

COMPUTERISED PERSONNEL MANAGEMENT
INFORMATION SYSTEM

A CASE STUDY OF ABUJA
COUNCIL FOR ARTS AND CULTURE

A PROJECT IN THE DEPARTMENT OF MATHEMATICS / STATISTICS /
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BY

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DEDICATION

*To my loving parents,
Ichie and Mrs H. I. Okoli,
In appreciation of their
Immense contributions to
my success in life.*

DECLARATION

I declare that this project has been written by me through research works and I remain solely responsible for all the intellectual position taken in this inquiry. If there is any short coming, I will make myself available for the defence.

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ABSTRACT

The usual personnel management functions revolve around provision of personnel services such as recruitment, job description / evaluation, promotion, discipline, employee relationships, career development and staff welfare.

These logical and practical tasks are extremely complex and require large volume of record keeping, processing, and retrieval. And the efficiency of the personnel management department depends largely on the effectiveness of the record keeping, processing and retrieval system.

This project is aimed at designing a computer assisted information system that will aid the personnel management unit of Abuja council for arts and culture in keeping accurate and complete records of their staff. The new system will also be used to retrieve information on the staff, which could be displayed on the computer screen or printed if so desired. The project hopes to achieve an easy, fast and neat personnel information management system.

- a. Providing adequate personnel services for the organisation such as recruitment, job placement, appraisals, employee relations, training and welfare services, etc.
- b. Formulating, proposing and gaining acceptance for the personnel policies and strategies of the organisation.
- c. Advising and guiding the organisation's managers on the implementation of personnel policies and strategies.

Management at all levels require information to carry out these afore-mentioned personnel functions, that is making decisions, organising, planning and controlling. Timing, completeness, accuracy and relevance are equally important in determining the value of such a given set of information to any organisation.

The methods and procedures in which similar personnel functions are performed tend to vary from one organisation to another. In some organisations, several personnel functions are performed manually or orally and there may be no formally designated information system, whereas in other organisations, the same functions require extensive use of data processing and communication equipment to make up what may be called an Information System. Thus "Systems work" focuses on identifying and applying the most effective combination of methods and procedures for a particular organisation than those in existence, for an orderly way of providing the information that an organisation needs to operate in a successful way must exist or else the organisation will cease to operate.

The volume of information already generated, collected,

processed and stored about the personnel that we are witnessing today is unprecedented in history, and this volume is increasing by the day, and will continue to explode for many years to come. Computer has become an essential part of these organisational information processing because of the power of the technology and the volume of data it can process. There seems to be no limit to the work that computer can do. It is an integral part of today's society and literacy in computer is now as important as learning itself.

The cost of hardware and software for information processing, storage and retrieval is decreasing at a very fast rate. It has been accepted world wide that the vast portion of our data needs will be stored more economically on computer files and data banks than paper. Electronic computing technology has already made the mark, and a well-designed computerised management information system, therefore will provide the various levels of management particularly personnel officers with appropriate information and control measures to enable them manage effectively.

1.2 STATEMENT OF THE PROBLEM

The usual personnel management functions revolve around provision of personnel services such as recruitment of staff, job description/evaluation, promotion, discipline, minutes taking, employee relationships, career development and staff welfare. These tasks are extremely complex, logical and practical, and require large volume of record keeping, processing and retrieval in

order to ensure efficiency and effectiveness.

Unfortunately, these records are kept and maintained manually by Abuja Council for Arts and Culture registry. Some of the records kept on files get lost, mistakingly torn or even misplaced, and then difficult to trace and sometimes incomplete. This has resulted in the staff records kept by ACAC registry unit not always being available when needed, and when available are not completed and assessable.

1.3 SIGNIFICANCE OF STUDY

Computer has become an essential part of organisational information processing because of the power of the technology and the volume of data it could process. The design and implementation of computerised personnel management information system for Abuja Council for Arts and Culture (ACAC) therefore will;

- i. Improve on the overall inefficiency of the existing manual information system in use by the council.
- ii. Create a Database Management System for quicker storing, processing, retrieving, updating, editing and generating reports about personnel at work.
- iii. Facilitate speedy processing of personal records and preparation of reports.
- iv. Ensure adequate and accurate entry and retrieval of personnel data.
- v. Enhance the availability and accessibility of staff records.
- vi. Reduce data redundancy, and boost the integrity of staff records.

CHAPTER ONE

INTRODUCTION

1.1 **BACKGROUND OF STUDY**

Management is said to be the art of getting things done through and with people. It involves the co-ordination of material and human resources to achieve the organisations' goals and objectives. It involves the creation of an environment where people can perform and cooperate with one another towards the attainment of the groups goals. Thus, managers try to remove barriers that hinder the performance of the workers so as to optimize efficiency.

