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Title Page

**INFORMATION TECHNOLOGY  
AND  
PENSION ADMINISTRATION**

**Case Study: Local Government Staff Pension Board**

**By**

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## CERTIFICATION

We agree in every capacity to certify that this project work was produced by the bearer **OLAPOJU OLUWOLE** in partial fulfillment of the Post Graduate Course in Computer Science.

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## DEDICATION

Dedicated to God Almighty and all my friends for their well wishes.

## ACKNOWLEDGEMENT

I wish to acknowledge the effort of all my Lecturers at the Federal University of Technology, Minna for their sincere effort in seeing that I get the required knowledge in Computer Science and information Technology at its highest level.

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## ABSTRACT

In recent times, information technology tools have been applied in enhancing the management of information for both public and private sector organizations.

It is imperative for a system that tackles the shortcoming of the manual handling of pension records to be designed. Such a system would be designed to simulate the manual handling of pension information with several enhancements. The system would be built around a database that stores information of pensioners and comes with the advantages associated with the use of information technology tools in handling hitherto manual operations.

For the design objective to be achieved, proper software design procedures needs to be followed. Therefore the software would be designed using one of the best application development tools available viz; Microsoft Visual Basic 6.0 Enterprise Edition. Also, the principles of Software Development would be properly adhered to. Hence the Software would give the user the Windows Feel and Look, User Friendliness and Interactive.



## CHAPTER ONE: INTRODUCTION

### 1.1 BACKGROUND STUDY

**Pension**, is a provision of annuities made for the certain group of people. Pensions, granted by a government to its employees, first appeared in France in the early 19th century and in Britain in 1834, and were instituted in newly unified Germany in 1873. The establishment of pensions spread to many other European countries in the first decade of the 20th century.

The increasing tendency of trade unions to demand improved financial provision for retiring workers in their labor contracts has been important in the enrichment of these programs.

It is often possible for retired employees to receive financial support from two or more sources. Almost all employees, including domestic workers, and the self-employed are now covered by social security. Special provisions in the federal tax law permit the self-employed, and employees not covered by private plans, to establish pension plans for themselves.

With Computers becoming an integrated part of our daily activities, we need to focus on how it can improve our lives. Computer users are being encouraged to use new technology on a regular basis and are often finding this a daunting task.

It is also interesting to watch the thrust of the new global trend, where the use of information and communication technology has sharply revolutionized the way people reason and view things. It is now easy to understand why computer usage has become the rule rather than the exception. Developed nations are working

vigorously to build an information technology base that would enable them maintain the focal point for the emerging global economy where information technology will be the opium that propels all activities. It is therefore necessary for us as a development nation to adapt to this emerging trend by first of all recognizing the importance of information technology as a catalyst for effective growth and change, and secondly by implementing information technology systems in areas where they are seriously needed.

## **Basic Concept**

### ***Information***

We understand best by what it does, we derive information by communication. It is usually accepted that information is data to which meaning or purpose has been attached. In today's world, information is strength. The organization that has access to the latest technical information about current research concerning its product has a winning edge over another, which does not update itself. Relevant and timely information leads to better decision making. Therefore, information is regarded as indispensable ingredient for management and decision making.

### ***Technology***

This is a general term for the processes by which human beings fashion tools and machines to increase their control and understanding of the material environment. The term is derived from the Greek words *tekhnc*, which refers to an art or craft, and *logia*, meaning an area of study; thus, technology means, literally, the study or science of crafting.

Many historians of science argue not only that technology is an essential condition of advanced industrial civilization but also that the rate of technology change has developed its own momentum in recent centuries. Innovations now seem to appear at a rate that increases geometrically, without respect to

geographical limits or political systems. These innovations tend to transform traditional cultural systems, frequently with unexpected social consequences. Thus technology can be conceived mostly as a creative process.

### ***Information Technology***

Information technology is therefore the technology of information management, transmission and communication. Information consists of the following entities.

- a. Data
- b. Text
- c. Pictures
- d. Voice and Sound
- e. Moving Pictures or Video

Data can be seen as facts from which meaning can be inferred. Data is represented as a group of factors in the form of numbers or values or any entity, which can be manipulated through a Computer program. Data is sometimes contrasted within information in that information is derived from the assembly, analysis and summarization of data into meaningful form. In other words, data is always subjective, while information tends to be objective.

Information Systems refer to the entire resources for handling the information requirement of an establishment. It incorporates both the human resources requirement, computers and automated machines involvement.

The major component of an information system is the data processing systems within it. It is these that provide much of the information that is needed by an organization. Each data processing (DP) system may be designed to fulfill on particular function. Increasingly, however, the DP system is produced so as to operate as a complete, integrated set of interrelated subsystem. Generally any

system consists of sub-system and the sub-system must work interrelatedly to achieve the objective of the overall system.

## **1.2 PROJECT OBJECTIVE**

The objective of this project is to develop an application program using a modern Object Oriented programming tool to enhance the administration of Pension schemes. The bottlenecks that are in the previous pension administrative system are expected to be addressed and solved in this system.

## **1.3 METHODOLOGY**

The approach of this project was based on the following strategies

- i. Studying the existing systems and procedures
- ii. Identifying areas requiring improvement and modification for computation and generation of reports.
- iii. Develop an underlying system to timely management information system requirement in various areas.
- iv. The new system is to achieve some set goals that have not been embarked upon before in the institute under the present manual system.

## **1.4 PROBLEM DEFINITION**

Pension Administration being an important subset of the government accounting procedures have been bedeviled by several problems resulting from the improper storage and management of records of pensioners. These problems results from handling pension records manually. Manual record handling is prone to several errors, which in turn makes the effective management of pension records impossible. These have led to the late payments of pensions, missing or misplaced pension records, ghost pensioners and other problems.

## **1.5 FEASIBILITY STUDY**

This is a preliminary stage that determines whether or not the proposed project is desirable. Therefore, it involves the study of the existing system in detail in order to provide the management with information about the proposed computerized system.

The feasibility study covers three major areas:

- (a) Designing the computerized system
- (b) Testing and implementing the computerized system

To test project feasibility, the following are to be considered:

- i. **Operational Feasibility:** This relates to the workability of the proposed information system when developed and installed.
- ii. **Technical Feasibility:** This test, seeks to clarify if the proposed project can be done with current equipment, existing software technology and available personnel.
- iii. **Economic Feasibility:** The test for financial feasibility is undertaken to access cost of implementing a proposed project, that is, the benefit from implementing the project.

## 1.6 FACTS FINDING TECHNIQUE

Three basic methods were employed to collect data:

- i. **Interview.** It is a fact-finding tool used for collecting information from individual. It involves holding discussion with people that are involved in the day to day operation of the system in order to ascertain their suggestions and comments and also the relevance of any particular report or statement required from the department. Interview is one of the most satisfactory ways of obtaining information about objectives, constraint, allocation of duties, problems and failures in the existing system.

- ii. **Observation.** This involves watching an operation for a period, to see what happens by oneself.
- iii. **Special Purpose Records.** This involves, the examination of records that contains specific records in an organization, which may be files, journals, seminar papers or even textbooks.

### 1.7 SCOPE AND LIMITATION OF STUDY

This study concentrates on the pension administration for Local Government workers under the Local Government Board. A particular reference is the Enugu State Pension Board. The System is limited to the Pensioner Registration Database, Enquiry and Report and also Gratuity computation. Also taking care of, is the Analysis of Payment (Monthly Stipends).

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 HISTORICAL STUDY - PENSION & GRATUITY

The pension and gratuity scheme is an arrangement whereby the gratuity and pension accruing to employees who are either withdrawing from service at retirement age or death is deliberately funded by setting aside some money.

It is a systematic plan for the provision of benefits for employees on the cessation of employment either due to retirement or death or changing jobs.

**PENSION** - When the benefits take the form of regular income or annuities payable from a stated retirement age or after a specified length of service e.g. 45 or 60 years of service in the public service, such income is called *Pension*.

**GRATUITY** - The lump sum that is payable to a retiree in the event of a stated contingency is called gratuity e.g. after 5 years in the public service.

The administration of Pension in Nigeria is related to the first registration enacted in 1951, known as Pensions Ordinance Act (1951) and it had retrospective effect from 1<sup>st</sup> January 1946. The most noteworthy aspect of the ordinance was that pension was not a right.

In 1979, Pension Decree 102 of 1979, which also had retrospective effect from 1<sup>st</sup> April, 1974 was promulgated. The Decree consolidated all previous enactments on pensions and incorporated the scales designed for public officers by Udoji Public Service Review Commission in 1974. The Decree as at today forms the basic Pension laws in the Public Service of Nigeria. Other laws have been designed for other professional groups, but they retained the main components of Decree 102 of 1979 and these are:

- Pension right of judges Decree No. 5 of 1985 and the amendment Decree No. 51 of 1988, Decrees 2 and 62 of 1991.
- The Armed force pension Decree No. 103 of 1979.

- All pension related circular letters emanating from the Presidency, Federal Ministry of Establishment and the Head of Civil Service of the Federation including Circular No. SGF 11 Vol. III/T/26 of 20<sup>th</sup> February 1997 on statutory Age of Retirement from service. This circular approved that the issue of thirty-five (35) years in service is no longer a compulsory requirement for retirement from service.

The circular also specified that though an officer is not compelled to retire on attaining 35 years in service however, any years spent over the above 35 years is not pension earning.

### **CIRCUMSTANCE UNDER WHICH PENSION AND GRATUITY MAY BE GRANTED**

Section 3 (1), (2) and (3) of Decree 102 of 1979 provides that gratuity or pension shall be granted (to retiring officers) in any of the following circumstance:

- On voluntary retirement or withdrawing after qualifying service of 10 years up to 31/3/77, 15 years as from 1/4/77 and 20 years as from 1/6/92
- On attainment of 60 years of age.
- On compulsory retirement for the purpose of facilitating improvements in the organization, or the Ministry so that greater efficiency or economy may be effected.
- On the advice of a properly constituted medical board certifying that an officer is not longer mentally or physically capable of carrying out the function of his office.
- On total or permanent disablement while in service
- On abolition of his office as a result of re-organization and he cannot be absolve into another office.



- Advice by the Public/Civil Service Commission to retire in the public interest.
- Taking up appointment in Local Government as head/member prior to the consent of the commission, if the commissioner is satisfied that such retirement is in the public service interest where an officer retires after 1/6/92.

Pursuant to all above conditions, an officer who has completed 5 years but not 10 years shall be entitled to pension.

### **NECESSARY REQUIREMENTS/DOCUMENTS FOR COMPUTATION OF GRATUITY AND PENSION**

There are numerous requirements expected from a retiree in order to facilitate both computation and payment of retirement benefits.

***Notice of Retirement:*** Officers who have put in 35 years of service or have attained the age of 60 years are required to put in month's notice of retirement. However, Officers who wish to retire from the service voluntarily after serving for 10 years or more but not up to 53 years of service shall give 3 months notice. Whereas, Officers who retired without giving enough notice shall forfeit part of the retiring benefits to the extent of forfeiting the equivalent monetary conversion of the months involved.

***Approval/Consent Letter From The Commission:*** It is mandatory that the Local Government Service Commission should grant approval in writing to the retiree before the expiration of notice given to the Officer. The approval serves as an authority to go on retirement. It also specifies the date of commencement of the retirement and it might be the date when the officer starts to enjoy his pension.

**Completed Pension Form:** A retiring officer is expected to fill a set of Pension Form (6) copies of Form ESTAB 12, Part I of the Form is to be completed by the retiree, part II by the Head of Department/Secretary of the Local Government and part III by Local Government Staff Pension Board while Part IV is the space for confirmation of authentication and verification of the computation sheet by the Auditor-General for Local Government while part V is for the portion to be authenticated by DG/PS Establishments matters.

**Birth Certificate/Sworn Declaration Of Age:** This document will avail the opportunity of confirming whether or not the retiree is ripe for the payment of pension.

**Letters of First Appointment, Confirmation/Absorption Into Permanent Establishment And Promotion:** These documents guide in the determination of the length of service. While letters of promotion to various grade levels serve as basis on which salary the retiree leaves the service in order to be able to arrive at his terminal salary which will be used for final computation of his benefits.

**Letter Of No Indebtedness:** These documents show the retiree's indebtedness i.e. unpaid financial obligation as at the time of retirement such as unretired advances, unretired imprest or loans from Government Agencies. The amount when indicated is deductible from the officer's gratuity.

**Letter Of No Disciplinary Action, No Break In Service:** This two letters are very vital because a continuous and unbroken service will only be accepted as qualifying service period. Disciplinary action such as suspension from service as a result of misconduct may affect the calculation of qualifying service.

**Death Certificate:** A retiree who died in active service after satisfying the minimum number of pensionable years or during the course of processing his pension papers, his next-of-kin will be required to obtain a death certificate from

Government hospital stating the course of such death. The pension and gratuity would be paid as would have been paid to him/her if he/she had retired at the date of his death. In this circumstance, the dead officers' pension for 5 years would be paid along with his gratuity. But if he dies before completing 10 years his next-of-kin are entitled to one year salary only.

## **2.2 OVERVIEW OF MANUAL PENSION ADMINISTRATION AND CONTROL**

### **2.2.1 Computation Of Pension And Gratuity**

The afore-mentioned requirements discussed in the preceding paragraphs will facilitate computation of retirement benefits by the schedule officer on pension matters and other Government Agencies responsible to do one thing or the other in retiree's pension files before payment of benefits is effected by the staff pension board. Also worth mentioning is the provision of section 1 (2)(b) of Pension Decree No 102 of 1979 which allows for approximation of over 6 months to one year while determining what constitute qualifying service period. For example an officer who had served 19 years 7 months 17 days will be deemed to have rendered 20 years' service by approximating 7 months and 17 days to one year under the provision mentioned.

