program.

Program Interface (ie Documentation)

This section explains in detail how to access the program and use it. In other words, it describes how the system works. This is done to ensure better understanding of the system by users incase of any difficulty.

1 Accessing the Program: -

As stated earlier (in chapter 3), the new system is developed using dBASE IV. To begin with therefore, on procurement of a system, dBASE IV must be install on the computr system. The program can be access through the DOS (Disk Operating System) prompt, then, by typing "DO NSPEB" in dBASE IV mode.

This will display the first level menu. The user then selects from amongst the options available. They include

- A PERSONNEL DATA UPDATE
- B DATA ENQUIRY
- C REPORT GENERATOR
- Q SYSTEM EXIT

4.4.2 How to use the Program.

As earlier stated in the program coding (4.3) above, the program can access by typing or issuing the command "DO NSPEB" in DOS prompt. This will automatically lead to the display of the first level menu.

To use the program therefore, the user while in the first level menu has four options. Three (3) of these options are various files while the fourth (4th) is the system exit code "Q" which closes the programs.

Having highlighted briefly how to access and use the program we now discuss operation that can be carried out in each of the files above.

A PERSONNEL DATA UPDATE:

This options is use to manage the details of the board's personnel. It contains a sub menu as represented in fig ii of the program output (i.e 4.5 above). They include options coded as A, B, C, D, & Q.

- A ADD NEW STAFF RECORD
- B EDIT STAFF RECORD
- C VIEW STAFF RECORD
- D DELETE STAFF RECORD
- Q QUIT

A – Add new staff record: - This will lead the user or enables him to enter the data for new employee(s) joining board in order to create records for him or her.

B-Edit staff record: - This is use to modify the data or record(s) of existing staff. This is done whenever some changes are observed or effected on an employee record e.g when an employee obtains additional qualification or when he or she is transfered e.t.c

C -View staff record: - This is used to view the record of employees without necessarily making any alteration to the record(s).

D -Delete staff record: -This options is used whenever a record is no longer needed e.g when an employee leaves the board and all necessary transfer of documents have been effected and the board deems it unnecessary to keep such records, it can delete it clicking on code "D" from the PERSONNEL DATA UPDATE menu.

Q -Quit: - This is use to take a user out of the PERSONNEL DATA UPDATE and returns him or her to first level menu.

B DATA ENQUIRY: - This menu is used to carry out enquiry on an employee or group of employees. This can be done either by position or by department of personnel as illustrated in fig.iii of program output in 4.5 above.

C REPORT GENERATOR MENU: - This menu is used to produce the output of the executed program. As stated earlier the report is either on hard or soft copy. The soft copy is on screen of the monitor while the hardcopy is on paper. There are four kinds of report to be generated. They include

- A GENERAL STAFF LIST
- B STAFF LIST BY POSITION
- C STAFF LIST BY DEPARTMENT
- D INDIVIDUAL STAFF RECORD
- Q QUIT.

A General staff list: - This report does not segregate on basis of ranking, department or any criteria. It may be alphabetically arranged or based on input ie first-in-first-out format.

B Staff list by position: - This report is arrange in descending order with the chairman who is the overall head and chief executive at the top followed by his board members and secretary, to the directors and other staffs up the last messenger or sweeper.

C Staff list by department: - This report strickly arranges reports base employee department strickly. That is to say staff list is to be generated according to departments for the purpose of this section however, this project will consider the office of the executive chair as a department, which shall comprise of both the audit department and computer center. By implication therefore, we will be expecting five (5) departments, the origin of four (4) being, Personnel Management, Planning, Research and Statistics, Finance and Supply and School Services.

D Individual staff record: - This report displays or print out an individual staff record on the screen or paper as the case may be, it will include the employee's entire bio – data up to date.

Q Quit: -This will close report generator menu and return to the first level menu.

5 **Out of the Program:**

This are the results obtained after running the program in dbase IV, The Programming Language used as shown in the appendix, is specifically designed to achieve the computerisation of personnel records of the Niger State Primary Education Board. The results obtain were in compliance or in line with the designed format or structure of the program.

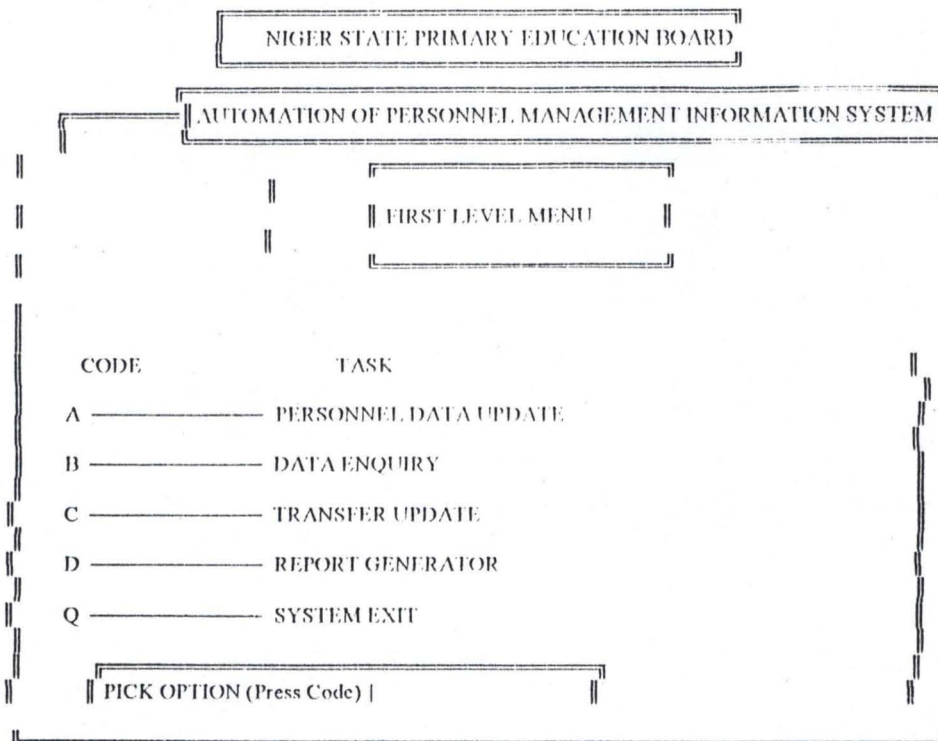


Fig. i

Fig I is the first dialogue box which will appear on the screen. This is the first level or main menu, which gives easy access to any task that, should be carried out through the codes.