Human relation practitioners believe that management centres around personal relationship, leadership and general human behaviours. Whichever aspect of management one chooses to emphasize, the human factor is a very vital component in any organisation. Chester Bernard (1984) conceived of organisations (in which context management takes place) as a system of consciously co-ordinated activities or forces of two or more persons, while March and Simon (1984) defined same as inter-related social behaviours of a number of persons, by which material resources and processes are converted into goods and services.

Organisations cannot exist without individuals, the latter are investments that could yield different results depending on how they are organised, and the manner in which their abilities are used. The management of human resources is therefore a major function of personnel management, and it involves

1.4 SCOPE OF STUDY

Abuja Council for Arts and Culture is made up of three major branches namely, Culture, Personnel management/Finance, and Arts, with each major branch consisting of several departments and sections.

Time and resource constraints have necessitated the concentration of the research work on the computerisation of the personnel department only.

1.5 DEFINITION OF TERMS

Sometime ago, Harvard Business Review had an article asserting that management had not been affected by computerised information systems and probably would not be for at least some years to come. A long rebuttal was printed in several issues later, according to Kanter J (1984) citing examples of how management had been affected by the computer.

In order to clear some misconceptions so as to facilitate a meaningful discussion of the topic under study, it is well worth the effort to define terms and establish a generalised framework of analysis from which to view the often misinterpreted concept.

MANAGEMENT INFORMATION SYSTEM (MIS)

A DEFINITIONAL APPROACH

There is no consensus on the definition of term "Management Information System". Some writers prefer

alternative terminologies such as "Information Processing System", "information and decision system", "organisational information system", or simply "Information System" to refer to the computer-based information processing system which supports the operations, management, and decision-making functions of an organisation.

M.I.S. according to Kanter J. (1984) is a system that aids management in making, carrying out and controlling decisions. Lucey T. (1987) sees M.I.S. as "the combination of human and computer based resources" that results in the collection, storage, retrieval, communication and use of data for the purpose of efficient management of operations and for business planning". While Davis G.B. et-al (1985) defines M.I.S. as "an integrated, user machine system for providing information to support operations, management and decision making functions in an organisation. The system utilises computer hardware and software, manual procedures, model for analysis, planning control and decision making and a database".

Conceptually, management information system can exist without computers but it is the power of the computer that makes MIS more feasible. The question now is not whether computers should be used in management information systems but the extent to which information used should be computerised. From Davis G.B.'s definition, the concept of a user-machine systems implies that some tasks are best performed by human, while others are best performed by machines. The user of an MIS is any person responsible for entering input data, instructing the system or

utilising the information output of the system. For many problems the user and the computer form a combined system with results obtained through a set of interactions between the computer and the user.

Also to be deduced from Lucey T.'s definition, is that the objective in designing, developing and installing a MIS would be to:

- i. define the data to be collected
- ii. collect it
- iii. process it and
- iv. communicate it.

The study of MIS cannot be undertaken in a vacuum. It is therefore essential to be aware of certain basic facts such as:

- i. The type of organization and the services it offers.
- ii. The organizational structure and reporting relationships.
- iii. The principal users of the information system and the use to which the information is put.

Our MIS will focus on personnel information like:

- i. Number of personnel employed by category (qualifications, grade level, designations, etc).
- ii. Training requirements/career development plans.
- iii. Job descriptions
- iv. Job appraisals
- v. Staff discipline and promotion
- vi. Staff welfare services. etc

FEATURES OF GOOD MANAGEMENT INFORMATION SYSTEM

Management information systems must possess some of these qualities for it to be feasible.

- i. **Timeliness**: The frequency with which management information is produced is crucial in determining its quality. The value of information diminishes with the length of time that the recipient has to wait for its production. Timeliness, however is relative to the needs and features of individual business.
- ii. **Accuracy**: Information which is inaccurate is of little or no use to management. An important attribute of management information is that it is credible and therefore reliable.
- iii. **Discriminatory**: An important attribute of management information is that it is discriminatory. This means that the reports produced are tailored to the levels of understanding of the recipients. The information needs of the persons within an organisation vary greatly. The degree of detail required by, say, the managing director varies from the detail required by, say, the personnel manager.
- iv. **Economic Value**: Management information has no intrinsic value. Its value is represented by the benefit derived from the information by management. Any new scheme for installing and developing MIS must be validated by considering the benefits that could be derived there.

MIS should also economise management effort. A management information system that increases rather than reduces the drudgery of management tasks is not going to be popular with the people that use it.

WHAT IS A COMPUTER :(A CONCEPTUAL VIEW).

In developing an effective computerised information system for personnel, it is necessary to also have a conceptual opinion or view of what a computer is.

The term "computer" could literally be used to identify any device that calculates. Initially, the computer was designed as a tool to manipulate numbers and solve arithmetic problems, this original use is understandable, since most of the early designers and users were mathematicians, scientists and engineers.