### **2.2.2 Apportionment Of Benefits**

By virtue of section 15 of Pension degree 102 of 1979, the Federal Government is responsible for the payment of pension dues for service rendered in any government organization up to 31<sup>st</sup> March 1976. After this date, the dues are borne by the State/Local Government where officers served. To really

understand pension computation, it is better the illustration below is sited as an example.

**Illustration**

Mr. 'O' who was born on 3<sup>rd</sup> march, 1940 joined the service XYZ Local Government with its headquarters at Lagos on 8<sup>th</sup> August, 1961. He was converted to the Health Scout GL. 03 with effect from 1/1/81. He was promoted to the post of a health Scout on GL. 04 effective from 1/7/81. Other subsequent promotions and their dates are as stated below:

Health Scout GL. 05	-	1/1/82
Health Technician GL. 06	-	1/1/89
Chief Health Assistant GL. 08	-	1/1/91

Mr. 'O' decided to quit the service on the 8<sup>th</sup> August, 1996 given 6 months notice to the Local Government Service Commission; approval of which was granted.

Available records revealed that Mr. 'O' was not indebted to XYZ Local Government and neither was he under any disciplinary action while in service.

Mr. 'O' rendered unbroken service to the Local Government.

Calculate the Gratuity and Pension entitlement payable to Mr. 'O'

**Computation of Mr. 'O' Gratuity and Pension**

Length of Service = 35 years (8/8/61-8/8/96)

**Promotion and Dates**

GL. 03	-	1/1/81
GL. 04	-	1/7/81
GL. 05	-	1/1/82
GL. 06	-	1/1/89
GL. 08/07	-	1/1/91
Annual salary (08/7)	-	₦ 90189.598 (Plus Allowances)

% of Gratuity - 188% (Obtained from schedule to Pension decree)

% of Pension - 52% (Obtained from schedule to Pension decree)

Total Gratuity Payable =  $\frac{188 \times 90189.598}{100}$   
= ₦ 101164.680

Total Pension Payable =  $\frac{52 \times 90189.598}{100}$   
= ₦ 46898.591

### **Apportionment Of Benefits**

#### ***Federal Government Share (176 months)***

(a) Pension =  $\frac{176 \times 46898.591}{420}$   
= ₦ 19652.743

(b) Gratuity =  $\frac{176 \times 101164.680}{420}$   
= ₦ 42392.818

#### ***Local Government Share (244 months)***

(a) Pension =  $\frac{244 \times 46898.591}{420}$   
= ₦ 27245.848

(b) Gratuity =  $\frac{244 \times 101164.680}{420}$   
= ₦ 58771.862

### ***Computation Of Death Benefits In Respect Of Deceased Officers***

The above illustration seem to pay attention to when an officer naturally leaves service where his entitlements are worked out and paid to him while he is alive. However, in some cases, a serving officer dies in service or dies immediately on leaving service. Sections 5 and 6 Decree No 102 of 1979 takes care of these situations in which he may die:

- (i) Through natural causes while he has not reached the minimum qualification period.
- (ii) When he has reached the minimum qualification period.
- (iii) When he dies when in the course of his official duties either having reached or not reached the minimum qualifying period.

The above situations will be discussed such that practical solutions are provided to hypothetical questions.

### **Death Before Qualifying Period**

According to section 5 (1)(b) as amendment of the pensions decree of 1979 where an officer dies in service when he had not attained the minimum qualifying period, that is to say he/she may have put in any period less than 5 years, his next-of-kin or survivors will be entitled to one year's salary as death gratuity.

### **Death After Qualifying Period**

When an officer dies after having attained the minimum qualifying 5 years but not 10 years, his survivors shall be entitled to an appropriate gratuity calculated on the basis of the revised scheduled computation table. If he also attain the minimum 10 years or more the benefits shall be calculated just as if he were alive. According to the section 5 (1) of the said decree, where an officer dies in the service after the completion of the minimum period of qualifying service, there shall be paid to his legal representative or any person designated by him during his life time as his survivor

Up to 31<sup>st</sup> March, 1978, a gratuity equal to his one year's salary and if he is qualifying for pension, one year's salary plus appropriate pension as if he had retired at the date of his death.

Any pension payable under this rule shall be paid for a period not exceeding 5 years. But it is also lawful that the total be paid forthwith. According to section 6 (1), where an officer dies in the course of his official duty and without his own fault, there shall be paid to his next-of-kin or designated survivors a gratuity to which the officer would have been entitled at the date of his death. After payment of above, his survivors are further entitled to:

1. If the deceased officer leaves a widow, a pension to her for life while unmarried and she is of good behaviors. The Widow is to be paid at a rate not exceeding  $\frac{1}{3}$  (one- third) of the officer's accrued pension at the date of her officer.
2. Apart from payment of pension to the widow, a pension is also payable to the children until they attain the age of 18 years. Each child is entitled to  $\frac{1}{9}$  (one- ninth) of the accrued pension of the deceased officer. However, where the deceased leaves one child that child shall be entitled to  $\frac{2}{3}$  (two- third) of the deceased accrued pension until he attain the age of 18 years.
3. In certain cases if the widow dies, the surviving children will each be paid as at the date of the widow's death until they attain the age of 18 years.
4. In general, the consideration of payment shall only be made to not more than 6 children.

5. At any time a female child is married even if she has not attained the age of 18 years, any pension payable to her shall cease immediately

### **Death In Course Of Service**

Provisions for death benefits/pension provide that where a deceased officer leaves more than one widow the pension may be granted to only one or more of such widows, however, total aggregate payment should not exceed the value of the amount that should have been paid to the sole widow.

### ***Calculation Of Gratuities And Pension Of Deceased Officer***

Having discussed at some length the circumstances in which a deceased officer's survivors could be paid terminal benefits, it is considered necessary to work out some examples of hypothetical nature on the following case studies.

#### **Case Study 1**

Mallam Ahmed Usman born on 14<sup>th</sup> June, 1972 had served the Local Government for a period of 4 year only. He was staff on grade level 08/6. He fell ill and died. Calculate benefits if any.

#### **Solution**

Name of officer	-	Mallam Ahmed Usman
Date of birth	-	14 <sup>th</sup> June 1972
Mode of leaving service	-	Death
Length of service	-	4 years
Annual salary 08/6	-	₦ 15,144.00
Annual payable allowances	-	₦ 10,898.88
Total emolument	-	₦ 26,042.88



If the officer had left service naturally he would not have been entitled to any terminal benefits but since he died in service his dependants will to be entitled to 1 year's salary as gratuity.

### **Case Study 2**

After serving for period 21 years, Mr. Joseph Ukechukwu died in Hospital after a brief illness. Other records about him were as follows:

Name of officer	-	Mr. Joseph Ukechukwu
Date of birth	-	Not stated
Length of service	-	21 years
Salary Grade	-	10/2

### **Solution**

The dependants of late Joseph Ukechukwu are entitled to the following benefits:

Death gratuity calculated at 18% of total emolument as pension.

The pension for five years can be calculated and paid forthwith.

Annual salary (old rate)	-	₦ 17,892.00
Annual allowances (payable)	-	₦ 20,794.56
Total Emolument	-	₦ 38,686.56
% of Gratuity	-	188% (obtained from schedule to pension decree)
% of Pension	-	52% (obtained from schedule to pension decree)
Gratuity Payable	-	$\frac{188 \times 38686.56}{100}$
	-	₦ 72,730.73

### **2.2.3 Common Manual Pension Information Needs**

The pension administration system involves the manual manipulation of records. Data are captured for several pensioners; such data may include all or some of the following;

- Names
- Images (Passport Photograph)
- Employment(s) Details
  - Date of Employment
  - Date of Retirement
  - Date of Last Promotion
  - Ministry/Parastatal Attached to before retirement
  - Status and Grade Level before retirement
- Particulars of Next-Of-kin
- Other relevant details

These data are organized in manual files or Bill cards without any definite organization pattern. Data for each pensioner is retrieved from cards with each card assigned unique card numbers for each pensioner.

### **2.3 SHORTCOMINGS OF MANUAL PENSION SYSTEMS**

The manual system has a lot of shortcoming, they include:

- Unnecessary duplication of records
- Database enquiries cannot be easily processed
- Inability to use search criteria
- Limitations in the generation of reports
- No definite method of tracking changes
- Susceptibility of records to Natural and Malicious disaster

### **2.4 BENEFITS FOR AN AUTOMATED PENSION ADMINISTRATION SYSTEM**

In bringing about the much needed efficiency in the administration of pension information. Computers and other Office Systems need to be applied as a replacement for the manual system.

An automated pension systems would offer the following advantages;

- Finding specific records with little effort by the use of search criteria
- Access to stored information in many different ways
- Generation of multiple reports from databases
- Avoidance of unnecessary duplication of records
- More efficient management of stored information
- Protection of database from authorized access
- Regular back-up of data files

For these advantage to be achieved, an effective data processing system needs to put in place, this should be complemented with an organized office system.

## **2.5 UNDERLINING CONCEPTS OF AUTOMATED SYSTEMS**

Data processing is the analysis and organization of data by the repeated use of one or more computer programs. Data processing is used extensively in business, engineering and science and to an increasing extent in nearly all areas of human activities. Businesses use data processing for such tasks as payroll preparation, accounting, record keeping, inventory control and sales analysis. Engineers and scientists use data processing for a wide variety of applications, including the processing of seismic data for oil and mineral exploration, the analysis of new product designs, the processing of satellite imagery, and the analysis of data from scientific experiments.

Data processing is divided into two kinds of processing:

- Database processing
- Transaction processing

### **2.4.1 Database and Transaction Processing**

A database is a collection of common records that can be searched, and modified such as bank account records, school transcript and income tax data. In database processing a computerized database is used as the central source of reference data for the computations.

Transaction Processing refers to interaction between two computers in which one computer initiates a transaction and another computer provides the first with the data required for that function.

Most modern data processing uses one or more databases at one or more central sites. Transaction Processing is used to access and update the databases when users need to immediately view or add information; other data processing programs are used at regular intervals to provide summary reports of activity and database status. Examples of systems that involve all of these functions are automated teller machines, credit sales terminals and airline reservation systems.

### **2.4.2 Information Storage and Retrieval**

The final step in data processing cycle is the retrieval of stored information at a later time. It is a term used to describe the organization, storage, location and retrieval of encoded information in computer systems.

Important factors in storing and retrieving information are the:

- Type of media
- Storage device used to store information
- The media's storage capacity
- The speed of access and information transfer to and from the storage media
- The number of times new information can be written to the media

This is usually done to access records contained in a database, to apply new data-processing functions to the data, or - in event that some part of the data has been lost - to recreate portions of a database. Examples of data retrieval in the data-processing cycle include the analysis of pensioner payments, stored sales receipts to reveal new customer spending patterns and the application of new processing techniques to seismic data to locate oil or mineral fields that were previously overlooked.

## **CHAPTER THREE:        SYSTEM ANALYSIS AND DESIGN**

### **3.1    PLANNING FOR A COMPUTER BASED PENSION ADMINISTRATION**

The method selected for the new system is determined by the present set of document used, which is fairly adequate to be modified with the design of new formats to form the basis for the computerized information system. The files and programs are kept as simple as possible to be users friendly in relation to computerization of a pension administration system.

The initial step toward system design is the identification of system requirements and the formulation of design alternative. The requirements are those factors or details that have to be incorporated into the proposed system to provide desired output. The following are borne in mind during this system design:

- Identifying areas that require improvements and/or modifications for computerization by the organization (Local Govt. Staff Pension Board)
- Development of an underlying system to achieve the computerization requirements.
- Ensuring that the proposed system is easy to operate, understood by all user staff, and which requires minimum changes in the existing system.

In designing the system, the following strategies are adopted:

#### **3.1.1 Design Strategies For Implementing Computer Based Pension Administration**

- Identification of current system requirements
- Selection and Organization of the data that needs to be stored
- Planning for system Efficiency and Reliability

- Economic Cost comparison: Determination of the cost of implementing the proposed system

### **3.1.2 Planning System Requirement**

- Determination of the information or data to be keep track off.
- Organization strategy of the required information
- Determination of the capacity of current hardware and software that the proposed system would use.
- Determination of the user of the proposed system and the capability of such user.
- Projection of future database needs.

### **3.1.3 Potential Hurdles**

- Apathy of users to computerized systems, leading to the exhibition of system under-utilization.
- Over dependency leading to the assumptions that the computerized system is fail-prove.
- Unauthorized access to stored data and information.
- Data lost due to user lack of maintenance culture
- System malfunctioning.
- User adaptation to old system.

### **3.1.4 Solving Potential Problems**

- Adequate training of operators, users and all personnel concerned with the use of the new system.
- Periodic/Routine backup of stored information.
- Access control and user verification methods should be built into the software.

- **Management Control:** Management should always summarize information, observe trends and performance of variances.

### 3.2 FEATURES OF USED PROGRAMMING LANGUAGE (VISUAL BASIC 6.0)

The proposed system would be developed with modern Object Oriented Programming Tools (Visual Basic) and would very much help in enhancing any standard operations.