PERSONNEL DATA UPDATE MENU

CODE	TASK
A	NEW STAFF RECORD
B	EDIT STAFF RECOORD
C	VIEW STAFF RECORD
D	DELETE STAFF RECORD
Q	QUIT

Fig. ii

Fig II is the “personnel data update menu” dialogue box. It can be accessed by pressing code “A” from main menu (on fig I above). It carries out Four (4) tasks. I.e it can be used in creating records for new staffs, it can be used for editing or effecting changes on the records of existing staffs, it can be use for viewing staff records and for deleting staff record.

```

DATA ENQUIRY SCREEN
-----
ENQUIRY BY:
CODE   TASK
----   ---
A     POSITION
B     DEPARTMENT
Q     QUIT

-----PRESS CODE for choice-----

```

Fig. iii

Fig III is the dialogue box for the data enquiry screen. Pressing code “B” from the first level menu can access it. It is use to enquire about an employee.

```

+-----+
| REPORT MENU |
|-----|
| CODE  TASK  |
|----  ---|
| A --- GENERAL STAFF LIST |
| B --- STAFF LIST BY POSITION |
| C --- STAFF LIST BY DEPARTMENT |
| D --- INDIVIDUAL STAFF RECORD |
| Q --- QUIT |
|-----|
| PRESS CODE for choice |
+-----+

```

Fig. iv


```

+-----NIGER STATE PRIMARY EDUCATION BOARD-----+
|
|-----
|          UPDATING STAFF RECORD
|-----          DATE:
|
|EMPLOYEE NUMBER (press "ENTER KEY" to exit): pp/
|
|SURNAME          FIRST NAME          INITIALS
|
|RESIDENTIAL ADDRESS ;
|
|STATE OF ORIGIN;          NATIONALITY;          SEX
|
|DATE OF BIRTH;          EDUCATIONAL QUALIFICATION;
|
|DATE OF EMPLOYMENT; POSITION DEPT.CODE: ANNUAL SALARY
|                                     #
|
|DETAILS OF NEXT OF KIN
|  NAME;          ADDRESS;
|
+-----
|
|INVALID EMPLOYEE NUMBER PRESS ANY KEY
|
+-----

```

Fig. vi

Fig VI is the updating staff record menu. Pressing code "B" from the personnel data updates menu in figure II above can access it. It is use in effecting changes on employee records.

```

+-----NIGER STATE PRIMARY EDUCATION BOARD-----+
|
|-----
|          VIEWING STAFF RECORD
|-----          00/00/0000
|
|SURNAME          FIRST NAME          INITIALS
|
|RESIDENTIAL ADDRESS;
|
|STATE OF ORIGIN;          NATIONALITY;          SEX;
|
|DATE OF BIRTH;          EDUCATIONAL QUALIFICATION;
|
|DATE OF EMPLOY.; POSITION CODEc DEPT.CODE: ANNUAL SALARY;
|                                     #
|
|DETAILS OF NEXT OF KIN
|  NAME;          ADDRESS;
|
+-----
|
|VIEWING A PRESONNEL RECORD. PRESS ANY KEY TO CONTINUE
|
+-----prss any key to continu...-----+

```

Fig.vii

Fig VII displays the menu for viewing staff record. It can be accessed by pressing code "C" on the personnel data update menu in figure II (above). It is use for viewing employee record.

```
+-----NIGER STATE PRIMARY EDUCATION BOARD-----+
|
|-----|
|          DELETING STAFF RECORD          |
|-----|
|          DATE                          |
|-----|
| EMPLOYEE NUMBER (press "ENTER KEY" to exit); |
| SURNAME      FIRST NAME      INITIALS      |
|-----|
| RESIDENTIAL ADDRESS;                    |
| STATE OF ORIGIN;      NATIONALITY;      SEX; |
| DATE OF BIRTH;      EDUCATIONAL QUALIFICATION; |
| DATE OF BIRTH; POSITION CODE DEPT.CODE; ANNUAL SALARY; |
|                                     #      |
|-----|
| DETAILS OF NEXT OF KIN                  |
| NAME:          ADDRESS;                |
|-----|
| RECORD NOT DELETED ,PRESS ANY KEY TO CONTINUE |
|-----|
| RECORD IS DELETED PRESS ANY KEY TO CONTINUE |
|-----|
| INVALID EMPLOYEE NUMBER PRESS ANY KEY TO CONTINUE |
|-----|
| press any key to continu...DELETE RECORD (Y/N);-----|
+-----+
```

Fig.viii

Fig VIII Display the menu for deleting staff record. It can be accessed by pressing code "D" in the personnel data update menu in fig II. It is to be use for deleting the employee record. This can happen when an employee dies or leaves the services of the board.

NIGER STATE PRIMARY EDUCATION BOARD

GENERAL LIST OF STAFF

[S/N EMPLOYEE No.]					
NAME	POSITION	ANNUAL SALARY	DEPARTMENT	EMPLOY. DATE	
1	L mempno mname	nrdesc	0,000,000.00	.mdemp	mddesc

2

Fig. ix

Fig IX Display the General list of staff. It can be accessed by Pressing cod "A" in the report menu in figure IV (above). It can be use in displaying on the monitor screen or printed on paper the general list of staffs.

NIGER STATE PRIMARY EDUCATION BOARD

STAFF LIST BY POSITION

[S/NO	EMPLOYEE No.]	---NAME	---POSITION	ANNUAL SALARY	DEPARTMENT
1	mempno	mname	nrdesc	msal pict 9,999,99	mddesc

2

Fig. x

Figure X, this displays the staff list by the position or hierarchy. Pressing code "B" on the report menu in fig. IV can access it. It can be used to display on the screen or printed on hierarchically the list of staffs based on the position they occupied.

NIGER STATE PRIMARY EDUCATION BOARD

STAFF LIST BY DEPARTMENT

[s/no]	EMPLOYEE No.	NAME	POSITION	ANNUAL SALARY
1	mempno	mname	mrdesc	msal pict 9,999,999.99
2				

Fig.xi

Figure XI Displays staff list by department. Pressing code “C” on the report menu in figure IV (above) can access it. It is to be use in displaying the lis of employees in the various departments of the board.