However, people began to realize that the computer could process symbols as well as numbers. Therefore, the literal interpretation of the word "computer" makes the word something of a misnomer, since the computer does more than just carry out addition, subtraction, multiplication and division. Indeed, the computer can read input data, transfer or move data, store and retrieve data by logical operations, and generate output results. In view of the fact that its functions are broader than just computing, the computer is sometimes more descriptively called an "electronic data processor" (EDP) or an "automatic data processor" (ADP).

Tomeski E. A. (1979) presented us with a detailed definition of computer. In a narrow sense, he sees computer as "that piece of hardware that performs the data processing" (thus limiting it to the data processing unit). In a broader view, he defines it as "that which includes all equipment components that are interconnected to perform data processing. The equipment includes not only the C.P.U., but also other peripheral devices that

handle the input and storage of data and the output results". In a more comprehensive view, he defines computer as "a system that includes the hardware, the software, and the people who are integral to a computer's effective operation".

A total computer system consists of these elements/components - hardware, software and lifeware. The components are inter-dependent, and the malfunctioning of anyone can cause the entire/total computer system to fail.

There are different types of computers, and they are classified according to how the computer represents number (analog, digital, and hybrid computer), the computers' degree of specialisation (special purpose and general purpose computers), sizes (micro, mini, mainfram, super computers) and the type of applications that the computer handles best (scientific and business data processing applications).

ADVANTAGES OF COMPUTERS

Amidst its limitations, computer offers the following advantages:

- i. **Speed:** The most obvious advantage of using a computer is speed. The computer can perform calculations and data processing more quickly than alternative methods can. Work that might take humans months or even years to complete manually may be accomplished in hours, or at most days by computer.
- ii. **Accuracy:** If the computer is properly programmed and provided with accurate data, it will do the intended work with a very high degree of accuracy. In addition, the computer does not get bored or fatigued, thus avoiding the errors human

beings might well make under the same circumstances.

iii. **Reliability**: The computer can work almost twenty-four hours a day (with a little time out for equipment check-out and maintenance) everyday of the year, and still operate reliably. Modern electronic computers perform at high levels of reliability, and equipment failures are very few.

iv. **Retention**: The computer can store and search massive files of data and programs. The content of the data files does not fade or get lost, and it can be used constantly.

v. **Economy**: The advantages of speed and accuracy can often be translated into Naira savings realized. For instance, accurate record can reduce the frequency of bad decisions that were made because of unreliable or unavailable information.

vi. **Wide Applicability**: A computer can be used to solve a wide variety of problems that arise in science and business. The boundaries of what the computer can accomplish are limited only by the ability and imagination of its users.

In summary, this project will endeavour to explore these advantages of the computer by designing and developing a computer based personnel management system for Abuja Council for Arts and Culture.

CHAPTER TWO

2.0 SYSTEM ANALYSIS

The overall emphasis of system analysis is not to actually solve the problem, but to examine the system in depth in order to analyse past strengths and weaknesses, determine information needs and the best method by which they may be achieved.

In this stage, the requirements of the system is specified and a feasibility study conducted to evaluate its operational, economical and technical considerations.

2.1 METHOD OF DATA COLLECTION

Data collection requires that two steps be performed in sequence. The first step is to identify and locate the various sources of data (internal/external sources) and the second step is to actually collect the data. This may require a number of tools, such as interviews, direct observations, the development of questionnaires and report review.

The research methodology adopted by the researcher in this work includes interview method. The researcher uses unstructured interview to uncover some of the inherent problems and weaknesses of the existing system. She interviewed the senior and principal personnel officers in the council and other staff whose schedule of duties have to do with personnel information management.

Direct observation of the system under study was also employed by the researcher. Since the researcher is a personnel officer and part of the system, she was able to directly observe the existing system in action. She was then able to assess and determine which forms and procedures are adequate and which ones

are inadequate and need improvement.

Reports were also reviewed. Organizational charts, forms and documents, procedures, manuals and written policies were examined.

2.2 REQUIREMENT DETERMINATION

A requirement is a feature that must be included in a new system. The requirement determination entails studying the existing system and collecting detailed information about the system, so as to find what these requirements are. In order to determine the basic requirements of the existing system, there is a need to know the organizational structure of the Abuja Council for Arts and Culture, with special reference to the personnel department. What data are used or produced by the department, what are the limits imposed by time and volume of work to organization's process, and what performance controls are used.

Abuja Council for Arts and Culture, a parastatal of the Federal Capital Territory, came into existence in 1990, when an edict establishing it was promulgated. The council like every other organization has its organizational chart showing a hierarchy of its principal officers and various subsystems.