The Visual Basic has a number of features, which in turn are incorporated into the proposed system, this feature includes:

#### FEATURES

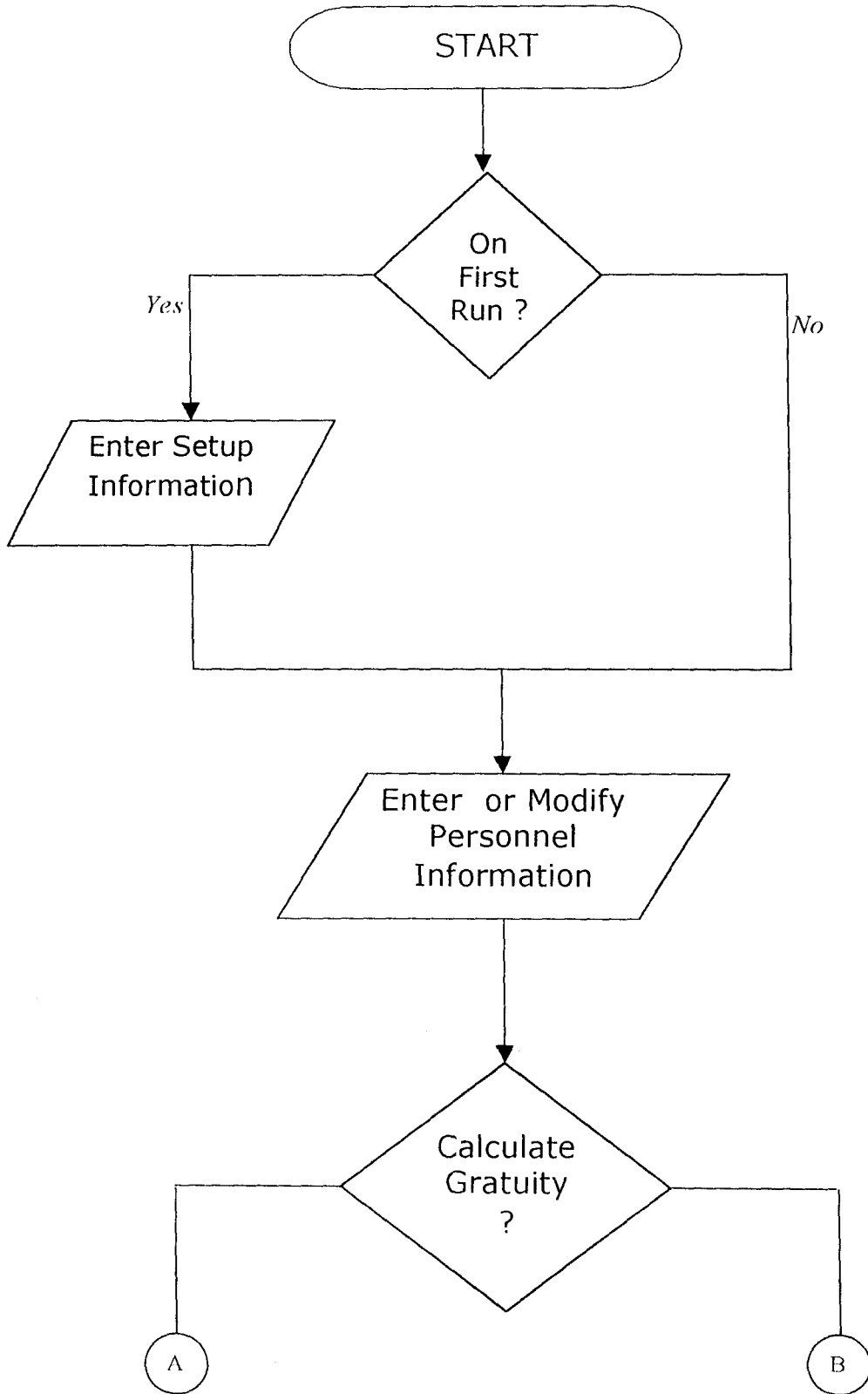
- **Full Windows Compatibility:** the software is designed to run in the Ms Windows Operating and any compatible environment, which is the standard for any modern software.
- **Mouse Support :** apart from keyboard invocations of commands, the software we develop supports the use of the mouse, hence, it is easier to navigate through the software environment and tasks can be executed at the click of a button.
- **Menu and Event Driven:** the software incorporate Pull Down menus, windows compatible dialogue boxes, prompts and command buttons. This has the added advantage of making the software more user-friendly and interactive.
- **Connectivity with other Windows based application:** the software has the ability for Dynamic Data Exchange (DDE) and Dynamic Link Library (DLL) for Shared files, with other Ms Windows based software. As such data can be exported or imported to and from it (i.e. communication with other window based software is totally effective).

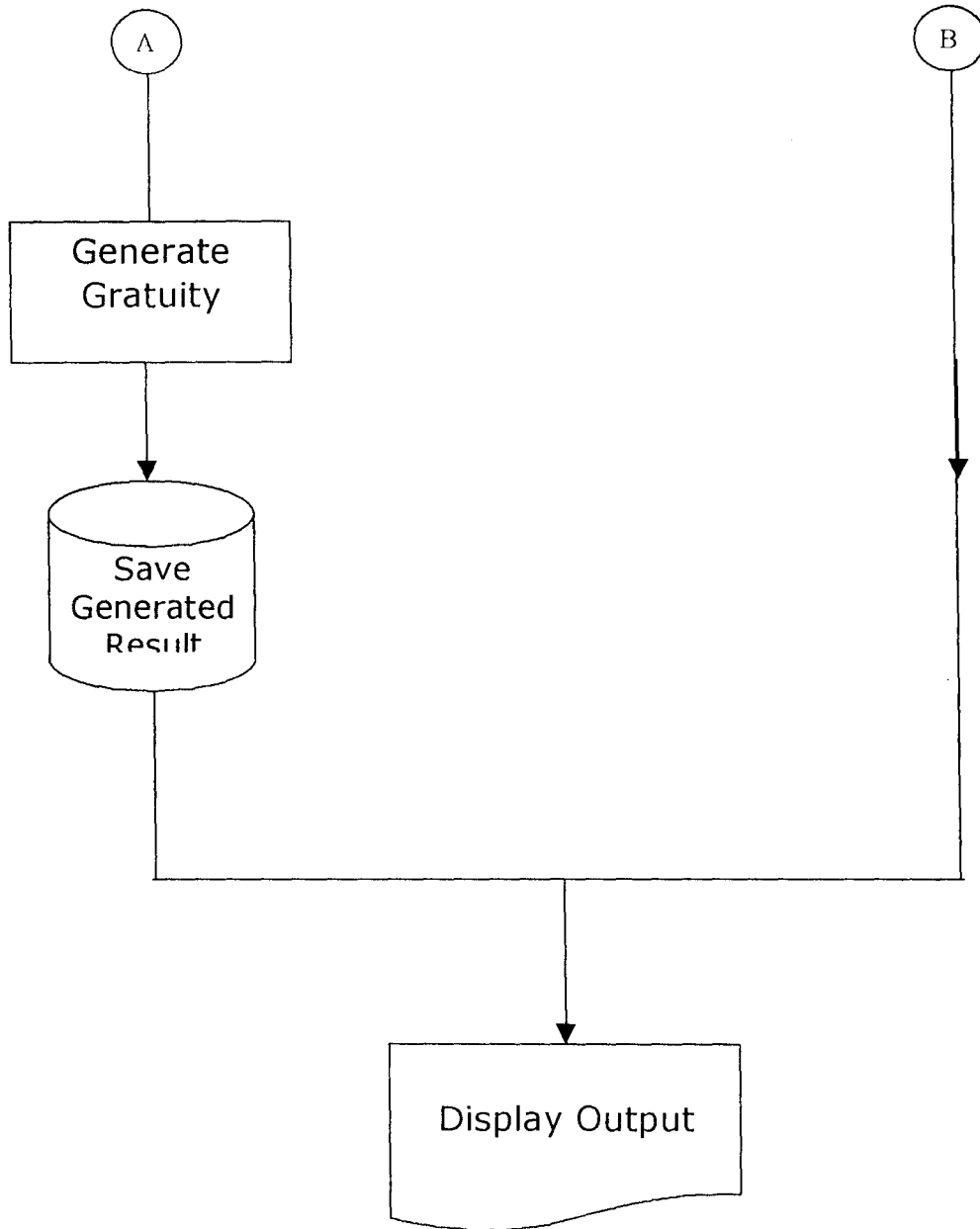


- **Improved Multiple Database Structure:** the database structure of any new software developed by us uses the Microsoft Open Database Connectivity (ODBC) style that supports the creation of multiple tables in a single database. This allows for better handling of large volume of related data items while still compact.
- **Security:** the software is designed such that only valid and authorized users can only gain access; thereby protecting the integrity of your data and the source code of your program being tampered with, which is one of the problems you faced with uncompileable program. Also the databases in the software could encrypted such that they can only be manipulated by the software alone.
- **Client-Server Network System (Optional):** the software is designed to work on Network environment of any architecture. It makes database access in the multi-user environment totally efficient, protecting data Integrity and Redundancy.
- **Output Control:** the software controls the output to Screen, Printer or directly to a file in the format of any Ms Windows base standard software. (E.g. Access, Excel, Ms Word)
- **Practical WYSIWYG (What-You-See-Is-What-You-Get) Report Display:** the display screen shows you exactly what your final report will look like when your print
- **Multiple Size Page Views:** View as many report pages at Actual, Double or Half size.
- **Pictorial Data Representation:** data charting in our software gives view enhancement.

- **Multi-Media Effects:** Visual and Audio multi-media are available optionally, also they use all your current Operating System Settings like Sound, Screen Color, Date & Time e.t.c.
- **Utility Features:** pop-up on screen Calculator & Calendar.
- **Communication (Internet):** automatic E-mailing of Report/Data available as an additional report route.
- **Online-Help:** Help is available for users on virtually every command of our software. Appropriate error trapping messages are included in our systems.

### 3.3 SYSTEM FLOWCHART





### 3.4 INPUT SPECIFICATION

The input requirements of a computerized Pension Administration system are analyzed and specified as below:

**Table Name: REGISTER**

Field Name	Field Type	Field Width	Field Meaning
FileNo	Text	15	<i>Unique Identity Number</i>
Title	Text	12	<i>Pensioner's Title (E.g Mr)</i>
SName	Text	20	<i>Pensioner's Surname</i>
FName	Text	20	<i>Pensioner's Firstname</i>
OName	Text	20	<i>Pensioner's Othername(s)</i>
Sex	Text	6	<i>Pensioner's Sex</i>
DOB	Date/Time	10	<i>Date Of Birth</i>
MStatus	Text	15	<i>Marital Status</i>
Address	Text	200	<i>Contact Address</i>
Tel	Text	15	<i>Telephone Number</i>
State	Text	15	<i>State Of Origin</i>
LGA	Text	50	<i>Local Govt. Area</i>
DOA	Date/Time	10	<i>Date Of Appointment</i>
DOLP	Date/Time	10	<i>Date Of Last Promotion</i>
DOR	Date/Time	10	<i>Date Of Retirement</i>
Status	Text	50	<i>Designation at retirement</i>
Grade	Text	5	<i>Last Grade Level</i>
Amount	Currency	8	<i>Pension Amount</i>
PayMode	Text	8	<i>Mode of Payment</i>
NOKTitle	Text	12	<i>Next-Of-Kin Title</i>
NOKSName	Text	15	<i>Next-Of-Kin Surname</i>
NOKOName	Text	20	<i>Next-Of-Kin Othername(s)</i>
NOKAdd	Text	200	<i>Next-Of-Kin Address</i>
NOKTel	Text	15	<i>Next-Of-Kin Telephone No.</i>
NOKRelate	Text	15	<i>Relationship with NOK</i>
NOKOccup	Text	50	<i>Next-Of-Kin Occupation</i>
Pict	Binary	0	<i>Pensioner's Image</i>

**Index:** The Table is index upon FileNo with a Unique attribute

**Purpose:** This table is required to store the personal and official record of every pensioner.

**Table Name:** GRATUITY

Field Name	Field Type	Field Width	Field Meaning
FileNo	Text	15	<i>Unique Identity Number</i>
Amount	Currency	8	<i>Total Gratuity Received</i>
YearServed	Double	8	<i>Number of years in service</i>

**Index:** The Table is index upon FileNo with a Unique attribute

**Purpose:** This table is required to store the result of the computation of Gratuity benefit.

**Table Name:** GRDTAB

Field Name	Field Type	Field Width	Field Meaning
Amount	Currency	8	<i>Amount accrued to Grade</i>
GradeCode	Text	5	<i>Grade Level Code</i>
Per_Gratuity	Double	8	<i>% of Gratuity per Grade</i>

**Index:** The Table is index upon GradeCode with a Unique attribute

**Purpose:** This table is a setup table that is required to store the pension amount receivable by different Grade Level and also the Percentage allocated to the different Grade Levels. This table is useful in the generation of the total Gratuity Benefit of the pensioners if the

Grade level is know. It is also accessed to provide the Pension stipends of the known Grade Level.

**Table Name: PASSWORD**

Field Name	Field Type	Field Width	Field Meaning
Password	Text	20	<i>Unique Password of the User</i>
UserName	Text	40	<i>Login Username of the User</i>
AccessLevel	Text	5	<i>Access level of the User</i>

**Index:** The Table is a compound index on AccessLevel+Password+userName with a Unique attribute.

**Purpose:** This table is required to store the authorization information of users. All unauthorized person(s) is not to be registered in this table or even have access to the table.

### 3.5 OUTPUT SPECIFICATION

For the output of processing to be view (on Paper or Screen) they have to be first written to a file (Database Table) before they are sent to any output medium (Printer- for Hardcopy or Screen - for Softcopy). It is however pertinent to pre-empt and specify the output of the Computerized Pension Administration system.

It should be noted that most (in fact all) of this Table are generic, with the sole aim of 'dumping' Report data/information and are deleted afterwards. It is also note-worthy that a generated table could be used for/by many Reports.