NIGER STATE PRIMARY EDUCATION BOARD

STAFF LIST BY INDIVIDUAL RECORD

[S/No.]	EMPLOYEE No.	NAME	DEPARTMENT	ANNUAL SALARY
1	mempno	mname	mrdesc	msal pict 9,999,999.99
2				

Fig.xii

Figure XII Displays the individual record staff list. Pressing code “D” on the report menu in fig.IV can access it. It can be for accessing individual employee record for displaying on the screen or printed on paper.

Non-computer professionals do this to simplify the usage of the program. People with little knowledge of computer, using the instructions above, can conveniently execute various jobs on the program. This is to inculcate the use of computers in the daily life of our employees at the public sectors.

.5 Change Over Procedure

This involves file conversion and file set up. File conversion requires changing the old (existing) system files to the format and content required by the new

system. File set up is the process of setting up the converted files on the computer.

Changeover is the full replacement of all the old procedures by the new ones.

The changeover could be in any of the following three forms.

- (i) Parallel changeover
 - (ii) Direct changeover
 - (iii) Pilot changeover
- (i) Parallel changeover: This requires both old and new system to run concurrently for some time using the same inputs. The output of the two systems are compared. This will continue until the new system is confirmed to be working satisfactorily.
 - (ii) In the case of direct changeover, the old system becomes operational immediately.
 - (iii) The Pilot changeover requires changing to the new system on a piecemeal.

All the above highlighted procedures of a system conversion are required for the new system. It should be noted that a computer operator under a close supervision could perform the file conversion and the file set up. However, it is recommended that a parallel changeover method for the conversion of the system should be adopted. This is to ensure that within the period of changeover, the store activities in terms of storage and information retrieval are not in any way affected.

4.6 Summary Of Chapter

The chapter analyses the implementation of the system. Consequently, an algorithm was designed which is to be used in solving the problem. The algorithm method used was the flowchart which uses graphical or pictorial

symbols to represent the sequence of steps to followed. Also program listing which itemise the program coding, we then preceed to the program documentation where we discuss among others how to access the program and how to use the program. We thereafter went ahead to look at some comments and analysis on the generated output. The changeover procedure involve the gradual process that will be followed to automise the entire personnel records of the board.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This Chapter summarises the research work carried out on the project, the conclusion arrived at and the recommendations profered to enhance the automation of personnel management information system of the Niger State Primary Education Board, Minna.

5.2 Summary

This project was conceived based on the need to establish a reliable data bank for records of personnel, hence the computerization of the personnel records of the Niger State Primary Education Board, Minna. It was observed that the board, for some time now has been facing problems as regards records keeping of it personnel. These include loss of records, difficulty in retrieval amongst others. In the course of the study it was noted and acknowledged that it is only computerization that can solve most of the problems identified against the existing method of record keeping.

However, a gradual process of automation needs to be followed in order to accomplish the task of computerising the personnel records of the board. The analysis of these procedures were examined and the result was considered in the design of the proposed system. Logical procedure as well as physical component of the computer units required for the implementation of the new system were all put into consideration. The documentation was simplified so that user can access the program easily and use it.

5.3 Conclusion

The global phenomenum of continued substitution of manual procedures of records keeping with that of computer has become a must for organisation that

want to succeed. This is due to its relevance in virtually all aspects of human endeavour. This is intensified by the capability of computers to perform task with the least probability of error and by implication greater chance of accuracy. It is not subjected to error and its ability to accomplish task with the higher speed than human being or manually.

.4 Recommendation

The need for the computerisation of personnel records of NSPEB is to ensure that the board gains benefits offered by or derived from computerisation which include speed, accuracy of records easy storing and retrieval of information. This benefits may not be achieved to its maximum if certain measures are not taken. As such for the board to attain the maximum benefit of computerisation, the following recommendation needs to be strictly observed.

Manpower requirement: - The use of computer in an organisation requires the services of trained professionals in computer science. As such, it is recommended that trained computer professionals like the typist, needs specialisation in word processing. The employee needs to know the operations of a Data base management system.

Training requirement: - Since the board will not come overnight to bring in entirely new staffs to man the computer room. Existing staffs of the board need to undergo training on how to use the new system. So that they can serve as buffer between the board staffs and the new staffs to be recruited.

Conducive environment for computer operation: - Under normal circumstances a computer room should be air-conditioned. The Niger State Primary Education Board should provide good cooling facility / system for the computers so as ensure durability of the system.

Enlighten existing staff about the proposed computerisation: - A kind of seminar needs to be organised to keep the entire work force of the board

abreast of the need for the computerisation so as to clear away fear that the propose system might create undue anxiety of staff (say with bad records).

- 5 **Security:** - In any computer based records keeping system, there is the need to safeguard the secrecy of records kept. In view of this, board staffs as well as outsiders who are not staffs of the computer department should not be given unrestricted access to the computer room. In addition, even each employee / staff of the computer room should have his or her password, which they use in opening the system or accessing the program.

5.5 **Summary**

This chapter deals with the summary of research carried out, conclusions arrived at and recommendations made for better computerisation. Issues such as gradual automation process was suggest, training of internal staffs to manned the department e.t.c. It was concluded that computerisation is now a global phenomenon that the board cannot afford to be leftout, finally the board has been given all necessary guide for hitch free conversion from manual to computer based personnel record management.

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APPENDIX

```
Set talk off
Set stat off
Set scor off
Set safe off
Set date brit
Set proc to nspeb
do while .t.
  clea
  @ 0, 23 to 2, 56 doub
  @ 22, 23, to 24, 55 doub
  @ 4, 10 to 24, 69 doub
  @ 3, 18 to 5, 61 doub
  @ 6, 30 to 8, 49 doub
  @ 1, 31 say "NIGER STATE PRIMARY EDUCATION BOARD"
  @ 4, 19 say "AUTOMATION OF PERSONNEL MANAGEMENT INFORMATION SYSTEM"
  @ 7, 32 say "FIRST LEVEL MENU"
  @ 10, 21 say 'CODE'
  @ 10, 42 say 'TASK'
  @ 12, 22 say 'A'
  @ 12, 25 to 12, 35
  @ 12, 25 say 'PERSONNEL DATA UPDATE'
  @ 14, 22 say 'B'
  @ 14, 25 to 14, 35
  @ 14, 38 say 'DATA ENQUIRY'
  @ 16, 22 say 'C'
  @ 16, 25 to 16, 35
  @ 16, 38 say 'TRANSFER UPDATE'
  @ 18, 22 say 'D'
  @ 18, 25 to 18, 35
  @ 18, 38 say 'REPORT GENERATOR'
  @ 20, 22 say 'Q'
  @ 20, 25 to 20, 35
  @ 20, 38 say 'SYSTEM EXIST'
  @ 23, 25 say "PICK OPTION (Press Code)i"
do  while .t.
  choice = space(1)
  @23, 53 get choice pict 'I'
  read
```



```

if choice $ " ABCDQ"
    exit
endi
endo
do case
    case choice = "A"
        do sub 1
    case choice = "B"
        do sub 2
    case choice = "C"
        do sub 3
    case choice = "D"
        do sub 4
    otherwise
        exit
    end case
end do
clear
return