At the top of the managerial grid is the council board members, with the chairman as the highest presiding officer. Next in the hierarchy is the executive director of the council who oversees the day to day running of the council. For ease of administration, the council is divided into three main branches namely, Culture, Personnel management/Finance and Arts, each headed by a deputy director.

Culture is further divided into three major departments

namely, Research and Documentation, Performing Arts, Field and Festivals. Personnel management/Finance is made up of these departments, Personnel management, Finance and Supplies, Planning and Statistics. While Arts consists of Visual Arts, Theatre management and Commercial departments. Each of these department has several sections. [For details see appendix 1 - Abuja Council for Arts and Culture Organogram]. The personnel management department is the main focus of this project and shall be closely examined.

AN INSIGHT INTO THE ACTIVITIES OF
THE PERSONNEL MANAGEMENT DEPARTMENT,
ABUJA COUNCIL FOR ARTS AND CULTURE:

The personnel management department is the nerve of the Abuja Council for Arts and Culture. It has the following sections; Establishment, Training, Welfare, Maintenance, Catering services, Council secretariate, Public Relations and Legal units. Each unit is headed by a sectional head answerable to Chief Personnel Officer, Assistant Director of Personnel management, Deputy Director of Personnel management and Executive Director of the council in the same manner respectively.

The personnel management department renders such services as recruitment of personnels (advertising for vacancies, shortlisting of candidates, interviews and selections/hiring), job evaluation/appraisals through annual performance evaluation forms (A.P.E.), maintenance of personnel records, minutes taking, staff postings and placement, job descriptions, staff discipline, promotion, career development, staff welfare, employee

relationships, etc.

These personnel functions are handled by numerous staff (senior personnel officers, their assistants, clerical officers and messengers). The staff strength is one-third of the council's manpower requirement. Unfortunately, some of the members of staff are under-utilised.

The volume of records generated and to be kept are so much that the files containing vital informations are scattered on the floor, as the available file cabinets cannot contain all of them. Whenever information about a particular Staff is requested, it takes days to be provided. Atimes, some of the files got missing, torn or even misplaced. Unauthorised personnel officers have access to confidential files, records are not secured, adequate and available when needed.

It is based on the above system failure that the reaeacher is proposing a computerised personnel management information system for the council, to ensure that the above mal-functioning are corrected and averted.

The proposed system will ensure provision of timely and accurate information, elimination of duplications and inconsistencies in the existing files, an integration of formerly scattered and segmented files, storage and retrieval of massive files of data and programs, a means of money savings and income generation.

For initial take off, the proposed system requires three hardware equipment. That is the physical and its related peripheral machines; the necessary softwares (computer programs) for the computer to carry out the instructions/desires of the

human beings; and the human resources (lifeware) to perform the planning, operations and some of the controls external to the physical computer. (All these will be further analysed in the feasibility study and expanded in the design phase.)

2.3 FEASIBILITY STUDY

The data that was collected in the fact-finding stage in its raw form is not adequate to make a determination of the effectiveness and efficiency of the existing system. These data need to be analysed, manipulated, examined, dissected and diagnosed to uncover some of the inherent problems and limitations of the existing system, and to determine the extent to which the system per say, is achieving the organisation's goals and objectives.

Feasibility study, therefore is a significant phase of system development. This is embarked upon to determine whether or not the proposed project is desirable and feasible. A set of selection criteria, a selection procedure and an effective decision making process is developed to be certain that the researcher is working on the right problem and in the right sequence.

The objectives which the researcher working on this project feasibility hope to accomplish include the following:

- i. Clarifying and understanding the project request, that is, identifying what is being done; what is required, why it is required and if there is any underlying reason different from the one the researcher identified.
- ii. Determine the size of the project. This is necessary so as to estimate the amount of time and number of people required to

develop the project.

iii. Assess cost and benefits of the proposal and its alternative approaches, including the cost of training and re-training end-users of information system.

In summary, three general feasibility considerations are addressed in the course of this analysis. They are:

- i. Operational feasibility
- ii. Economic (financial) feasibility
- iii. Technical feasibility.

2.3.1 OPERATIONAL FEASIBILITY

This is concerned with the workability, usability and acceptability of the proposed information system when developed and installed by those who work in the relevant application areas. This is very important because it is often perplexing to see a well-conceived and designed system not being successfully utilized by the operating department.

Generally, the things we considered are:

- i. Does the project receive the support of the users (management)?
- ii. Will the proposed system cause harm to the users (that is) error resultant and complications or will it affect performance negatively?
- iii. What is the political and managerial environment in which the system will be implemented?

To ensure that all the desired operational features have feasibly been explored and obtained, the researchers through personal interviews and contact was able to obtain positive

response and acceptance from management and non-management staff on the proposed system. Most of them were enthusiastic about the proposal having heard much about computer and how it can handle all kinds of domestic, scientific, engineering and business processes; and manipulate information automatically.