Since the Tables are generated and deleted, they are given the same name "TRASHBIN"

The Output specifications for some Reports are:



**Table Name: TRASHBIN**

Field Name	Field Type	Field Width	Field Meaning
FileNo	Text	15	Unique Identity Number
Title	Text	12	Pensioner's Title (E.g Mr)
SName	Text	20	Pensioner's Surname
FName	Text	20	Pensioner's Firstname
OName	Text	20	Pensioner's Othername(s)
Sex	Text	6	Pensioner's Sex
DOB	Date/Time	10	Date Of Birth
MStatus	Text	15	Marital Status
Address	Text	200	Contact Address
Tel	Text	15	Telephone Number
State	Text	15	State Of Origin
LGA	Text	50	Local Govt. Area
DOA	Date/Time	10	Date Of Appointment
DOLP	Date/Time	10	Date Of Last Promotion
DOR	Date/Time	10	Date Of Retirement
Status	Text	50	Designation at retirement
Grade	Text	5	Last Grade Level
Amount	Currency	8	Pension Amount
PayMode	Text	8	Mode of Payment
NOKTitle	Text	12	Next-Of-Kin Title
NOKSName	Text	15	Next-Of-Kin Surname
NOKOName	Text	20	Next-Of-Kin Othername(s)
NOKAdd	Text	200	Next-Of-Kin Address
NOKTel	Text	15	Next-Of-Kin Telephone No.
NOKRelate	Text	15	Relationship with NOK
NOKOccup	Text	50	Next-Of-Kin Occupation
Pict	Binary	0	Pensioner's Image

**Index:** The Table is index upon FileNo with a Unique attribute

**Purpose:** This output table is the main table generated to provide information/data for many report such as:

- *Individual Information Details* - here the table contains only a complete single record of a Pensioner.
- *Nominal Roll* - here the table contains all the records of all Pensioners
- *Staff List* - here the table contains all the records of all Pensioners
- *Next-of-Kin List* - the table contains all records of all Pensioners whereas only the Next-of-Kin information of all the Pensioners are needed for the report.

**Table Name: TRASHBIN**

Field Name	Field Type	Field Width	Field Meaning
FileNo	Text	15	<i>Unique Identity Number</i>
Amount	Currency	8	<i>Total Gratuity Received</i>
YearServed	Double	8	<i>Number of years in service</i>

**Index:** The Table is index upon FileNo with a Unique attribute

**Purpose:** This table is used in the "*Gratuity List*" report where the Gratuity benefits of Pensioners are displayed.

**Table Name:** TRASHBIN

Field Name	Field Type	Field Width	Field Meaning
Amount	Currency	8	Amount accrued to Grade
GradeCode	Text	5	Grade Level Code
Per_Gratuity	Double	8	% of Gratuity per Grade

**Index:** The Table is index upon GradeCode with a Unique attribute

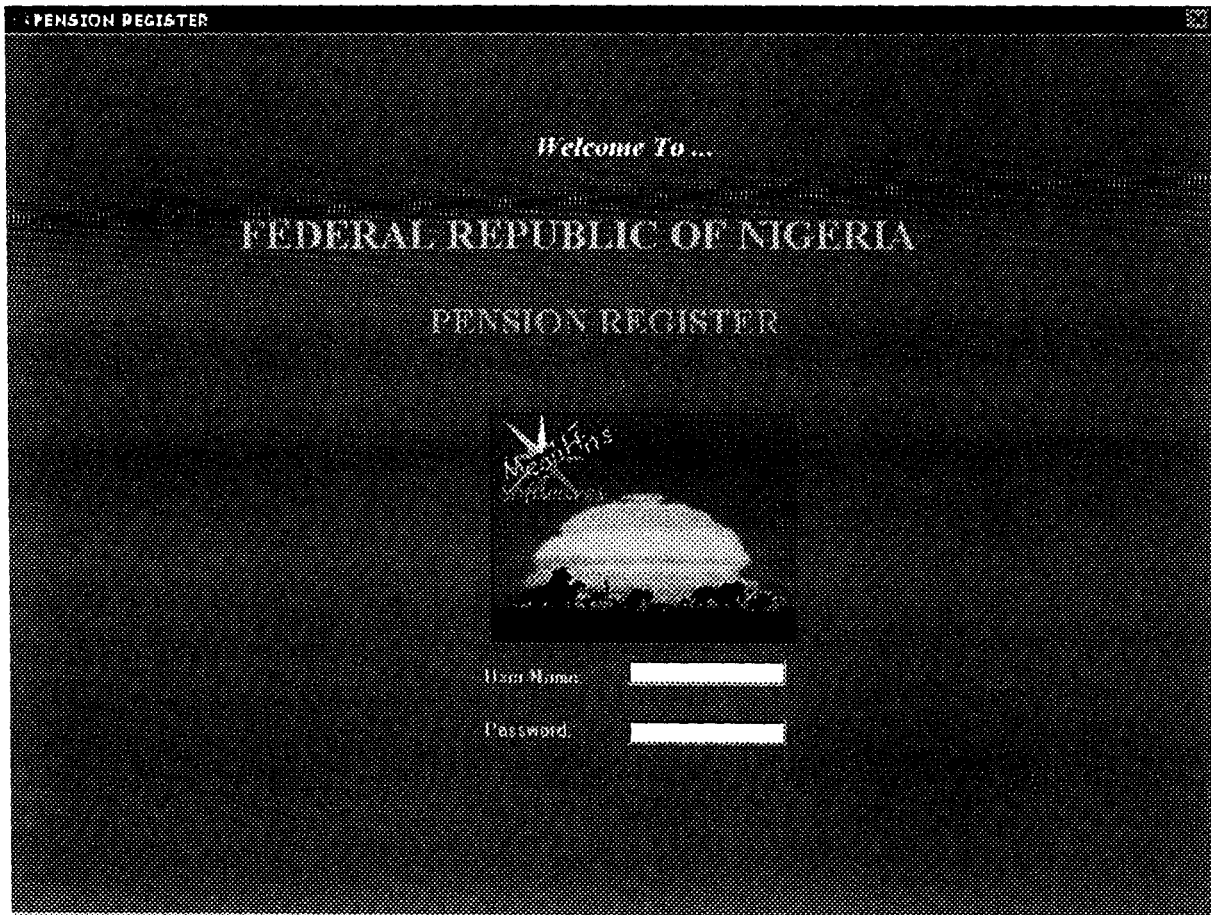
**Purpose:** This table is needed for the display of records entered into the Database Table "GRDTAB".

### 3.6 INPUT DESIGN

The Design of Screens (FORMS as called in Visual Basic) is important in any system development process, because it is through this Forms (interface) that the User actually communicates with the program, thus, the efficiency or robustness of a program is firstly determined by the User interface (Forms). It is the user friendliness of the Forms in a program that determines whether is Software is good or not. With this taken into consideration, the following input designs are used.

**Form Name: FRMCOVERSCREEN.FRM**

**Screen Purpose:** This Form doubly serves as the Welcoming Screen as well as the authorization check-point of the Pension Administration Software. Here it is expected that the user should supply his/her Username and Password to gain access to the system proper. An incorrect entry of either the Username or the Password makes the user an invalid user.



**Form Name: FRMMAINMENU.FRM**

**Screen Purpose:** This is the Main menu Form that contains the different activities the system can do. Different operational options are available on the main menu form for users to choose. The main menu contains the following Main options and sub-menus:

**FILE**

- *Zip >> Backup/Restore Data File* - This sub-menu option integrates the WinZip Utility to allow for database Backup and Restore.
- *Set default Printer* - This option setup a printer as current.
- *Exit Package* - This option, when selected closes the software.

**TASK**

- *Register* - The main invokes a routine for registering Pensioners
- *Calculate Gratuity* - Gratuity Calculation is initiated when this sub-menu is selected
- *Grade Table* - A Form that allows Grade Level to be captured is displayed when this option is selected.

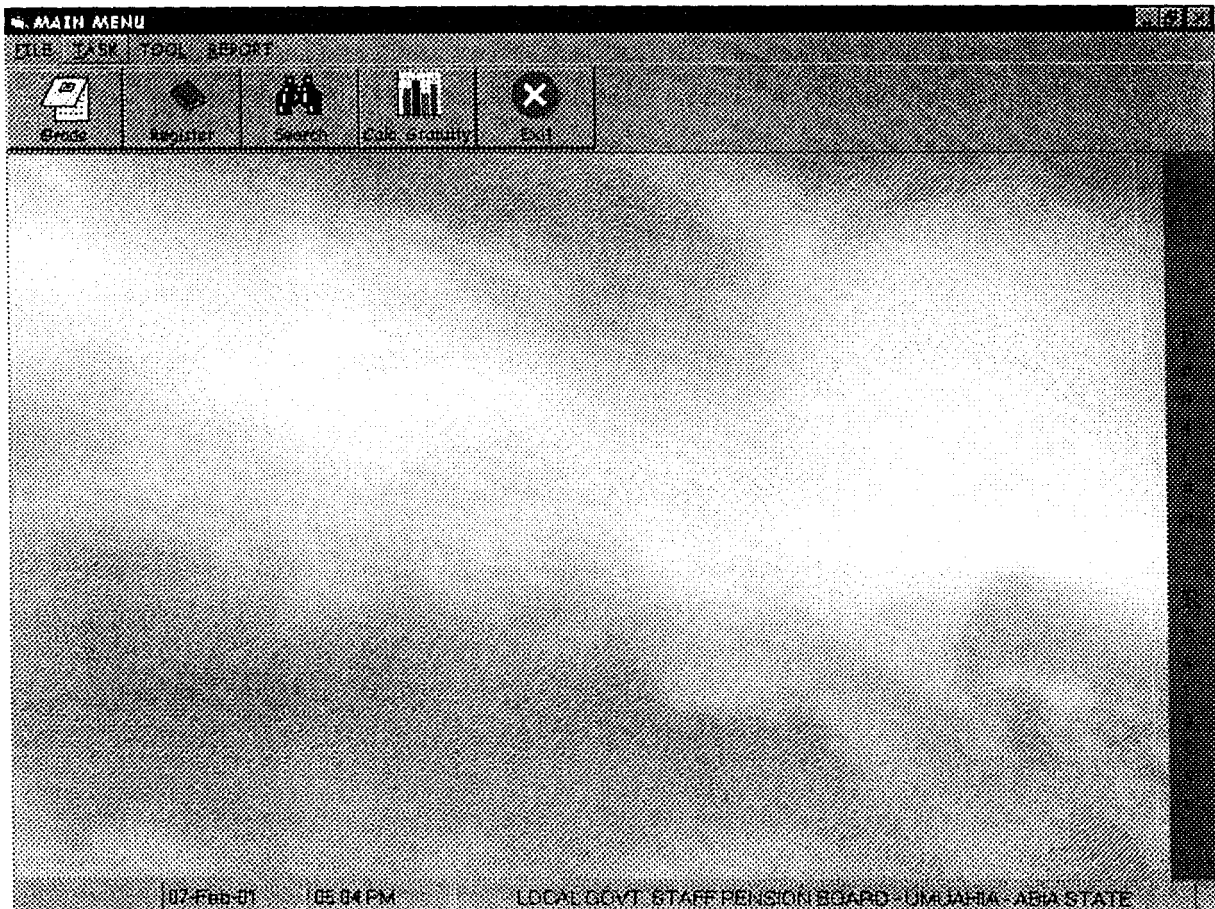
**TOOLS**

- *Record Search* - This allows for the quick searching of Pensioner's records
- *Password Maintenance* - Such information as to the authorization of user is taken care of in this module. It allows for activities like Authorization of New User, Deletion of User authorization information and modification of existing authorization information.
- *Calculator* - Invokes a Calculator Utility.
- *Calendar* - Invokes a Calendar Utility
- *About Package* - Tells more about the Package

## REPORTS

- *Individual Details* - This option invokes the report to display the record of a single specified Pensioner.
- *Pensioner List* - This sub-menu option invokes the report that displays the Nominal Roll of all Pensioners.
- *Next-Of-Kin List* - This option invokes the report that displays the Next-of-kin information of every Pensioner.
- *Gratuity List* - This option invokes the report that displays the Gratuity Benefit of every pensioner.

However, they are some frequently used main activities that are invoked by icons on the toolbar.



**Form Name: FRMINPUT.FRM**

**Screen Purpose:** This is the Main Form that acts as an interface between the user and the database that contains the record of the Pensioners. This Form allows for new Pensioner information to be added, existing record modification and record deletion.

**PENSIONER REGISTER**

File No.:

Title:  Surname:  Firstname:

Othename(s):  Sex:  Date Of Birth:

Marital Status:  Address:

Telephone:

State:  L.G.A.:

Date Of Appointment:  Date Of Last Promotion:  Date Of Retirement:

Status before Retirement:  Grade Level:

Amount Paid:  Mode Of Payment:

**Next of Kin Details**

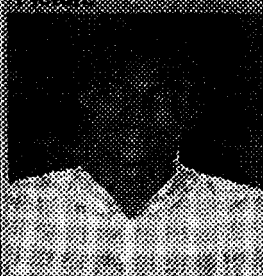
Title:  Surname:

Othename:

Address:  Telephone:

Relationship:

Occupation:

Picture:   
Change Picture

**Form Name: FRMGRADE.FRM**

**Screen Purpose:** This is the input design that allows Grade level information to be captured, modified or deleted.

The screenshot shows a window titled "GRADE CODES & AMOUNT". It contains three input fields: "Grade Code" with the value "01/01", "Amount" with the value "2334", and "% of Gratuity" with the value "118.34". Below these fields is a toolbar with icons for New, Save, Edit, Refresh, Delete, and navigation arrows. At the bottom is a table with the following data:

GRADE LEVEL	AMOUNT	% OF GRATUITY
01/01	2334	118.34
01/02	23456	200.23

**Form Name: FRMPASSMAIN**

**Screen Purpose:** This is the input design that allows User authorization information to be captured, modified or deleted.

The screenshot shows a window titled "User Profile". It displays the name "Olapoju Oluwole" and the role "Administrator". To the right of the text are three buttons: "Add User", "Delete", and "Change Password".



### 3.7 OUTPUT DESIGN

Output Design (REPORTS as called in Visual Basic) is also important in any system development process. A good report is a basic instrument for management decision making, thus for a report to be alright it has to contain all bit of information required in it. The following output designs are used.