```

PROC SUB 1

```

do while .t.
    clea
    @ 3, 15 to 21, 64 doub
    @ 18, 23 to 18, 56 doub
    @ 4, 27 say "PERSONNEL DATA UPDATE MENU"
    @ 5, 27 to 5, 52 doub
    @ 7, 25 say "CODE"
    @ 7, 40 say "TASK"
    @ 8, 25 to 8, 28
    @ 8, 40 to 8, 43
    @ 9, 26 say "A"
    @ 9, 30 to 9,34
    @ 9, 36 say "NEW STAFF RECORD"
    @ 11, 26 say "B"
    @ 11, 30 to 11, 34
    @ 11, 36 say "EDIT STAFF RECORD"
    @ 13, 26 say "C"
    @ 13, 30 to 13, 34
    @ 13, 36 say "VIEW STAFF RECORD"
    @ 15, 26 say "D"
    @ 15, 26 to 15, 34

```

```
@ 15, 36 say "DELETE STAFF RECORD"  
@ 17, 26 say "Q"  
@ 17, 30 to 17, 34  
@ 17, 36 say "QUIT"  
@ 20, 28 say "PRESS CODE for choice"  
do while .t.  
    choice = space (1)  
@ 20, 51 get choice pict '! '  
read  
if choice $ "ABCD "  
    exit  
endi  
end do  
do case  
    case choice = "A"  
        do prog 1  
    case choice = "B"  
        do prog 2  
    case choice = "C"  
        do prog 3  
    case choice = "D"  
        do prog 4  
    otherwise  
        exit  
    end case  
end do  
return
```

PROC SUB 2

do while .t.

@ 3, 19 to 60 doubt

@ 18, 20 to 18, 59 doubt

@ 4, 30 say "DATA ENQUIRY SCREEN"

@ 5, 30 to 5, 48 doubt

@ 7, 20 ssay "ENQUIRY BY"

@ 9, 30 say "CODE"

@ 9, 45 say "TASK"

@ 10, 30 to 10, 33

@ 10, 45 to 10, 48

@ 11, 31 say 'A'

@ 11, 45 say 'POSITION'

@ 13, 31 say 'B'

@ 13, 45 say 'DEPARTMENT'

@ 15, 31 say 'Q'

@ 15, 45 say 'QUIT'

@ 18, 28 say "Press CODE for choice;"

do while .t.

choice = space (1)

@ 20, 51 get choice pict '!'

read

if choice \$ "ABQ"

exit

endi

end do

do case

case choice = "A"

do enquiry 1

case choice = "B"

do enquiry 2

otherwise

exit

end

endo

return

PRO SUB 3

do whil .t.

clea

@ 2, 18 to 20, 61 doub

@ 17, 19 to 17, 6 doub

@ 3, 34 say ' REPORT MENU'

@ 4, 34 to 4, 44

@ 6, 21 say ' CODE'

@ 6, 29 say TASK

@ 7, 21 to 7, 24

@ 7, 29 to 7, 32

@ 8, 22 say ' A '

@ 8, 24 to 8, 27

@ 8, 29 say ' GENERAL STAFF LIST'

@ 10, 22 say ' B '

@ 10, 24 to 12, 27

@ 10, 29 say ' STAFF LIST BY POSITION BY DEPARTMENT'

@ 12, 22 say ' C '

@ 12, 24 to 12, 27

@ 12, 29 say ' STAFF LIST BY DEPARTMENT'

@ 14, 22 say ' D '

@ 14, 24 to 14, 27

@ 14, 29 say ' INDIVIDUAL STAFF RECORD'

@ 16, 22 say ' Q '

@ 16, 24 to 16, 27

@ 16, 29 say ' QUIT '

@ 19, 28 say " PRESS CODE for choice;"

do whil .t.

choice = space (1)

@ 19, 51 get choice pict ' ! '

read

if choice \$ " ABCDQ "

exit

endi

enddo

do case

case choice = " A "

do report I

```

    case choice = " B "
        do report 2
    case choice = " C "
        do report 3
    case choice = " D "
        do report 4
    otherwise
        exit
    endcase
    enddo
    return

```

PROC ENQUIRY 1

```

set talk off
set stat off
set date brit
use pers
sort on r code empro to pers 1. dbf
use
sele a
    use pers 1
sele b
    use dept
sele c
    use position
do while .t.
    clea
    sele c
    go top
    mr code = ' '
    @ 12, 10 say " ENTER POSITION CODE (Press ' ENTER KEY'
to Exit) ; " get mrcode
    read
    if mrcode = ' '
        exit
    endi
    loca fo mrcode = rcode
    if . not. Found ( )
        @ 20, 10 say ' POSITION CODE DOES NOT EXIST, PRESS ANY KEY'
        ANY KEY'
    set cons of

```

```

wait
set cons on
loop
endi
mrdesc = rdesc
sele a
go top
loca for mrcode = rcode
if. Not. Found ( )
    @ 20, 10 say 'POSITION CODE DOES NOT EXIST, PRESS ANY KEY'
    set cons off
    wait
    set cons on
    loop
    endi

clea
@ 0, 25 say 'NIGER STATE PRIMARY EDUCATION BOARD'
@ 1, 25 to 1, 54 doub
@ 3, 29 say 'LIST OF STAFF BY POSITION'
@ 5, say 'POSITION'
@ 6, 0 to 6, 79
@ 7, 0 say '| S/NO: EMPLOYMENT          NO;'
@ 7, 23 say 'NAME'
@ 7, 47 say ':'
@ 7, 49 say 'DEPARTMENT'
@ 8, 0 say 8, 79
sno = 1
r    = 9
sele a
mdcode = dcode
sele b
go top
loca for mdcode = dcode
mddesc = ddesc
sele a
do whil. not . eof ( )
    mempro=empro
    m name= rlrin (sname) + '          ' + i ni+
    mdcode = dcode
    msal    = sal
    @ r, 0 say ':'