Also the council has promised to re-train some of its clerical personnels who will be implementing the new system, thus dispelling resistance and any overt psychological inhibitions (like continual criticisms, unenthusiasism) they might have against the new system.

The new system is also planned to be designed and installed by maximum participation and cooperation from both the top, middle and operating management of the council to avoid the risk of implementation failure.

2.3.2 ECONOMIC/FINANCIAL FEASIBILITY

Economic considerations represent fundamental feasibility criteria. A look at the economic feasibility will further qualify application desirability. In looking at the economics of the proposed project, we must consider its cost compared to the savings that the new system can accrue and the added benefits to be derived from the system.

A computerised management information system enhances operational cost-effectiveness by reducing the number and cost of clerical personnels, in addition to efficiently performing the routine administrative functions.

Turning now to the type of benefits that can be expected from our proposed system, we can distinguish two general

categories - tangible and intangible benefits. A tangible benefit is one that can be accurately measured and that can be directly related to the introduction of an application. An example is a reduction where work formerly accomplished on over-time has been eliminated because of an improved production scheduling system. The intangible benefits are those that can hardly be measured or quantified. An example is an improvement in personnel service brought on by a more responsive record-processing system.

Whichever category, the anticipated benefits of our proposed system include: a slice in the lead-time for provision of information; elimination of conflicting or overlapping reports; improved co-ordination between the various operating units and associated personnels; increased speed and accuracy in the processing of data and preparation of reports; maintenance of integrity of staff records; improved council's image and overall personnel services.

The estimated cost of the proposed system is as follows.

System configuration

An IBM PC/AT

SIZE	386	
MEMORY	640 KBYTE	RAM
	80 MBYTE	HDD
SPEED	33 MGHZ	

DISK DRIVES 3.5; 5.25 FDD

A monochrome or color graphics monitor

ESTIMATED COST N55,000 - N60,000

ACCESSORIES	MS DOS 5.0
	Nonton Anti-virus
	Windows for work

SOFTWARE	Word Perfect 4.2	
	dBASE IV	-COST N20,000
POWER SUPPLY		
UPS -	N18,000	
PRINTER		
	A fast dot matrix printer (Lq)	- N45,000
Cost of site preparation -		N50,000
Manpower and associated cost		
* salaries of the development team		
* cost of special training and		
* recruitment fees of specialists and consultants.		
		= N300,000
NET COST -		N493,000.00

Note: Some of the costs are one time cost (purchase of equipment) some are recurring (manpower and associated cost).

The estimated cost and anticipated benefits associated with our new system, when compared with that of the existing system, to determine its economic feasibility is a difficult task. On the face value, the data collected by the researcher shows that money spent in establishing the existing system is far less than that budgetted for the new system. However more often than not, the introduction of MIS, although not without numerous unquantifiable benefits, will result in an overall cost increase because of the need for added computing capacity. Organizations have found out that computerization pay off not in reduced costs but in more meaningful and more timely information; thus placing a dollar/Naira value on anticipated computer benefits is a difficult task, for the time-dimension of benefits actualization is a gradual process.

2.3.3 TECHNICAL FEASIBILITY

The technical considerations seek to clarify if the proposed

project can be done with current equipment, existing software technologies and available personnels.

From the data collected, it is observed that the proposed application can be implemented with the existing technologies. The necessary computer hardware, software and lifeware that are needed to handle MIS are available now in contrast with several years back.

Conclusively, to adjudge a proposed project feasible, the proposal must pass all the three feasibility test listed above, otherwise the project is not considered feasible. our proposed system therefore has been proved financially viable, operational-ly attractive and technically possible. It then implies that correct priority will be placed on the project as the reasearcher indeed is working on a right program.

CHAPTER THREE

3.0 SYSTEMS DESIGN

The emphasis of systems design is to develop a new system that helps to achieve the goals and objectives of the organisation, and overcome some of the shortcomings and limitations of the existing system.

In designing the new system, the major consideration is the requirements of the end user ie, the personnel unit, and others responsible for the smooth co-ordination of work flow within Abuja Council for Arts and Culture.

In addition to considering the user's requirements, much more detailed specifications [input, output, file, processing] have also been considered in terms of systems development, and communication link between the users and the computer, for good understanding by persons who are not knowledgable about computers, as well as other individuals who are computer literate.

3.1 LOGICAL DESIGN OF THE NEW SYSTEM

The following specifications were followed in the design.

1. Output specifications
2. Input specifications
3. File specifications
4. Processing specifications.

3.2 OUTPUT SPECIFICATIONS

In designing the new system, the following output reports are required.

- a. Detailed personal records
- b. Training records
- c. Accommodation records
- d. Leave records.

The appropriate medium to be used for our output is a laser printer for printed reports often referred to as "hard copy" and a video display unit (VDU) or monitor for on-line viewing. Our personnel management system therefore should be able to display information via printed sheets and video display unit (VDU).