**Report Name: INDPEN.RPT**

**Purpose:** (Individual Details) - Displays the record of a single specified Pensioner.

The screenshot shows a report window with the following data:

Local Govt Staff Pension Board - Umuahia - Abia State			
Print Date	07-Feb-01		
INDIVIDUAL PENSIONER DETAILS			
File No.	4		
Title	Mr.	Surname	Olapoju
Firstname	Oluwole	Othernames	Olakunde
Sex	Male	Date Of Birth	13-Jul-1943
Marital Status	Married		
Address	Kubwa, Abuja		
Tel			
State	OSUN		
Local Govt Area	Ife-Central		
Appointment Date	12-Jul-1986	Last Punctuation Date	13-Jul-1992
Date Of Retirement	13-Jul-1999		
Mode Of Payment	Cash	Status	Sur Driver/Mech
Next Of Kin Information			

At the bottom of the window, there is a status bar with the text: "1 of 1 Total 100%".

**Report Name: PENLIST.RPT**

**Purpose (Pensioner List) - This report displays the Nominal Roll of all Pensioners.**

**Local Govt. Staff Pension Board - Umuahia - Abia**

Print Date 07-Feb-01

**LIST OF PENSIONER**

File No.	Surname	Firstname	Othername(s)	Sex	Birth Date	Marital Status	Address	Tel	State	LGA	Present Employment
1	Okonkwo	Hgoni	Alpan	Female	15-Jul-00	Married	Port Harcourt Road, Otuocha	098-534890	ABIA	Ngor	Clerical Office
4	Okpoja	Obwole	Obakule	Male	13-Jul-43	Married	Kubwa, Abuja		OSUN	Ik-Central	Sr. Driver/IT
2	Nzebi	Eneka	Ojukwu	Male	15-Aug-90	Single	Phase 4, Kubwa, Abuja	5237888	DELTA	Kwale	Director

**Report Name: INOKREP.RPT**

**Purpose (Next-Of-Kin List)-** This report displays the Next-of-kin information of every Pensioner.

**Local Govt Staff Pension Board - Umuahia - Abia State**

Print Date 07-Feb-01

**LIST OF NEXT-OF-KIN (NOK) OF PENSIONERS**

Sl. No.	Surname	Firstname	Othernames	NOK Title	NOK Surname	NOK Othernames	NOK Address	NOK Telephone	NOK Occupation
1	Okenkwo	Ngoni	Abpan	Mr.	Okenkwo	Edet	Port-Harcourt Road, Onitsha	09-534890	Trader
4	Olapoju	Oluwole	Olokunde	Mr.	Olapoju	Delowa Esley	Maitama, Abuja		Journalist
2	Isaiah	Emeka	Ojukwu	Mr.	Isaiah	Hzeh	Nbporokai Street Enugu State	064380	Student

**Report Name: INDPEN.RPT**

**Purpose (Gratuity List)**- This report displays the Gratuity Benefit of every pensioner.

FileNo	FullName	Year in Service	Amount (=N=)
1	Mr. Okonkwo, Ngozi Akpan	22	27,620,556.00
4	Mr. Olapoju, Oluwale Olakuile	13	27,620,556.00
2	Mr. Nzeih, Eneka Ojukwu	29	68,959,212.00

## CHAPTER FOUR: SYSTEM IMPLEMENTATION

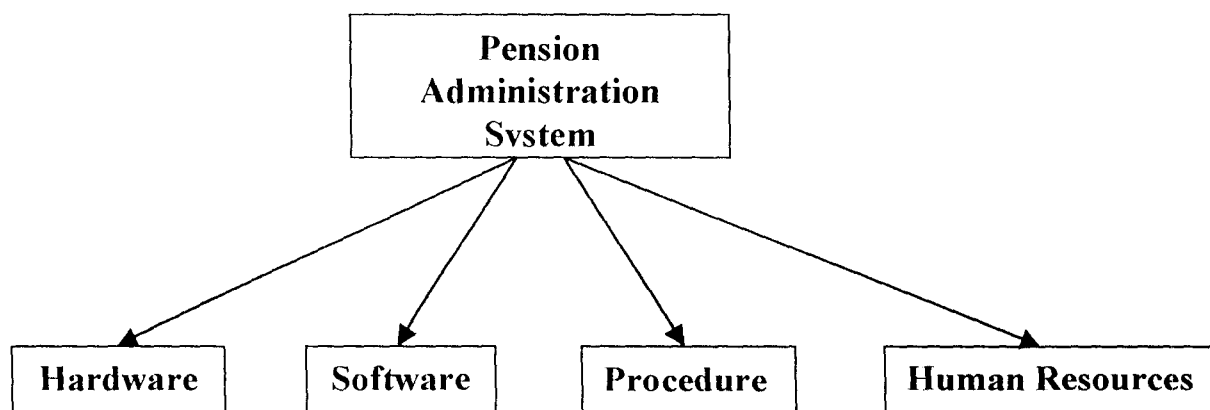
### 4.1 INTRODUCTION

Implementation is the process of applying the developed system for the purpose it is meant for. System implementation involves the development of quality assurance procedures, including data security, back-up, recovery and system control system implementation objective is to complete the orderly and unobtrusive installation of the new system. During the system implementation, the new system is installed and users have the opportunity to operate the new system in "parallel" with the existing system.

The system implementation comprises the following task:

- Application system installation
- Documentation to provide user manuals
- Users Training on the new system
- Parallel system testing
- Data conversion/migration
- Acceptance of Testing
- System setup

### 4.2 REQUIREMENTS FOR IMPLEMENTING A COMPUTERIZED PENSION ADMINISTRATION AND CONTROL SYSTEMS



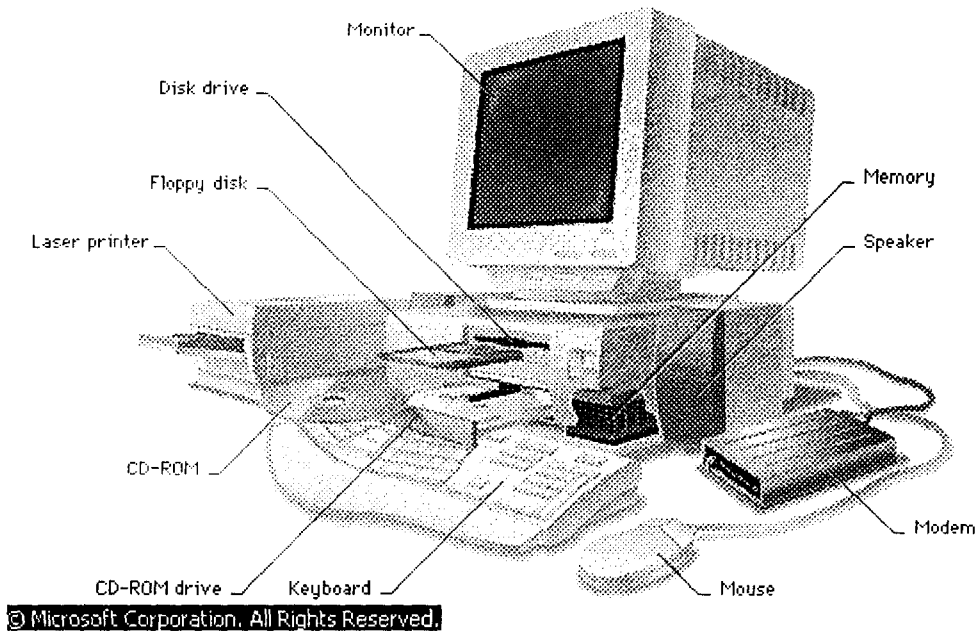
#### **4.2.1 HARDWARE REQUIREMENT**

Computer hardware consists of the components that can be physically handled. The function of these components is typically divided into three main categories: input, output and storage. Components in these categories connect to microprocessors, specifically, the computer's Central Processing Unit (CPU), which is the electronic circuitry, that provides the computerized ability and control of the computer, via wires or circuitries.

In recent years microcomputers have been designed to pack within them more computing powers, in years past this was the exclusive preserve of minis and mainframes, but it is now possible to use microcomputers (as a Stand-alone or in a Network) for more demanding task.

For Pension Administration and Control System, a complete Microcomputer System would be ideal. Such a system should also have along, a Printer for the production of hardcopy.

## Computer Hardware Components



### Hardware Configuration

#### Full System

- Pentium PIII 550 Processor
- 6.4 GB Hard Disk
- 15" Digital Color Monitor
- ATX Mini Tower Casing
- 120-Watts Speakers (Optional)
- 54x CD-ROM (Optional)
- 64 MB RAM

#### Printer

DeskJet or Epson Line Printer

#### UPS

APC or Sun Pac UPS (640KV)

## 4.2.2 SOFTWARE REQUIREMENT

Software are computer programs - instructions that cause the hardware - the machine - to do work. Software as a whole can be divided into a number of categories based on the types of work done by the programs. Two primary software categories are Operating System (System Software), which control the workings of the computer and Application Software which addresses the multitude of tasks for which people use computers. System software thus handles such essential, but often invisible chores as maintaining disk files and managing the screen (display), whereas Application software perform word processing, database management, and the like. Two additional categories that are neither System nor Application software, although they contain elements of both, are network software, which enables groups of computers to communicate, and Language software, which provide programmers with the tools they need to write programs.

For a Pension system, the System software (Operating System) required is the Windows Operating System, while the Application software can either be:

### *Customized Pension Administration Software*

This is a software written with the sole aim of managing pension information. It is referred to as customized because it is particularly tailored to meet the specific need or requirement of the organization, ministry, or state that requires it. It can be gotten by commissioning a team of programmers (consultants) or qualified computer analyst to understudy the manual system and design computer application software that would simulate the manual procedures.

In doing this cognizance is always taken of the:



- Need for the software to reflect effectively, the operations of the manual procedures.
- User friendliness - such software should be easy for the user to use
- Eliminate the shortcoming of the manual procedures
- Reliability - meet the design objective

The objective of this project is to develop this type of Application software to replace the manual mode of pension administration.

### *Database Management Software*

A database is any collection of data organized for storage in a computer memory and designed for easy access by authorized users. The data may be in the form of text, numbers or encoded graphics. Databases have become so important in industrial societies that they can be found in almost every field of information. Government, military, and industrial database are often highly restricted, and professional databases are usually of limited interest. A wide range of commercial, governmental, and non-profit databases are available to the general public, however, and may be used by anyone who owns or has access to the equipment that they require.

Relational Database, is a type of database management system that stores information in tables - rows and columns of data - and conducts searches by using data in specified columns of one table to find additional data in another table. In a relational database, the rows of a table represent records (collections of information about separate items) and the columns represent fields (particular attributes of a record). Microcomputer database are typically relational.

Popular examples of database software are:

- Microsoft Access
- Microsoft FoxPro
- Borland Paradox
- Oracle e.t.c.

#### **4.2.3 PROCEDURES**

Procedures are step-by-step method(s) of using a system to be able to achieve result. A procedure in the context of this project is a physical component because they are provided in a physical form such as manual and instruction booklets. The major types of procedures that are required are:

- User instructions
- Instruction for preparation of input
- Operating instructions for the computer center personnel.

#### **4.2.4 PEOPLE (HUMAN RESOURCES)**

Human resources are the most important of any data processing system, because it is its responsibility to control and coordinate all other component that makes up the entire system.

In a pension administration system, it is therefore necessary to have qualified personnel whose responsibility it will be to manage the system. Such personnel needs to be trained effectively on:

- The use of the computer.
- Manipulation of office systems.
- Use and operation of database software to be used

#### **4.3 SYSTEM TESTING**

After the installation of the new system, the system must undergo a test, once all the programs have been written and the training of the personnel to use the

system is completed. The system testing is to ensure that all the sub-programs have been efficiently and correctly written. The system testing entails the execution of the program with test data so as to enable the system developer and the management to know the operational efficiency of the system.

The system testing will also enable the designer to correct errors and delete programs or modules that are not efficient or relevant by a process called debugging, using test data input into the programs so as to produce the desired output reports. Test data of all possible type/kind are used in other that all likely behaviors of the system to the input is ascertained before actual system implementation.

During this task, the Programmers or the System designer(s) assists the project staff in conducting the testing of the developed system so as to ensure that the system meets all the users needs and requirements. System testing entails the testing and certification of the system developed. This phase ensures that all required features, functions and capabilities are present in the system developed, and that all other requirements are met. Any necessary revisions are made during the system testing.

It is note-worthy that test data should be of 'real-live' nature.

#### **4.4 SYSTEM SET-UP**

After the successful System Testing, and the system output or requirements are mutually accepted by the Users of the system, the System Analyst and System Programmer(s), the next thing in the system implementation line is the setting up of the installed system, that is, putting in place or entering the basic information necessary for the system smooth take off.

Setup information in this new system include:

- **Authorization Setup:** Here it is required to identify the users of the new system and Password assigned to them. It is also note-worthy that not every user can have unlimited access to the entire system, thus, access levels would also be determined for each user of the system. Authorization need not be done every time the system is ran, but only when new users are to be given access to the system or if modification is necessary - changing password or access level. The assignment of access to users can only be done be the System Administrator.
- **Table Maintenance:** Frequently used information are kept in a database table so that they are not always supplied by the users, example is when entering information of personnel, such information like the State of Origin, Designation, Grade Levels are usually within a known range, therefore they are pre-entered into a table so that users entering such data would only need to pick/select from the list.
- **User Information:** The new system is an 'open-system', and can be used by any other organization or company that uses or want to use the same method in this system for its pension administration. Thus it is pertinent that the user information is supplied once, upon the first running of the system.

#### **4.5 CHANGE-OVER & DATA MIGRATION**

The change over from old to new system may take place when the system has been proved to the satisfaction of the new System Analyst and the other implementation activities have been completed.

The method and approach used for the change over is the parallel running system. The parallel system testing means processing current data by both the old and new system concurrently, to cross check the result and compares them. The main

advantage is that the old system is kept alive and operational until the new system has been proved for at least one system circle. Using 'real-live' data in the real operational environment of the equipments, people and data, the results of the new system will be compared with old system to ensure the efficiency, capability and durability before acceptance by the user.

The change over task is designed to ensure that the software developed replicate the functionality of the system to be replaced.

Once the change over ends, the user staff complete their training and the parallel system testing are successful, the conversion of records of the old system to the file format of the new system, which involve data entry/capture of several forms of data using the software (*Data Migration*), is necessary.