```



```

@ r, 1 say sno pict ' 999'
@ r, 5 say ' : '
@ r, 7 say mempro'
@ r, 18 say ' : '
@ r, 19 say ' mname'
@ r, 47 say ' : '
@ r, 48 say ' mddesc '
@ r, 65 say ' : '
skip
r = r + 1
sno = sno + 1
if mrcode < > rcode
    exit
endi
if mdcode <> rcode
    mdcode = dcode
    sele b
    go top
    loca for mdcode = dcode
    mddesc = ddesc
    sele a
    endi
endi
endd
wait
clea
endd
close all
clea
return

```

PROC ENQUIRY 2

```
set talk off
set stat off
set date brit
use pers
sort on dcode, empro to pers 1, dbf
use
sele a
    use pers 1
sele b
    use dept
sele c
    use position
do while .t.
clea
sele b
go top
mdcode = ' '
@ 12,10 say "ENTER DEPARTMENT CODE (Press 'ENTER KEY' TO
EXIT) i" get mdcode
read
if mdcode = ' '
    exit
endi
loca for mdcode = dcode
if .not. found ( )
@ 20,10 say "DEPARTMENT CODE DOES NOT EXIT, PRESS ANY KEY
set cons off
wait
set cons on
loop
endi
mddesc = ddesc
sele a
go top
loca for mdcode = dcode
if .not found (')
@ 20,10 say 'DEPARTMENT CODE DOES NOT EXIT,PRESS ANY KEY'
set cons off
wait
set cons on
```

```

loop
endi
Clea
@ 0,25 say 'NIGER STATE PRIMARY EDUCATION BOARD'
@ 1,25 to 1,54 doub
@ 3,26 say 'LIST OF STAFF BY DEPARTMENT'
@ 5,0 say 'DEPARTMENT j'+ mddesc
@ 6,0 to 6,79
@ 7,0 say 'j S/NojEMPLOYEE No'. j
@ 7,23 say 'NAME'
@ 7,43 say (j)
@ 7,51 say 'POSITION'
@ 8,0 to 8,79
sno = 1
r = 9
sele a
mr code = r code
sele c
go top
loca for mrcode = rcode
mrdesc = rdsc
sele a
do while .not. found ( )
    mempno = empno
    mname = rtrim (sname) + ' ' + init
    mrcode = rcode
    msal = sal
    @ r,0 say 'j'
    @ r,1 say sno pict '999'
    @ r,5 say 'j'
    @ r,7 say 'mem pno'
    @ r,18 say 'j'
    @ r,19 say 'm name'
    @ r,47 say 'j'
    @ r,48 say 'mrdesc'
    @ r,65 say 'j'
    skip
    r = r + 1
    sno = sno + 1
    if mrcode <> dcode
        exit

```



```

endi
if mrcode <> rcode
  mrcode = rcode
  sele c
  go top
  loca for mrcode = rcode
  mrdesc = rdesc
sele a
endi
enddo
wait
clea
enddo
close all
clea
return

```

PROC PROG1

```

Set talk off
Set stat off
Set scor off
Set safe off
Set date brit
Use pers
do while .t.
  now d = date ( )
  clea
  memopro = space (a)
  @ 0,4 to 24,75 doub
  @ 0,26 to 1,53 doub
  @ 22,5 to 22,74
  @ 0,25 say "NIGER STATE PRIMARY EDUCATION BOARD"
  @ 1,25 to 1,54 doub
  @ 2,28 say "NEW STAFF RECORD SCREEN"
  @ 3,28 to 3,50
  @ 3,56 say "DATE:"
  @ 3,63 get nowd
  clea gets

```

```

@5,6 say 'EMPLOYEE NUMBER (press "ENTER" KEY To
Exit);'
set colo to n/w
@ 5,51 say 'pp/'
set colo to
@ 5,54 get mempro
read
if mempro = space (a)
    exit
endi
mempro = 'pp/' + mempro
go top
loca for mempro = empno
if found ( )
    @ 23,19 say 'STAFF RECORD ALREADY EXIST, PRESS ANY KEY'
    set cons off
    wait
    set cons on
    loop
endi
stor spac(20) to msname, mfname
stor ctod ( ' / / ' ) to mdbirth, mdemp
stor spac(30) to mnamekin, maddrkin
mraddr = spac (40)
mstate = spac (12)
mnation = spac (15)
mqual = spac (15)
stor ' ' to msex, mcode
stor ' ' to mrcode
minit = spac (6)
msal = 0
@ 7,10 say 'SURNAME'
@ 7,36 say 'FIRST NAME'
@ 7,60 say 'INITIALS'
@ 8,6 get msname put '@!'
@ 8,33 get mfname pct '@!'
@ 8,61 get minit pict '@!'
@ 10,6 say 'RESIDENTIAL ADDRESS:' get mraddr pict '@!'
@ 12,6 say 'STATE OF ORIGIN' get mstae pict '@!'
@ 12,38 say 'NATIONALITY;' get mnation pict '@!'
@12,68 say 'SEX:' get msex pict '!'

```

```

@ 14,6 say 'DATE OF BIRTH;' get mdbirth
@ 14,32 say 'EDUCATIONAL QUALIFICATION;' get mqual pict '@!'
@ 16,6 say 'DATE OF EMPLOYMENT'
@ 16,27 say 'POSITION CODE'
@16,39 say 'DEPARTMENT CODE'
@16,57 say 'ANNUAL SALARY'
@ 17,8 get mdemp
@17,30 get mrcod
@17,46 get mdcod
@ 17,57 get '#'
@ 17,58 get msal pict '9,999, 999.99'
@ 19,6 say 'DETAILS OF NEXT OF KIN'
@ 20,15 say 'NAME'
@ 20,48 say 'ADDRESS'
@ 21,6 get mnamekin pict '@!'
@ 21,40 get maddrkin pict '@!'
read
@ 25,29 say 'SAVE NEW DATA (Y/N);'
ans = ''
do while .t.
    @ 25,50 get ans pict '!'
    read
    if ans = 'Y' .or. ans = 'N'
        exit
    endi
    ans = ''
endd
if ans = 'Y'
    appe blan
    repl empno with mempno, sname with msname, fname with fname
    repl init with minit, raddr with mrddr, qual with mqual
    repl dbirth, demp with mdemp with mdemp, rcode with mrcode
    repl dcode with mdcod, sex with msex, sal with msal
    repl namekin with mnamekin, addrkin with maddrkin
    repl nation with mnation, state with mstate.
endi
endd
close all
clea
retu