The content of the output, that is, the specific data fields, with their maximum width; the format of the output ie, the layout of the hard copy/screen is specified in the program. (for details see appendix 3). The data that will be pre-printed on forms (in case of printed reports) by a printing press and those to be generated by the computer as well as the privacy protections/accuracy checks are also built into the program.

3.3 INPUT SPECIFICATIONS

In the design of computerised personnel management system for Abuja Council for Arts and Culture, the following input data are used.

1. The personal file number (PF-No.) of each staff. This is a peculiar (unique) key to each staff. That is, every staff has a

unique personal file number that is used to process his/her record.

2. Full names of each staff ie, surname, first and other names.
3. Date of appointment
4. Present status (Rank)
5. Salary grade level
6. Department
7. Qualifications
8. Courses attended
9. Promotions
10. Residential address
11. Leave dates
12. Marital status
13. Sex
14. Date of birth
15. State of origin.

A. The data entry form should have this format

ABUJA COUNCIL FOR ARTS AND CULTURE
PERSONNEL DATA RECORDS

DATE : _____

Data Entry Form

PERSONAL FILE NUMBER : _____

SURNAME : _____

OTHER NAMES : _____

STATE OF ORIGIN : _____ SEX : _____ DATE OF BIRTH : _____

MARITAL STATUS : _____ NUMBER OF CHILDREN : _____

DATE OF APPOINTMENT : _____ PRESENT STATUS : _____

GRADE LEVEL : _____ DATE OF LAST PROMOTION : _____

DEPARTMENT : _____ DIVISION : _____ SECTION : _____

QUALIFICATION WITH DATES : _____

PAY POINT (BANK) : _____ ACCOUNT
NUMBER : _____

RESIDENTIAL ADDRESS AND TYPE : _____

DATE OF OCCUPATION : _____

COURSE(S) ATTENDED WITH DATES : _____

LEAVE DATE : _____

LEAVE RESUMPTION DATE : _____

LEAVE ADDRESS : _____

3.4 FILE SPECIFICATION

FILE CREATION

Personnel management deals with personnel of different categories whose records must be processed for effective administration. Records of these staff are grouped together in files, each file holding records of the same type. The function of a file in a data processing system depends on the role of its record within the operational environment and also on the possible inter-relationships of this file with any other file in

the system.

In developing this system, a master file is created.

MASTER FILE

This is the file containing records vital to the running of the system. The system's master file contains information about staff. The master file can be updated and maintained from time to time thus ensuring that the accuracy of the data in the file is achieved. The operation of changing a master file to reflect the latest information contained in the database is called updating of a master file. Data files are created in order to facilitate data input, process and output. In this system, the database file created is the master file called personal records database file (PRECS.DBF). This file contain the different fields and field-width for data entry; process, and output. For proper storage and easy accessibility, the data are organised as follows:

1. Field Number: The number of the field in the database
2. Field Name: Names of the fields in the database
3. Field Type: Charater, Numeric, Date, Logical and Memo
4. Field Width: Length of each field in the database
5. Field Decimal: Number of decimal places for numeric field.

The master file structure for the database is as shown on the next page:

PERSONAL RECORDS DATABASE FILE STRUCTURE PRECS.DBF

FIELD NO.	FIELD NAME	FIELD TYPE	WIDTH	DEC	DESCRIPTION
1	Pf-Number	Character	10		Personal File No
2	Surname	Character	15		Surname
3	Othernames	Character	20		Othernames
4	S-of-origin	Character	15		State Of Origin
5	Sex	Character	7		Sex
6	D-of-birth	Date	8		Date Of Birth
7	M-status	Character	7		Marital Status
8	No-of-chdn	Numeric	2	0	Number Of Children
9	D-of-appt	Date	8		Date Of Appt
10	P-status	Character	12		Present Status
11	G-level	Character	5		Grade Level
12	D-of-lprom	Date	8		Date Of Last Prom
13	Department	Character	15		Department
14	Division	Character	15		Division
15	Section	Character	15		Section
16	Quali-s	Character	12		Qualifications
17	Bank	Character	15		Bank
18	Acct-no	Numeric	10	0	Account No.
19	Res-add	Character	20		Residential Add.
20	D-of-occu	Date	8		Date Of Occupatn
21	Course(s)	Character	20		Courses
22	D-of-cour	Date	8		Date Of Course
23	D-of-leave	Date	8		Date Of Leave
24	D-of-lresm	Date	8		Date Of Leave Resu
25	Leave-add	Character	20		Leave Address

N:B

These various fields will allow the user to enter, process, and output data. The above database file will be used in the program run for add/append, edit(update), delete, view, and report generation.