## **CHAPTER FIVE: CONCLUSION AND RECOMMENDATION**

### **5.1 CONCLUSION**

The automated Pension Management System is an indispensable tool for a complete pension management especially in Nigeria. With the crave for technological advancement in the entire world, the appropriate technological tool such as this pension management system should be highly embraces and applied.

### **5.2 RECOMMENDATION**

Since the automated Pension administration software is peculiarly applicable to the Nigerian situation it is therefore highly recommended for use by government agency, corporations and organization as the case may be.

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# APPENDIX



## PROGRAM SOURCE CODE

Form: Frm2Fields  
Form: System Settings

Public TheTitle As String

Private Sub Cmd1Edit\_Click()

On Error GoTo handler  
Data1.Recordset.Edit  
Form2.Enabled = True  
Cmd1Save.Enabled = True  
Cmd1Edit.Enabled = False  
Cmd1Delete.Enabled = False  
Cmd1New.Enabled = False  
Exit1.SetFocus  
Exit Sub  
handler:  
MsgBox Err.Description, vbCritical  
End Sub

Private Sub Cmd1New\_Click()

On Error GoTo handler  
Data1.Recordset.AddNew  
Form2.Enabled = True  
Cmd1Save.Enabled = True  
Cmd1Delete.Enabled = False  
Cmd1Edit.Enabled = False  
Cmd1New.Enabled = False  
Exit1.SetFocus  
Exit Sub  
handler:  
MsgBox Err.Description, vbCritical  
End Sub

Private Sub Cmd1Save\_Click()

On Error GoTo handler  
Data1.UpdateRecord  
Data1.Recordset.Bookmark =  
Data1.Recordset.LastModified  
Form2.Enabled = False  
Cmd1Save.Enabled = False  
Cmd1Delete.Enabled = True  
Cmd1New.Enabled = True  
Cmd1Edit.Enabled = True  
Exit Sub  
handler:  
MsgBox Err.Description, vbCritical  
End Sub

Private Sub Cmd1Refresh\_Click()

On Error GoTo handler  
If Data1.Recordset.EditMode = 1 Then  
Data1.Recordset.Cancel  
If Data1.Recordset.EditMode = 2 Then  
Data1.Recordset.CancelUpdate  
Data1.Refresh  
Cmd1New.Enabled = True

Cmd1Save.Enabled = False  
Cmd1Edit.Enabled = True  
Cmd1Delete.Enabled = True  
Exit Sub  
handler:  
MsgBox Err.Description, vbCritical  
End Sub

Private Sub Cmd1Delete\_Click()

On Error GoTo handler  
resp = MsgBox("Deletion of the current record" + Chr(13) +  
"Continue (y/n)", vbYesNo + vbCritical)  
If resp = vbYes Then  
Data1.Recordset.Delete  
Data1.Refresh  
End If  
Exit Sub  
handler:  
MsgBox Err.Description, vbCritical  
End Sub

Private Sub CmdClose\_Click()

Unload Me  
End Sub

Private Sub CmdFirst\_Click()

On Error Resume Next  
Data1.Recordset.MoveFirst  
End Sub

Private Sub CmdLast\_Click()

On Error Resume Next  
Data1.Recordset.MoveLast  
End Sub

Private Sub CmdNext\_Click()

On Error Resume Next  
Data1.Recordset.MoveNext  
End Sub

Private Sub CmdPrevious\_Click()

On Error Resume Next  
Data1.Recordset.MovePrevious  
End Sub

Private Sub Data1\_Reposition()

Data1.Caption = Data1.Recordset.AbsolutePosition + 1  
End Sub

Private Sub mnuPreview\_Click()

CR1.Formulas(0) = "UserName=" + Trim(UserName) + ""  
CR1.ReportFileName = "c:\Pension\PayPoint.rpt"  
CR1.Destination = crptToWindow  
CR1.WindowState = crptMaximized  
CR1.PrintReport  
End Sub

Private Sub mnuPrint\_Click()

CR1.Formulas(0) = "UserName=" + Trim(UserName) + ""  
CR1.ReportFileName = "c:\Pension\PayPoint.rpt"

```
R1.Destination = crptToPrinter
R1.PrintReport
End Sub
```

```
Form: FrmFind
Form: Record Search
```

```
Dim Sqlstr1 As String
Dim Sqlstr2 As String
Dim Sqlstr3 As String
Dim SqlAgain As String
Dim Sqlstr, MyQuery As String
Dim Orderby As String
```

```
Private Sub cmdClear_Click()
Flex1.Clear
Flex1.Rows = 2
```

```
Call Setup1
```

```
Toolbar1.Enabled = False
End Sub
```

```
Private Sub CmdDOB_Click()
FormCal.Left = Combo3.Left
FormCal.Show 1
Combo3 = TheDate
End Sub
```

```
Private Sub cmdExit_Click()
Unload Me
End Sub
```

```
Private Sub cmdGo_Click()
On Error GoTo ErrH
```

```
If Combo1.Text = "" Or Combo2.Text = "" Then
Exit Sub
If Combo3.Text = "" And Combo2.Text <> "All"
Then Exit Sub
If Combo2.Text = "All" Then
Data1.RecordSource = (Sqlstr + Orderby)
Data1.Refresh
SqlAgain = "SELECT * "
dbs.Execute ("DROP TABLE TrashBin")
dbs.Execute (SqlAgain & " INTO TrashBin FROM
Personal")
'dbs.Execute ("Insert Into TrashStaffRecord " +
Sqlstr + "WHERE+ " Order by FileNo")
Else
If Combo2 = "Equals to" Then If Sqlstr2 = ""
Then Exit Sub
Data1.RecordSource = Sqlstr + Sqlstr1 +
Sqlstr2 + Sqlstr3 + Orderby
Data1.Refresh
dbs.Execute ("DROP TABLE TrashBin")
dbs.Execute (SqlAgain & " INTO TrashBin FROM
Personal " + Sqlstr1 + Sqlstr2 + Sqlstr3)
```

```
End If
```

```
Me.MousePointer = 1
Call TestEmpty
Call SerialLabel
```

```
Me.MousePointer = 1
Exit Sub
```

```
ErrH:
If Err.Number = 3376 Then
Resume Next
Else
MsgBox Err.Description
'MsgBox "Please enter a valid search string ", vbOKOnly +
vbInformation, "Search Error"
Err.Clear
End If
End Sub
```

```
Private Sub Combo1_Click()
GetCmb1
Call cmdGo_Click
End Sub
```

```
Private Sub Combo2_Click()

GetCmb1
GetCmb2
Call cmdGo_Click
End Sub
```

```
Private Sub Combo3_Change()
GetCmb1
GetCmb3
Call cmdGo_Click
End Sub
```

```
Private Sub Combo3_Click()
'Call Combo1_Click
GetCmb1
GetCmb3
Call cmdGo_Click
'Call Combo3_Change
End Sub
```

```
Private Sub Combo3_KeyPress(KeyAscii As Integer)
If KeyAscii <> 13 Then Exit Sub
GetCmb3
'Call Combo1_Click
Call cmdGo_Click
End Sub
```

```
Private Sub Form_Load()
Toolbar1.Enabled = False
mnuPrint.Enabled = False
mnuPreview.Enabled = False
Combo1.Clear
If RepFlag = 1 Then
```

```
Sqlstr = "SELECT * FROM Personal "
```

```

Combo1.AddItem ("File Num")
Combo1.AddItem ("Surname")
Combo1.AddItem ("Othernames")
Combo1.AddItem ("Address")
Combo1.AddItem ("State")
Combo1.AddItem ("Age")
Combo1.AddItem ("Date Of Birth")
Combo1.AddItem ("Marital Status")
Combo1.AddItem ("Sex")

```

```
End If
```

```
If RepFlag = 2 Then 'Next of Kins
```

```
    Sqlstr = "SELECT * FROM NOK "
```

```

    Combo1.AddItem ("File Num")
    Combo1.AddItem ("Surname")
    Combo1.AddItem ("NOK Surname")

```

```
End If
```

```
If RepFlag = 3 Then 'Official
```

```
    Sqlstr = "SELECT * FROM Official"
```

```

    Combo1.AddItem ("File Num")
    Combo1.AddItem ("Surname")
    Combo1.AddItem ("Date Of First Promotion")
    Combo1.AddItem ("Date Of Last Promotion")
    Combo1.AddItem ("Date Of Retirement")
    Combo1.AddItem ("Year Of Retirement")
    Combo1.AddItem ("Grade Level")
    Combo1.AddItem ("Length Of Service")
    Combo1.AddItem ("Annual Terminal Salary")
    Combo1.AddItem ("Living ?")

```

```
End If
```

```
If RepFlag = 4 Then 'Entitlements
```

```
    Sqlstr = "SELECT * FROM PayInfor"
```

```

    Combo1.AddItem ("File Num")
    Combo1.AddItem ("Surname")
    Combo1.AddItem ("Paid Gratuity ?")

```

```
End If
```

```
Combo2.AddItem "Equals to"
```

```

Combo2.AddItem "Starts with"
Combo2.AddItem "Containing"
Combo2.AddItem "All"

```

```
If ReportID = 3 Then
```

```

    Toolbar1.Visible = False
    mnuReport.Visible = False

```

```
End If
```

```
End Sub
```

```
Sub Setup1()
```

```

Flex1.ColWidth(0) = 800
Flex1.ColWidth(1) = 1000
'Flex1.ColWidth(2) = 3500
'Flex1.ColWidth(3) = 1500

```

```

'Flex1.ColWidth(4) = 1000
'Flex1.ColWidth(5) = 1000
'Flex1.ColWidth(5) = 3500

```

```
End Sub
```

```
Sub SerialLabel()
```

```

i = 0
n = Flex1.Rows
Flex1.TextMatrix(0, 0) = "S/No."

```

```
For i = 1 To n - 1
```

```

    Flex1.TextMatrix(i, 0) = i
    Flex1.TextMatrix(i, 1) = Format(Flex1.TextMatrix(i, 1),
    "0####")

```

```
Next i
```

```
End Sub
```

```
Private Sub mnuExit_Click()
```

```
    Unload Me
```

```
End Sub
```

```
Private Sub mnuPreview_Click()
```

```
On Error Resume Next
```

```
    Report1.Destination = crptToWindow
```

```
    Report1.WindowState = crptMaximized
```

```
    Report1.WindowBorderStyle = crptFixedDouble
```

```
    Report1.Action = 1
```

```
End Sub
```

```
Private Sub mnuPrint_Click()
```

```
On Error Resume Next
```

```
    Report1.Destination = crptToPrinter
```

```
    Report1.Action = 1
```

```
End Sub
```

```
Private Sub Toolbar1_ButtonClick(ByVal Button As ComctlLib.Button)
```

```
    Report1.Formulas(0) = "UserName=" + Trim(UserName) + ""
```

```

    If RepFlag = 1 Then Report1.ReportFileName =
    "C:\Pension\Nroll.rpt"

```

```

    If RepFlag = 2 Then Report1.ReportFileName =
    "C:\Pension\NOK.rpt"

```

```
    If Button.Value = 1 Then
```

```
        iii
```

```

Call mnuPrint_Click
Else
    Call mnuPreview_Click
End If
End Sub
Sub TestEmpty()
    If Data1.Recordset.EOF Then
        'MsgBox "No record(s) found", vbInformation,
No Record"
        Toolbar1.Enabled = False
        mnuPrint.Enabled = False
        mnuPreview.Enabled = False

    Exit Sub
    Else
        Toolbar1.Enabled = True
        mnuPrint.Enabled = True
        mnuPreview.Enabled = True
    End If
End Sub

Public Sub GetCmb1()
    Orderby = " FileNo"

    CmdDOB.Visible = False
    Combo3.Locked = False
    Label4.Caption = ""
    Combo3.Clear
    Combo3.Text = ""
    Select Case Combo1.Text
        Case "File Num"
            Label4.Caption = "File Num"
            Sqlstr1 = " Where FileNo "
            Orderby = " Order by FileNo"
        Case "Surname"
            Label4.Caption = "Surname"
            Sqlstr1 = " Where SName "
            Orderby = " Order by FileNo, SName "
        Case "Othernames"
            Label4.Caption = "Othernames"
            Sqlstr1 = " Where OName "
            Orderby = " Order by FileNo, SName,
OName "
        Case "Address"
            Label4.Caption = "Address"
            Sqlstr1 = " WHERE Address "
            Orderby = " Order by FileNo,SName "
        Case "State"
            Label4.Caption = "State"
            Sqlstr1 = " Where State "
            Orderby = " Order by FileNo,SName "
        Case "Age"
            Label4.Caption = "Age"
            Sqlstr1 = " Where datepart('yyyy',DOB)"
            Orderby = " Order by FileNo, DOB "
        Case "Date Of Birth"
            Label4.Caption = "Date Of Birth"
            CmdDOB.Visible = True
            Combo3.Locked = True
            Sqlstr1 = " Where DOB "