```


PROC PROG2

Set talk off

Set stat off

Set scor off

Set safe off

Set date brit

Use pers

do whil .t.

now d = date ()

clea

mempro = space (9)

@ 0,4 to 24,75 doub

@ 0,26 to 1,53 doub

@ 22,5 to 22,74

@ 0,25 say "NIGER STATE PRIMARY EDUCATION BOARD"

@ 1,25 to 1,54 doub

@ 2,29 say "UPDATING STAFF RECORD"

@ 3,29 to 3,49

@ 3,56 say 'DATE:'

@ 3, 63 get nowd

clea gets

@ 5,6 say 'EMPLOYEE NUMBER (Press " ENTER KEY TO Exit):'

set colo to n/w

@ 5,51 say 'pp/'

set colo to

@ 5,54 get mempro

read

if mempro = spac(9)

exit

endi

mempro = 'pp/ + mempro

go top

loca for mempro = empro

if.not. found ()

@ 23,17 say 'INVALID EMPLOYEE NUMBER, PRESS NAY KEY'

set cons off

wait

set cons on

loop

```

endi
msname = sname
mfname = fname
mdbirth = dbirth
mdemp = demp
mnamekin = namekin
maddrkin = addrkin
mraddr = raddr
mstate = state
mnation = nation
mqual = qual
msex = sex
mdcode = dcode
mrcode = rcode
minit = init
msal = sal
@ 7, 10 say 'SURNAME'
@ 7,36 say 'FIRST NAME'
@ 7,60 SAY 'INITIALS'
@ 8,6 get msname pict '@!'
@ 8,33 get mfname pict '@!'
@ 8,61 get minit pict '@!'
@ 10,6 say 'RESIDENTIAL ADDRESS; get mraddr pict '@!'
@ 12,6 say 'STATE OF ORIGIN;' get mstate pict '@!'
@ 12, 38 say 'NATIONALITY;' get mnation pict '@!'
@ 12,68 say 'SEX;' get msex pict '!'
@ 14,6 say 'DATE OF BIRTH;' get mdbirth
@ 14,32 say 'EDUCATIONAL QUALIFICATION;' get mqual pict '@!'
@ 16,6 say 'DATE OF EMPLOYMENT'
@ 16,27 say 'POSITION CODE'
@ 16,36 say 'DEPARTMENT CODE'
@ 16,57 say 'ANNUAL SALARY'
@ 17,8 get mdemp
@ 17,30 get mrcode
@ 17,46 get mdcode
@ 17,57 say '#'
@ 17,58 get msal pict '9,999, 999.99'
@ 19,6 say 'DETAILS OF NEXT OF KIN'
@ 20,15 say 'NAME'
@ 20,48 say 'ADDRESS'
@ 21,6 get mnamekin pict '@!'

```

```

@ 21,40 get maddrkin pict '@!'
read
@ 23,28 say 'REPLACE DATA (Y/N)'
ans = ' '
do while .t.
    @ 23,49 get ans pict '!'
    read
    if ans = 'Y' .or. ans = 'N'
        exit
    endi
    ans = ' '
endd
if ans = 'Y'
    repl empro with mempro, sname with msname, fname with
mfname
    repl init with minit, raddr with, qual with mqual
    repl dbirth with mdbirth, demp with mdemp, rcode with mrcode
    repl dcode with mdcode, sex with msex, sal with msal
    repl namekin with mnamekin, addkin with maddrkin
    repl nation with mnation, state with mstate
    endi
endd
close all
clea
retu

```

ROC PROG 3

```

Set talk off
Set stat off
Set scor off
Set safe off
Set date brit
Use pers
do while .t.
    now d = date ( )
    clea
    memopro = space (9)
    @ 0,4 to 24,75 doub

```



```

@ 0,26 to 1,53 doub
@ 22,5 to 22,74
@ 0,25 say "NIGER STATE PRIMARY EDUCATION BOARD"
@ 1,25 to 1,54 doub
@ 2,30 say "VIEW STAFF RECORD"
@ 3,30 to 3,49
@ 3,56 say 'DATE'
@ 3,63 get nowd
clea get
@5,6 say 'EMPLOYEE NUMBER (press "ENTER KEY to Exit):'
set colo to n/w
@5,51 say 'pp/'
set colo to
@ 5,54 get mempro
read
if mempro = spac(9)
    exit
endi
mempro = 'pp/' + mempro
got top
loca for mempro = empro
if.not. found ( )
    @ 23,17 say 'INVALID EMPLOYEE NUMBER, PRESS ANY KEY'
    set cons off
    wait
    set cons on
    loop
endi
msname = sname
mfname = fname
mdbirth = dbirth
mdemp = demp
mnamekin = namekin
maddrkin = addrkin
mraddr = raddr
mstate = state
mnation = nation
mqual = qual
msex = sex
mdcode = dcode
mrcode = rcode

```

```

minit = init
msal = sal
@ 7,10 say 'SURNAME'
@ 7,36 say 'FIRST NAME'
@ 7,60 say 'INITIALS'
@ 8,6 get msname pict '@!'
@ 8,33 get mfname pict '@!'
@ 8,61 get minit pict '@!'
@ 10,6 say 'RESIDENTIAL ADDRESS;' get mraddr pict '@!'
@ 12,6 say 'STATE OF ORIGIN;' get mstate pict '@!'
@12,38 say 'NATIONALITY' get mnation pict '@!'
@ 12,68 say 'SEX;' get msex pict '!'
@ 14,6 say 'DATE OF BIRTH;' get mdbirth
@ 14,32 say 'EDUCATIONAL QUALIFICATION;' get mqual pict '@!'
@ 16,6 say 'DATE OF EMPLOYMENT'
@ 16,27 say 'POSITION CODE'
@ 16,39 say 'DEPARTMENT CODE'
@ 16,57 say 'ANNUAL SALARY'
@ 17,8 get mdemp
@ 17,30 get mrcode
@ 17,46 get mdcode
@ 17,57 say '#'
@ 17,58 get msal pict '9,999,999.99'
@ 19,6 say 'DETAILS OF NEXT OF KIN'
@ 20,15 say 'NAME'
@20,48 say 'ADDRESS'
@ 21, 6 get mnamekin pict '@!'
@ 21,40 get maddrkin pict '@!'
clea
@ 23,13 say 'VIEWING A PERSONNEL RECORD, PRESS ANY KEY TO
CONTINUE'

set cons off
wait
set cons on

endd
close all
clea
retu