Our new computer systems will allow the use of interactive processing. With this type of processing, users directly interact with the computer system through computer terminals. The computer and the user respond to each other in a real-time mode, which means within a matter of seconds or minutes. This type of processing brings new opportunities for good and effective design.

A menu of command files is also designed. A user simply selects the option that indicates what she/he wants to do. The main menu is made up of six options, including an avenue for getting out of the system application environment if one wishes to stop work with the system for the time being.

The menu options are as follows:

1. Add Record
2. Edit Record
3. Delete Record
4. View Record
5. Reports Generations
6. Exit

THE MENU WILL BE IN THIS FORM BELOW

ABUJA COUNCIL FOR
ARTS AND CULTURE (A.C.A.C)
PERSONNEL RECORDS SOFTWARE

MAIN MENU OF COMMAND FILES

1. ADD
2. UPDATE (EDIT)
3. DELETE
4. VIEW
5. REPORTS
6. EXIT

CHOOSE TO ENTER AN ENVIRONMENT ! !

REPORTS SUB MENU

- A. PERSONAL DETAILS
- B. TRAINING
- C. ACCOMMODATION
- D. LEAVE ROSTER
- E. EXIT TO MAIN MENU

CHOICE ! !

Upon the selection of any of the options, the procedure for the generation of the required output is set to work, in order to generate the required output.

OPTION (1) ADD PROGRAM

This option is used for data entry. It allows data to be entered into an opened file and appends for new data to be added if need be.

OPTION (2) UPDATE/EDIT PROGRAM

Computer database generally needs to be edited from time to time for a variety of reasons. For example, information on staff changes, (G-level, Promotion, Qualifications, Addresses, etc) and mistakes can also be made while entering data.

The Edit program enables the user to update a desired staff record using personal file number as the search key.

OPTION (3) VIEW PROGRAM

This menu command file is used to list/display the contents of a file. The View program will display the required staff record, and allow the user to only view the records without access to alter any information therein.

OPTION (4) DELETE PROGRAM

The option allows user to mark records for deletion, and actually delete the record if so wished.

OPTION (5) REPORTS

This option opens up a sub-menu (reports menu) and allows the user to select which report to generate. Reports to be generated here includes: Personal data, Training data, Accomodation data and Leave data.

OPTION (6) EXIT/QUIT

This menu command file is used to close all opened files, terminate the operation and return to the dot prompt.

CHAPTER FOUR

4.0 SYSTEM IMPLEMENTATION

This has to do with the actual working of the new system. It includes all the activities that must be done to convert from the old system to the new system. And these activities include site preparation, installation, data preparation, recruitment and training of personnels, final testing and start-up, maintenance and post implementation review.

4.1 SYSTEM INSTALLATION

The actual location of the new data processing system needs to be prepared. For a small system like ours, this may simply require reorganising the furniture in an office to make room for the computer, special wiring, air conditioning, additional furniture, special flooring and a new security system.

Once the site is prepared, the computer equipment is physically placed on the site and made operational. Several tests will also be performed by the manufacturer to ensure that the equipment is functioning properly.

4.2 SYSTEM CONVERSION

The preferred method of conversion to be used for our new system is the parallel method. The new system will be run together with the old system to ensure that the new system is working as expected before phasing out the old system, though not without cost duplication.

Since the personnel unit is about to be computerized, all

its files must be converted into computer files. This is called data preparation. The personnel unit may hire some part-time data entry operators, or a service company to convert the manual data into data on the computer system.

Once the data has been converted into computer files, the part-time data entry operators or the service company are no longer needed. The computer programs will maintain and update these computer files.

4.3 PERSONNEL : RECRUITMENT AND TRAINING

Based on the size of our new data processing system, a number of data processing personnel will be needed, and in some cases, trained.

Since the eventual success of any data processing system depends on how the system is used by the people within the organization, a training programme (inservice/inhouse) should be conducted for the employees who will be using or dealing with the computer system. Fears and apprehensions about the new computer system need to be eliminated through the training programmes. The list of data processing personnels needed for our new system is given below.

Designation	!	Number
Head of computer unit	!	1
	!	
System analyst	!	1
	!	
Programmers	!	2
	!	
File Librarian	!	1
	!	
Keyboard Operators	!	2
	!	

4.4 MAINTENANCE AND POST IMPLEMENTATION REVIEW

Like automobiles and manufacturing equipment, our computer systems should be periodically maintained. This includes checking to make sure everything is operating as intended and taking corrective action when necessary. In addition to hardware, software must also be maintained by the council.

4.5 A COMPUTERISED APPROACH

A computer program generally is a sequence of instructions which a computer follows to perform a specified task.

In developing this system, the researcher used one of the computer languages known as Data Base Management System (DBMS) that is, database program utilizing dBASE III plus software package.