```

```

    Orderby = " Order by FileNo, DOB "
    Case "Marital Status"
        Label4.Caption = "Marital Status"
        Combo3.AddItem ("Single")
        Combo3.AddItem ("Married")
        Combo3.AddItem ("Devoiced")
        Sqlstr1 = " Where Mstatus "
        Orderby = " Order by FileNo,SName"
    Case "Sex"
        Label4.Caption = "Gender"
        Combo3.AddItem ("Female")
        Combo3.AddItem ("Male")
        Sqlstr1 = " Where Sex"
        Orderby = " Order by FileNo,SName"
    Case "NOK Surname"
        Label4.Caption = "NOK - Surname"
        Sqlstr1 = " Where NOKSurname "
        Orderby = " Order by FileNo, NOKSurname "
    Case "Date Of First Promotion"

        Label4.Caption = "Date Of First Promotion"
        CmdDOB.Visible = True
        Combo3.Locked = True
        Sqlstr1 = " Where DOFP "
        Orderby = " Order by FileNo, DOFP "

    Case "Date Of Last Promotion"
        Label4.Caption = "Date Of Last Promotion"
        CmdDOB.Visible = True
        Combo3.Locked = True
        Sqlstr1 = " Where DOLP "
        Orderby = " Order by FileNo, DOLP "
    Case "Date Of Retirement"
        Label4.Caption = "Date Of Retirement"
        Sqlstr1 = " Where DOPen "
        CmdDOB.Visible = True
        Combo3.Locked = True
        Orderby = " Order by FileNo, DOPen "

    Case "Year Of Retirement"
        Label4.Caption = "Year Of Retirement"
        Sqlstr1 = " Where datepart('yyyy',DOPen)"
        Orderby = " Order by FileNo, DOPen "
    Case "Grade Level"
        Label4.Caption = "Grade Level"
        Sqlstr1 = " Where Grade "
        Orderby = " Order by FileNo, Grade "
    Case "Length Of Service"
        Label4.Caption = "Length Of Service"
        Sqlstr1 = " Where Serv_Leng "
        Orderby = " Order by FileNo, Serv_Leng "
    Case "Annual Terminal Salary"
        Label4.Caption = "Length Of Service"
        Sqlstr1 = " Where Serv_Leng "
        Orderby = " Order by FileNo, Serv_Leng "
    Combo1.AddItem ("Living ?")
    Combo3.Clear
    Combo3.AddItem ("True")
    Combo3.AddItem ("False")
    Combo3.Locked = True

```

```

Label4.Caption = "Living ?"
Sqlstr1 = " Where Living "
Orderby = " Order by FileNo "
Case "Paid Gratuity"
  Combo3.Clear
  Combo3.AddItem ("True")
  Combo3.AddItem ("False")
  Combo3.Locked = True
  Label4.Caption = "Paid Gratuity ?"
  Sqlstr1 = " Where GraPaid "
  Orderby = " Order by FileNo "
Case Else
  Exit Sub
End Select
End Sub

Form: FrmFind
For:    Calculates the Pension & Gratuity

Public Sub GetCmb2()
On Error GoTo ErrH
Sqlstr2 = ""
Call Combo3_Change
Select Case Trim(Combo2.Text)
  Case "Equals to"
    Sqlstr2 = "="
  Case "All"
    Sqlstr1 = ""
    Sqlstr2 = ""
    Sqlstr3 = ""
    'Me.MousePointer = 11
    'Set Data1.Recordset =
dbs.OpenRecordset(Sqlstr + Orderby)
dbs.OpenRecordset (Sqlstr + Orderby)
'dbs.Recordsets.Refresh
Data1.RecordSource = Sqlstr + Orderby
Data1.Refresh
If Data1.Recordset.EOF Then
  Call TestEmpty
  Exit Sub
End If
  MsgBox "Insert Into SupplierReport " +
Sqlstr + Orderby

  'dbs.Execute "Delete * from
TrashStaffRecord"
  dbs.Execute ("Insert Into TrashStaffRecord
+ Sqlstr + Orderby)

  Data1.Recordset.MoveLast
  Flex1.TextMatrix(0, 0) = "S/No."
  Call SerialLabel
  Call TestEmpty
  Me.MousePointer = 1
Case "Containing"
  Sqlstr2 = ""
Case "Starts with"
  Sqlstr2 = ""

```

```

Case Else
  Exit Sub
End Select
Exit Sub
ErrH:
MsgBox Err.Description, vbCritical
End Sub

Public Sub GetCmb3()
Sqlstr3 = ""
If Trim(Combo2.Text) = "Containing" Or Trim(Combo2.Text) =
"Starts with" Then
  If Combo2.Text = "Containing" Then
    Sqlstr3 = " Like "" + (Combo3.Text) + """"
    Exit Sub
  End If

  If Combo2.Text = "Starts with" Then
    Sqlstr3 = " Like "" + (Combo3.Text) + """" + """"
    Exit Sub
  End If

Else
  Sqlstr3 = "" + Combo3.Text + """"
  If Combo1 = "Date Of Birth" Or Combo1 = "Date Of
Retirement" Then Sqlstr3 = "#" + Combo3.Text + "#"
  If Combo1 = "Age" Then Sqlstr3 = DatePart("yyyy", Now)
+ Val(Combo3.Text)
  If Combo1 = "Amount Paid" Then Sqlstr3 = Combo3.Text

End If
'Call Combo1_Click
'Call cmdGo_Click

End Sub

Private Sub Cmd1Print_Click()
On Error GoTo ErrH
dbs.Execute ("DROP TABLE TrashBin")
dbs.Execute ("SELECT * into TrashBin from Trash")
frmView.CR1.Formulas(0) = "UserName=" + Trim(UserName) +
""

frmView.CR1.ReportFileName = "c:\Pension\Gratuity.rpt"
frmView.Show

Exit Sub
ErrH:
If Err.Number = 3376 Then
Resume Next
Else
  MsgBox Err.Description
  Err.Clear
End If
End Sub

Private Sub Cmd1Save_Click()
On Error GoTo handler
If Cmd1Save.Caption = "&Generate" Then

Dim rs1, rs2, rs3 As Recordset
v

```

```

Set rst = dbs.OpenRecordset("SELECT * FROM
Personal")
If rst.EOF = False Then rst.MoveLast

dbs.Execute ("DROP TABLE Trash")

dbs.Execute ("SELECT * INTO Trash FROM PayInfor")

dbs.Execute ("DELETE * FROM Trash")

Set rs3 = dbs.OpenRecordset("Trash")
PB1.Min = 0
PB1.Max = rst.RecordCount - 1
PB1.Visible = True
If rst.BOF = False Then rst.MoveFirst

Do While rst.EOF = False
PB1.Value = rst.AbsolutePosition
Set rs1 = dbs.OpenRecordset("SELECT * FROM
Official WHERE FileNo="" & rst!FileNo & """)

Set rs2 = dbs.OpenRecordset("SELECT * FROM
PayInfor WHERE FileNo="" & rst!FileNo & """)

If rs2.EOF = False Then
If rs2!GraPaid = True Then GoTo Skipt
Else
GoTo Skipt
End If

TheGra = 0
ThePen = 0

If rs1.EOF = False Then
If rs1!DOFP <> "" And rs1!DOPen <> "" Then
Year_In_Service = GetLength(rs1!DOPen,
rs1!DOFP)
Else
Year_In_Service = 0
End If
Else
Year_In_Service = 0
End If

Set rs4 = dbs.OpenRecordset("SELECT * FROM
Percen WHERE Serv_Year="" & Year_In_Service)

Apportionment

'Federal
FedYear = 0
FedAmt = 0

If rs1!DOFP <> "" Then
If rs1!DOFP <= CDate("31-Mar-1976") Then
FedYear = GetLength("31-Mar-1976",
rs1!DOFP)
Else
FedYear = 0

```

```

End If
Else
FedYear = 0
End If

FedAmt = (IIf(IsNull(rs1!Salary), 0, rs1!Salary) * FedYear) /
Year_In_Service
'State
StateYear = 0
StateAmt = 0

If rs1!DOFP <> "" Then
If rs1!DOFP <= CDate("31-Mar-1979") Then
StateYear = GetLength("31-Mar-1979", "01-Apr-1976")
Else
StateYear = 0
End If
Else
StateYear = 0
End If

StateAmt = (IIf(IsNull(rs1!Salary), 0, rs1!Salary) * StateYear)
/ Year_In_Service

'LGA
LGAYear = 0
LGAAmt = 0
LGAYear = Year_In_Service - FedYear - StateYear
LGAAmt = (IIf(IsNull(rs1!Salary), 0, rs1!Salary) * LGAYear) /
Year_In_Service

'
'
'Apportionment Amount

If rs4.EOF = False Then
GraFed = FedAmt * (rs4!Per_gratuity) / 100
GraState = StateAmt * (rs4!Per_gratuity) / 100
GraLGA = LGAAmt * (rs4!Per_gratuity) / 100
PenFed = FedAmt * (rs4!Per_Pension) / 100
PenState = StateAmt * (rs4!Per_Pension) / 100
PenLGA = LGAAmt * (rs4!Per_Pension) / 100
Else
GraFed = 0
GraState = 0
GraLGA = 0
PenFed = 0
PenState = 0
PenLGA = 0
End If

'
'
rs3.AddNew
rs3!FileNo = rst!FileNo
rs3!GraFed = GraFed
vi

```

```

rs3!GraState = GraState
rs3!GraLGA = GraLGA
rs3!PenFed = PenFed
rs3!PenState = PenState
rs3!PenLGA = PenLGA
rs3!GraPaid = True
rs3!TotalGra = GraFed + GraState + GraLGA
rs3!TotalPen = PenFed + PenState + PenLGA
rs3!MonthlyPen = (PenFed + PenState + PenLGA)
12
rs3.Update

SkipIt:
rst.MoveNext
Loop

PB1.Visible = False

If rs3.BOF = False Then rs3.MoveFirst

If rs3.EOF = False Then
' Data1.RecordSource = "select Trash.FileNo AS
FileNum, Sname + ',' + oname AS
FullName,GraFed,GraState,GraLGA, PenFed, PenStat
e, PenLGA, TotalGra, TotalPen, MonthlyPen FROM
Personal, Trash WHERE
Trash.FileNo=Personal.FileNo"
' Data1.Refresh
' Frame1.Visible = True
End If

Cmd1Save.Caption = "&Save"

Else

dbs.Execute ("INSERT INTO PayInfor SELECT *
FROM Trash")

Cmd1Save.Caption = "&Generate"

End If

Exit Sub
handler:

If Err.Number = 3376 Then
Resume Next
Else
MsgBox Err.Description, vbInformation
End If

End Sub

Private Sub CmdClose_Click()
Unload Me
End Sub

```

```

Private Sub Form_Load()
Cmd1Save.Caption = "&Generate"
End Sub

Form: FrmPayment
For: Payment Screen

Private Sub Cmd1_Click()
On Error GoTo handler
Data1.DatabaseName = ThePath + "Pension.mdb"
Set MyTab = dbs.OpenRecordset("SELECT Personal.FileNo AS
FNum, SName, OName, MonthlyPen from Personal, PayInfor " &
" WHERE PayInfor.FileNo=Personal.FileNo ORDER BY
Personal.FileNo")
n = 0

LV2.View = lvwReport

LV2.ColumnHeaders.Clear
LV2.ColumnHeaders.Add , , "File No", 1000
LV2.ColumnHeaders.Add , , "Full Name", 3000
LV2.ColumnHeaders.Add , , "Pension Amount", 2000
LV2.ListItems.Clear

Do While MyTab.EOF = False
FullName = ""
FullName = If(IsNull(MyTab!Sname), "",
UCase(MyTab!Sname)) + ", " + If(IsNull(MyTab!OName), "",
MyTab!OName)
Set mItem = LV2.ListItems.Add(, , MyTab!FNum) "smlBook"
mItem.SubItems(1) = FullName
mItem.SubItems(2) = MyTab!MonthlyPen
MyTab.MoveNext
Loop

Exit Sub
handler:
MsgBox Err.Description

End Sub

Private Sub Cmd1Save_Click()
On Error GoTo handler
If Text1 = "" Then
MsgBox "Specify Payment Period", vbInformation
Text1.SetFocus
Exit Sub
End If

If Text2 = "" Then
MsgBox "Specify Payment Date", vbInformation
Text2.SetFocus
Exit Sub
End If

Set rst = dbs.OpenRecordset("SELECT * FROM Payment")

```

```

PB1.Min = 0
PB1.Max = LV2.ListItems.Count + 1
PB1.Visible = True

For i = 1 To LV2.ListItems.Count
PB1.Max = i
If LV2.ListItems.Item(i).Checked = True Then
    rst.AddNew
    rst!FileNo = LV2.ListItems.Item(i)
    rst!FullName = LV2.ListItems.Item(i).SubItems(1)
    rst!Amount = LV2.ListItems.Item(i).SubItems(2)
    rst!PayPeriod = Trim(Text1)
    rst!Date = Trim(Text2)
    rst.Update
End If
Next i
PB1.Visible = False

Exit Sub

handler:

If Err.Number = 3022 Then
TheName = LV2.ListItems.Item(i).SubItems(1) & " ("
& LV2.ListItems.Item(i) & ")"
    MsgBox "This Payment Period For " & TheName &
    "Already exist" & Chr(13) & "Saving aborted",
    vbInformation
    Resume Next
Else
MsgBox Err.Description, vbInformation
End If

End Sub

Private Sub Command2_Click()
For i = 1 To LV2.ListItems.Count
    LV2.ListItems.Item(i).Checked = True
Next i
End Sub

Private Sub Command3_Click()
For i = 1 To LV2.ListItems.Count
    LV2.ListItems.Item(i).Checked = False
Next i
End Sub

Private Sub Form_Load()
Cmd1_Click
Text1 = Format(Now, "mmm-yyyy")
Text2 = Format(Now, "dd-mmm-yyyy")
End Sub

Private Sub Text2_LostFocus()
If IsDate(Text2) = True Then
Text2 = Format(Text2, "dd-mmm-yy")
Else
MsgBox "invalid date entry", vbInformation
Text2.SetFocus