```

PROC PROG 4

Set talk off

Set stat off

Set scor off

Set safe off

Set date brit

Use pers

do while .t.

 now d = date ()

 clea

 mempro = space (9)

 @ 0,4 to 24,75 doub

 @ 0,26 to 1,53 doub

 @ 22,5 to 22,74

 @ 0,25 say "NIGER STATE PRIMARY EDUCATION BOARD"

 @ 1,25 to 1,54 doub

 @ 2,29 say 'DELETING STAFF RECORD'

 @ 3,29 to 3,49

 @ 3,63 get nowd

 clea gets

 @ 5,6 say 'EMPLOYEE NUMBER (Press " ENTER" To Exit;'

 set colo to

 @ 5,54 get mempro

 read

 if mempro = spac(9)

 exit

 endi

 mempro = 'pp/' + mempro

 go top

 loca for mempro = empro

 if.not.. found ()

 @ 23,17 say 'INVALID EMPLOYEE NUMBER, PRESS ANY KEY'

 set cons off

 wait

 set cons on

 loop

 endi

 msname = sname

 mfname = fname

 mdbirth = dbirth

 mdemp = demp


```

mnamekin = namekin
maddrkin = addrkin
mraddr = raddr
mstate = state
mnation = nation
mqual = qual
msex = sex
mdcode = dcode
mrcode = rcode
minit = init
msal = sal
@ 7,10 say 'SURNAME'
@ 7,30 say 'FIRST NAME'
@ 7,60 say 'INITIALS'
@ 8,6 get msname pict '@!'
@ 8,33 get mfname pict '@!'
@ 8,61 get minit pict '@!'
@ 10,6 say 'RESIDENTIAL ADDRESS;' get mraddr pict '@!'
@ 12,6 say 'STATE OF ORIGIN;' get mstate pict '@!'
@12,38 say 'NATIONALITY' get mnation pict '@!'
@ 12,68 say 'SEX;' get msex pict '!'
@ 14,6 say 'DATE OF BIRTH;' get mdbirth
@ 14,32 say 'EDUCATIONAL QUALIFICATION;' get mqual pict '@!'
@ 16,6 say 'DATE OF EMPLOYMENT'
@ 16,27 say 'POSITION CODE'
@ 16,39 say 'DEPARTMENT CODE'
@ 16,57 say 'ANNUAL SALARY'
@ 17,8 get mdemp
@ 17,30 get mrcode
@ 17,46 get mdcode
@ 17,57 say '#'
@ 17,58 get msal pict '9,999,999.99'
@ 19,6 say 'DETAILS OF NEXT OF KIN'
@ 20,15 say 'NAME'
@20,48 say 'ADDRESS'
@ 21, 6 get mnamekin pict '@!'
@ 21,40 get maddrkin pict '@!'
clea gets
@ 23,28 say 'DELETE RECORD (Y/N);'
ans = ' '
do whil .t.

```

```

        @ 23,49 get ans pict '!'
        read
        if ans = 'Y' .or. ans = 'N'
            exist
        endi
        ans = ' '
    endd
if ans = 'Y'
    dele
    pack
    @ 23,17 say RECORD IS DELETED PRESS ANY KEY TO CONTINUE'
else
    @ 23,16 say RECORD NOT DELETED, PRESS ANY KEY TO CONTINUE'
    set cons off
    wait
    set cons on
endd
clos all
clea
retu

```

PROC REPORT 1

```

Set talk off
Set stat off
Set date brit
Use pers
Sort on rcoded/d, empro to pers 1. dbf
use
sele a
    use pers 1
sele b
    use dept
sele c
    use position
set devi to prin
@ 1,21 say "NIGER STATE PRIMARY EDUCATION BOARD"
@ 2,21 say Repl ( '=' ,35)
@ 4,25 say 'GENERAL LIST OF STAFF'
@ 5,25 say repl ( '=' ,21)
@ 7,1 say repl ( '=' ,132)

```

PROC REPORT 1

```
Set talk off
Set stat off
Set date brit
Use pers
Sort on rcoded/d, empro to pers 1. dbf
use
sele a
    use pers 1
sele b
    use dept
sele c
    use position
set devi to prin
@ 1,21 say "NIGER STATE PRIMARY EDUCATION BOARD"
@ 2,21 say Repl ('=' ,35)
@ 4,25 say 'GENERAL LIST OF STAFF'
@ 5,25 say repl ('=' ,21)
@ 7,1 say repl ('=' ,132)
@ 8,1 say '| S/N | EMPLOYEE NO |'
@ 8,25 say 'NAME'
@ 8,35 say '|'
@ 8,42 say 'POSITION'
@ 8,52 say '| ' ANNUAL SALARY | DATE OF EMPLOY. |'
@ 8,65 say 'DEPARTMENT'
@ 8,75 say '|'
@ 9,1 say repl ('=' ,132)
sno = 1
r = 10
sele a
mrcode = rcode
mdcode = dcode
sele c
go top
loca for mr code = rcode
mrdesc = rdsc
sele b
go top
loca for mdcode = dcode
mddesc = ddsc
```



```

sele a
do while not. Found ( )
    mempro = empro
    mname = rtrim (sname) + ' ' + rtrim (fname)
    mrcode = rcode
    msal = sal
    mdemp = demp
    @ r, 1 say '|'
    @ r, 4 say sno pict '999'
    @ r, 8 say '|'
    @ r, 11 say 'mempro'
    @ r, 23 say '|'
    @ r, 24 say 'mname'
    @ r, 64 say '|'
    @ r, 65 say 'mrdesc'
    @ r, 52 say '|'
    @ r, 55 say msal pict '9,999,999.99'
    @ r, 58 say '|'
    @ r, 64 say 'mdemp'
    @ r, 68 say '|'
    @ r, 70 say 'mddesc'
    @ r, 75 say '|'
    skip
    r = r + 1
    sno = sno + 1
    if mrcode <> rcode
        mrdesc = rdesc
    sele a
endi
if mrcode <> dcode
    mrcode = dcode
    sele b
    go top
    loca for mrcode = dcode
    mddesc = ddesc
    sele a
endi
endd
r = r + 1
@ r, 1 say repl (' - ', 132)
ejel