Dbase III+ is not regarded as part of high level languages but rather a structured Query Language, that enables one to construct his/her own database applications. A large number of build-in functions are provided, including mathematical functions, string manipulations, data type conversion functions, and time and date functions. The programming language includes commands to perform conditional branching, looping, calculation, sort records, format input/output screens, output reports, perform error checking and editing on input etc.

This means that there are available commands which the user can utilize to achieve complex task in programming by issuing correct commands. Dbase III plus is user-friendly; and one does not need to be a computer expert before being able to use it.

The written program for developing this system is the application program. It is broken into MODULES. Each module comprises of a program that performs a specific task. The modules are connected using one input and one exit.

There is one aspect of the module that controls the program which is called menu of command files. This is made up of six options. It is developed to enable the users select the specific function they wish to carry out.

The database structure of the master file is also created. This is called Precs.dbf (personal records database file).

The main programs for the personnel records are data entry/append, edit/update, delete, view/browse and report programs. Each of these programs utilizes the master database file (Precs.dbf).

To ensure confidentiality and authenticity of the user, a closed password module and system control for user input in specific fields have been built into the software package.

* All the programs for this system are attached to Appendix 3)

USING THE SYSTEM

This system can be operated with a DOS (disk operating system) version 4.0 or any higher version available with a computer having two drives.

Insert the disk containing the application program files into the empty disk drive A, after removing the DOS diskette. At the A> (ie A prompt) type A>ACAC and press the enter key.

The A.C.A.C. personnel management information package will

be loaded automatically. When the complimentary screen is displayed, press any key to continue.

The password module will request for the password from the user. If the password is correct, the user will be granted access to the working environment, else a second chance will be given. If an incorrect password is entered for a second time, the system ejects the user to DOS (disk operating system) prompt.

At the end of the operation, the user closes all databases to avoid corruption of the databases, Quit dbase III plus environment and returns to the operating system.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

There is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than the creation of a new system. To the initiator, there might be opposition from beneficiaries of the old system and little or no support from those that would gain from the new system.

Our personnel information management system, having being designed based on the feasibility study and analysis carried out, is expected to be a personnel management tool in the hands of the Abuja Council for Arts and Culture personnel unit. It is designed to make their job a lot easier, faster and neater. At the punch of the correct buttons on the computer, any information required on any individual A.C.A.C. personnel, will be displayed on the screen and printed out in hard copy if so desired. Staff postings, appointments, promotions, leave roster, housing allocations, etc are made alot easier as information on every staff is readily available and accessible. The advantages of this modified and improved personnel management system over the existing system cannot be over emphasized.

For proper and total utilization, the researcher recommends that a simple, easy to maintain and operate system be installed. Finally, recruitment and training of personnel in relevant computer applications as earlier mentioned is necessary and their continuous exposure to latest development in the discipline is recommended.

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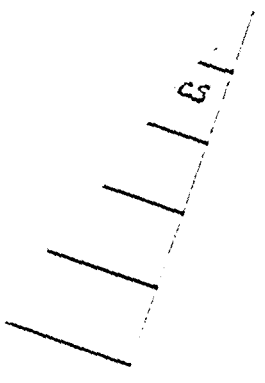
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- AUDIO VISUALS
- CINEMA
- CONFERENCE HALL
- MEETING ROOMS
- SEMINAR ROOMS
- THEATRE



[Handwritten signature]

APPENDIX III

```
*SCREEN DISPLAY PROGRAM
*AUTHOR   :OKOLI UK
*wDATE    :14/02/94
*NOTICE   :COPYRIGHT RESERVED
*NOTES    :TO DISPLAY COMPLIMENTARY SCREEN
CLEAR
SET TALK OFF
SET SCOREBOARD OFF
SET STATUS OFF
SET COLOR TO G/B
USE PRECS
RECORDIT=.T.
*DO WHILE RECORDIT
@6,08 TO 18,68 DOUBLE
@8,20 SAY "PERSONNEL MANAGEMENT INFORMATION SYSTEM"
@10,30 SAY "SOFTWARE PACKAGE FOR"
@12,20 SAY "ABUJA COUNCIL FOR ARTS AND CULTURE"
@14,20 SAY "DEVELOPED BY OKOLI UK ELIZABETH"
@16,30 SAY "(PGD/MCS/063)"
SET COLOR TO R/W+B
WAIT""
clea
@4,8 TO 17,68 DOUBLE
@6,20 SAY "IN PARTIAL FULFILLMENT FOR THE"
@8,20 SAY "AWARD OF A POST_GRADUATE DIPLOMA"
@10,20 SAY "IN COMPUTER SCIENCE, AT FEDERAL"
@12,20 SAY "UNIVERSITY OF TECHNOLOGY MINNA."
@14,30 SAY "ALL COPYRIGHTS RESERVED."
@15,35 SAY "(MARCH 1994)"
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CLEAR
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SET STATUS ON
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