```

```
set devi to scor
close all
clea
retu
```

PROC REPORT 2

```
Set talk off
Set stat off
Set date brit
Use pers
Sort on rcode/d, empro to pers 1 . dbf
Use
Sele a
    Use pers
Sele b
    Use dept.
Sele c
    Use position
Set deri to prin
@ 1,21 say 'NIGER STATE PRIMARY EDUCATION BOARD'
@ 2,21 say repl ('=', 30)
@ 4,26 say 'STAFF LIST BY POSITION'
@ 5,26 say repl ('=', 20)
@ 7,8 say repl ('-', 116)
@ 8,8 say 'i' s/No 'i'EMPLOYEE No. 'i'
@ 8,31 say 'NAME'
@ 8,35 say 'i'
@ 8,40 say 'POSITION'
@ 8,52 say 'ANNAUL SALARY 'i'
@ 8,65 say 'DEPARTMENT'
@ 8,72 say 'i'
@ 9,8 say repl ('-', 79)
@sno = 1
@r = 10
@ sele a
mrcode = rcode
mdcode = dcode
sele c
go top
loca for mrcode =rcode
```

s

```
sele a
do while .not cof( )
  mempro = empno
  mname = rtrim(sname) + ' ' + rtrim(fname)
  mrcode = rcode
  mdcode = dcode
  msal = sal
  @ r,8 say 'j'
  @ r,12 say sno pict '999'
  @ r,15 say 'j'
  @ r,18 say mempro
  @ r,30 say 'j'
  @ r,31 say mname
  @ r,38 say 'j'
  @ r,40 say mrdesc
  @ r,52 say 'j'
  @ r,53 say msal pict 9,999,999,99'
  @ r,72 say 'j'
  @ r,73 say mddesc
  @ r,79 say 'j'
  skip
  r = r+1
  sno = sno+1
  if rcode = '01' .or. rcode = '02' .or. rcode = '03' .or.
  rcode = '04' .or. rcode = '05'
    exit
  endi
  if mrcode <> rcode
    mrcode = rcode
    sele c
    go top
    loca for mrcode = rcode
    mrdesc = rdsc
    sele a
  endi
  if mdcode <> dcode
    mdcode = dcode
    sele b
    go top
    loca for mdcode = dcode
```



```

mrdesc = rdesc
sele b
go top
loca for mcode = dcode
mddesc = ddesc
mddesc = ddesc
    sele a
endi
endal
@r,8 sayrepl ('-', 116)
ejec
set devi to scor
clos all
clea
retu

```

PROC REPORT 3

```

    set talk off
    set stat off
    set date brit
    use pers
    sort on rcode/d, empro to pers1 .dbf
    use
    sele a
        use pers 1
    sele b
        use dept
    sele c
        use position
    set devi to prim
    @ 1,21 say 'NIGER STATE PRIMARY EDUCATION BOARD'
    @ 2,21 say repl ('=', 35)
    @ 4,26 say 'STAFF LIST BY DEPARTMENT'
    @ 5,26 say repl ('=', 24)
    @ 7,8 say repl ('=', 80)
    @ 8,8 say 'i'S/No iEMPLOYEE No i'
    @ 8,31 say 'NAME'
    @ 8,35say 'i'
    @ 8,40 say 'POSITION'
    @ 8,52 say 'ANNUAL SALARY'
    @ 9,8 say repl ('-', 79)
sno = 1

```

```

r = 10
sele a
loca for rcode = '01' .or. rcode = '02' .or. rcode =
'03' .or. rcode = '04' .or. rcode = '05'
mrcode = rcode
mdcode = dcode
sele c
go top
loca for mrcode = rcode
mrdesc = rdesc
sele b
go top
loca for mdcode = dcode
mddesc = ddesc
sele a
do while .not. eof( )
mempro = empro
mname = rtrim(sname) + ' ' + rtrim(fname)
mrcode = rcode
mdcode = dcode
msal = sal
@ r,8 say 'j'
@ r,12 say sno pict '999'
@ r,15 say 'j'
@ r,18 say 'mempro'
@ r,30 say 'j'
@ r,31 say mname
@ r,38 say 'j'
@ r,40 say mrdesc
@ r,53 say 'j'
@ r,54 say msal pict '9,999,999.99'
@ r,73 say 'j'
skip
r = r+1
sno = sno+1
if mrcode = rcode
    mrcode = rcode
    sele c
    go top
    loca for mrcode = rcode
    mrdsc = rdsc

```

```

        sele a
    endi
        if mrcode < > dcode
            mrcode = dcode
        sele b
        go top
        loca for mrcode = dcode
        mrdesc = rdesc
        sele a
    endi
end d
@ r,8 say repl ('-',75)
ejec
set devi to scor
closall
clea
retu

```

PROC REPORT 4

```

set talk off
set stat off
set dat brit
user pers
sort on rcode/d, empro to pers 1. dbf
use
sele a
        use pers1
sele b
        use dept
sele c
        use position
set devi to prin
        @ 1,21 say "NIGER STATE PRIMARY EDUCATION BOARD"
        @ 2,21 say Repl ('-', 35)
sele a
mrcode = rcode
mrcode = dcode
sele c
go top
loca for mrcode = rcode
mrdesc = rdesc
sele b

```



```

go top
loca for mrcode = dcode
mddesc = ddesc
@ 7,17 say 'STAFF LIST BY INDIVIDUAL RECORD'
@ 8,17 say repl('-', 98)
@ 9,17 say 'i S/No i EMPLOYEENO i'
@ 9,20 say 'iNAME'
@ 9,30 say 'i'
@ 9,33 say 'DEPARTMENT'
@ 9,45 say 'i ANNUAL SALARYi'
@ 10,17 say repl('-', 48)
sno = 1
r = 2
sele a
do while .not.eof( )
    mempro = empro
    mname = rtrim(sname) + ' ' + rtrim(fname)
    mrcode = rcode
    mrcode = dcode
    msal = sal
    @ r,1 say 'i'
    @ r,3 say sno pic '999'
    @ r,5 say 'i'
    @ r,7 say 'mempro'
    @ r,14 say 'i'
    @ r,20 say mname
    @ r,27 say 'i'
    @ r,30 say mddesc
    @ r,40 say 'i'
    @ r,42 say msal pict '9,999,999.99'
    @ r,60 say 'i'
    skip
    r = r+1
    sno = sno+1
    if eof( )
        exit
    endi
    if mrcode <> rcode
        @ r,17 say repl('-', 98)
        mrcode = rcode
    sele c

```