```

```

End If
End Sub

Private Sub ByFile_Click()
resp = InputBox("Enter Pensioneer's File No.", "Find By File
No")
If resp = "" Then Exit Sub
Data1(0).Recordset.FindFirst ("FileNo=" & Trim(resp) & "")
End Sub

Private Sub Cmd1Delete_Click(Index As Integer)
'On Error GoTo handler
resp = MsgBox("Deletion of the current record" + Chr(13) +
"Continue (y/n)", vbYesNo + vbCritical)
If resp = vbYes Then
If Index = 0 Then
Data1(1).Database.Execute ("Delete * from Official WHERE
FileNo=" & Trim(txt) & "")
Data1(2).Database.Execute ("Delete * from PayInfor WHERE
FileNo=" & Trim(txt) & "")
Data1(3).Database.Execute ("Delete * from nok WHERE
FileNo=" & Trim(txt) & "")
Data2.Database.Execute ("Delete * from image WHERE
FileNo=" & Trim(txt) & "") 'for image
End If
Data1(Index).Recordset.Delete
Data1(Index).Refresh
Data2.Refresh
Cmd1New(Index).Enabled = True

'Deleting the image in image file
'If Index = 0 Then Data2.Recordset.Delete
If Index = 2 Then
If Data2.Recordset.EOF = False Then
    Data2.Recordset.Edit
    Image3.Picture = LoadPicture(NONE)
    'Data2.Recordset!NOKPict = Nothing
    Data2.Recordset.Update
    Data2.Refresh
End If
End If

End If
Exit Sub
handler:
MsgBox Err.Description
End Sub

Private Sub Cmd1Edit_Click(Index As Integer)
On Error GoTo handler
Data1(Index).Recordset.Edit
Cmd1Save(Index).Enabled = True
Cmd1Delete(Index).Enabled = False
Cmd1New(Index).Enabled = False
Cmd1Edit(Index).Enabled = False
Select Case Index
Case Is = 0
    Frame1.Enabled = True
    TxtP.SetFocus

```



```

Case Is = 1
  Frame5.Enabled = True
  Text26.SetFocus
Case Is = 2
  Frame6.Enabled = True
  If Data2.Recordset.EOF = True Then
    Data2.Recordset.AddNew
  Else
    Data2.Recordset.Edit
  End If
  Text13.SetFocus
Case Is = 3
  Frame8.Enabled = True
  Text17.SetFocus
End Select
Exit Sub
handler:
MsgBox Err.Description
End Sub

Private Sub Cmd1New_Click(Index As Integer)
On Error GoTo handler
If Index > 0 And txt = "" Then
  MsgBox "Enter the personal details first",
  vbInformation
  Exit Sub
End If
Data1(Index).Recordset.AddNew
Cmd1Save(Index).Enabled = True
Cmd1Delete(Index).Enabled = False
Cmd1New(Index).Enabled = False
Cmd1Edit(Index).Enabled = False
Select Case Index
Case Is = 0
  Frame1.Enabled = True
  If Data2.Recordset.EOF = True Then
    Data2.Recordset.AddNew
  Else
    Data2.Recordset.Edit
  End If
  Combo3 = "MARRIED"
  TxtP.SetFocus
Case Is = 1
  Frame5.Enabled = True
  Check1.Value = 1
  Text11 = 0
  Text26.SetFocus
Case Is = 2
  Frame6.Enabled = True
  If Data2.Recordset.EOF = True Then
    Data2.Recordset.AddNew
  Else
    Data2.Recordset.Edit
  End If
  Text13.SetFocus
Case Is = 3
  Frame8.Enabled = True

```

```

Check2.Value = 1
Text17.SetFocus

```

```

End Select
Exit Sub
handler:
MsgBox Err.Description

```

```
End Sub
```

```
Private Sub Cmd1Refresh_Click(Index As Integer)
```

```

On Error GoTo handler
If Data1(Index).Recordset.EditMode = 1 Then
  Data1(Index).Recordset.Cancel
End If

```

```

Data1(Index).Refresh
Cmd1Save(Index).Enabled = False
Cmd1Delete(Index).Enabled = True
Cmd1New(Index).Enabled = True
Cmd1Edit(Index).Enabled = True
Select Case Index

```

```

Case Is = 0
  Frame1.Enabled = False

```

```

Case Is = 1
  Frame5.Enabled = False

```

```

Case Is = 2
  Frame6.Enabled = False

```

```

Case Is = 3
  Frame8.Enabled = False

```

```
End Select
```

```

Exit Sub
handler:
MsgBox Err.Description

```

```
End Sub
```

```
Private Sub Cmd1Save_Click(Index As Integer)
```

```
On Error GoTo handler
```

```

If Trim(txt) = "" Then
  MsgBox "The File No is required ... Saving aborted ",
  vbInformation

```

```

Exit Sub
End If

```

```
Data1(Index).Recordset!FileNo = Trim(txt)
```

```
Data1(Index).UpdateRecord
```

```
Data1(Index).Recordset.Bookmark =
```

```
Data1(Index).Recordset.LastModified
```

```
Cmd1Save(Index).Enabled = False
```

```
Cmd1Delete(Index).Enabled = True
```

```
If Index > 0 Then
```

```
If Data1(Index).Recordset.EOF = False Then GoTo Skiplt
```

```
End If
```

```
Cmd1New(Index).Enabled = True
```

```
Skiplt:
```

```
Cmd1Edit(Index).Enabled = True
```

```
Select Case Index
```

```
Case Is = 0
```

```
  Data2.Recordset!FileNo = txt
```

```
  Data2.Recordset.Update
```

```
ix
```

```

Frame1.Enabled = False
Case Is = 1
Frame5.Enabled = False
Case Is = 2
Data2.Recordset!FileNo = txt
Data2.Recordset.Update
Frame6.Enabled = False
Case Is = 3
Frame8.Enabled = False
End Select
Exit Sub
handler:
MsgBox Err.Description
End Sub

Private Sub CmdClose_Click(Index As Integer)
Unload Me
End Sub

Private Sub CmdFirst_Click(Index As Integer)
On Error Resume Next
Data1(Index).Recordset.MoveFirst
End Sub

Private Sub CmdLast_Click(Index As Integer)
On Error Resume Next
Data1(Index).Recordset.MoveLast
End Sub

Private Sub CmdNext_Click(Index As Integer)
On Error Resume Next
Data1(Index).Recordset.MoveNext
End Sub

Private Sub CmdPrevious_Click(Index As Integer)
On Error Resume Next
Data1(Index).Recordset.MovePrevious
End Sub

Private Sub Combo10_LostFocus()
Combo10 = "" Then Exit Sub
Combo10 = GetItForMe(Combo10)
End Sub

Private Sub Command1_Click()
Error GoTo handler
With CD1
.DialogTitle = "Choose Picture File"
.Filter = "Bitmap Files|*.bmp"|*.ico"
.ShowOpen
Image1.Picture = LoadPicture(CD1.FileName)

With
Sub
ler:
.Number = 32755 Then Exit Sub
MsgBox Err.Description
End Sub

Private Sub Command2_Click()

```

```

On Error GoTo handler
With CD1
.DialogTitle = "Choose Picture File"
.Filter = "Bitmap Files|*.bmp"|*.ico"
.ShowOpen
Image2.Picture = LoadPicture(CD1.FileName)

End With
Exit Sub
handler:
If Err.Number = 32755 Then Exit Sub
MsgBox Err.Description

End Sub

Private Sub Command3_Click()
On Error GoTo handler
With CD1
.DialogTitle = "Choose Picture File"
.Filter = "Bitmap Files|*.bmp"|*.ico"
.ShowOpen
Image3.Picture = LoadPicture(CD1.FileName)

End With
Exit Sub
handler:
If Err.Number = 32755 Then Exit Sub
MsgBox Err.Description

End Sub

Private Sub Form_Load()
Set rst = dbs.OpenRecordset("SELECT * FROM PayPoint")
Do While rst.EOF = False
Combo10.AddItem Str(rst!Code) + " - " + rst!Desc
rst.MoveNext
Loop
End Sub

Private Sub Image1_DbClick()
FrmPictView.Image1.Picture = Image1.Picture
FrmPictView.Show 1
End Sub
Private Sub Image1_MouseDown(Button As Integer, Shift As Integer, X As Single, Y As Single)
If Button = 2 Then
T = 1
PopupMenu mnup
End If
End Sub

Private Sub Image2_DbClick()
FrmPictView.Image1.Picture = Image2.Picture
FrmPictView.Show 1
End Sub

Private Sub Image2_MouseDown(Button As Integer, Shift As Integer, X As Single, Y As Single)
If Button = 2 Then
X

```

```

T = 2
PopupMenu mnup
End If
End Sub
Private Sub Image3_DblClick()
frmPictureBox1.Image1.Picture = Image3.Picture
frmPictureBox1.Show 1
End Sub

Private Sub Image3_MouseDown(Button As Integer, Shift As Integer, X As Single, Y As Single)
If Button = 2 Then
T = 3
PopupMenu mnup
End If
End Sub

Private Sub mnuClear_Click()
If T = 1 Then Image1.Picture = LoadPicture(NONE)
If T = 2 Then Image2.Picture = LoadPicture(NONE)
If T = 3 Then Image3.Picture = LoadPicture(NONE)
End Sub

Private Sub mnuInsert_Click()
If T = 1 Then Call Command1_Click
If T = 2 Then Call Command2_Click
If T = 3 Then Call Command3_Click
End Sub

Private Sub mnuName_Click()
resp = InputBox("Enter Pensioneer's Surname", "Find / Pensioneer's Surname")
If resp = "" Then Exit Sub
Data1(0).Recordset.FindNext ("SName Like " & Trim(resp) & "*")
End Sub

Private Sub mnuZoom_Click()
If T = 1 Then Call Image1_DblClick
If T = 2 Then Call Image2_DblClick
If T = 3 Then Call Image3_DblClick
End Sub

Private Sub Text1_Change()
FullName
End Sub

Private Sub Text25_LostFocus()
Text25 = "" Then Exit Sub
Text25 = ""
Text25 = getDate(Trim(Text25))
If Text25 = "" Then
Text25 = ""
Text25.SetFocus

Text25 = resp

```

```

End Sub

Private Sub Text26_LostFocus()
If Text26 = "" Then Exit Sub
resp = ""
resp = getDate(Trim(Text26))
If resp = "" Then
Text26 = ""
Text26.SetFocus
Else
Text26 = resp
End If
If Text26 <> "" And Text29 <> "" Then Text2 = GetLength(Text29, Text26)
End Sub

Private Sub Text27_Change()
Text29 = Text27
End Sub

Private Sub Text27_LostFocus()
If Text27 = "" Then Exit Sub
resp = ""
resp = getDate(Trim(Text27))
If resp = "" Then
If IsDate(Text29) = False Then Text29 = ""
Text27 = ""
Text27.SetFocus
Else
Text27 = resp
End If
End Sub

Private Sub Text28_LostFocus()
If Text28 = "" Then Exit Sub
resp = ""
resp = getDate(Trim(Text28))
If resp = "" Then
Text28 = ""
Text28.SetFocus
Else
Text28 = resp
End If
End Sub

Private Sub Text29_LostFocus()
If Text29 = "" Then Exit Sub
resp = ""
resp = getDate(Trim(Text29))
If resp = "" Then
Text29 = ""
Text29.SetFocus
Else
Text29 = resp
End If
If Text26 <> "" And Text29 <> "" Then Text2 = GetLength(Text29, Text26)
End Sub

```

```

Private Sub Text3_Change()
    txtFullName = Text3.Text
End Sub

Private Sub GetFullName()
    txtFullName = UCase(Text1) + ", " + Text3
End Sub

Private Sub txt_Change()
    On Error Resume Next
    Data2.RecordSource = "SELECT * FROM Image WHERE FileNo=" & txt & ""
    Data2.Refresh
End Sub

Private Sub TxtP_Change()
    For i = 1 To 3
        If TxtP = "" Then
            SSTab1.TabEnabled(i) = False
        Else
            SSTab1.TabEnabled(i) = True
        End If
    Next i

    txt = TxtP

    If Data2.Recordset.EOF = True Then
        Data2.Recordset.AddNew
        Data2.Recordset.Edit
    End If

    For i = 1 To 3
        Select Case i
            Case 1
                TheRec = "Official"
            Case 2
                TheRec = "NOK"
            Case 3
                TheRec = "PayInfor"
        End Select
        Data1(i).RecordSource = "SELECT * FROM " & TheRec & " WHERE FileNo=" & txt & ""
        Data1(i).Refresh
        Data1New(i).Enabled = True
        Data1Refresh(i).Enabled = True
    Next i
    Data1(1).Recordset.EOF = False Then
        Data1New(1).Enabled = False
        Data1Refresh(1).Enabled = False
    End If
End Sub

Function GetItForMe(TheText As String)
    If TheText <> "" Then
        InStr(TheText, "-")
    End If
End Function

```

```

If TheLen <> 0 Then
    GetItForMe = Trim(Mid$(TheText, 1, TheLen - 1))
Else
    GetItForMe = TheText
End If
End If
End Function

Private Function GetDate(TheDate As String) As String
    If IsDate(TheDate) Then
        GetDate = Format(TheDate, "dd-MMM-yyyy")
    Else
        MsgBox "Invalid Date", vbInformation
        GetDate = ""
    End If
End Function

Private Sub Cmdfill_Click()
    On Error GoTo handler
    Kill (ThePath + "FillBox.txt")
    CR1.WindowControls = True
    CR1.Destination = crptToFile

    If Opt(0).Value = True Then TheFile = "Personal.rpt"
    If Opt(1).Value = True Then TheFile = "Official.rpt"
    If Opt(2).Value = True Then TheFile = "NOK.rpt"
    If Opt(3).Value = True Then TheFile = "Entitl.rpt"

    CR1.ReportFileName = ThePath + TheFile
    CR1.PrintFileType = 15
    CR1.PrintFileName = ThePath + "FillBox.txt"
    CR1.PrintReport

    RT1.LoadFile (ThePath + "FillBox.txt")
    RT1.BackColor = vbWhite
    RT1.Locked = True
    RT1.Enabled = True

    Text3.Visible = False

Exit Sub
handler:
    If Err.Number = 53 Then
        Resume Next
    Else
        MsgBox Err.Description, vbCritical
    End If

End Sub

Private Sub CmdPre_Click()
    If Not (Combo2 <> "" And Combo3 <> "" And Text1 <> "") Then

        If Opt(0).Value = True Then
            TheFile = "Personal.rpt"
            RepTitle = "DETAILS OF PERSONAL RECORDS AS AT " &
                Format(Now, "dd-mmm-yyyy")
        End If
    End If
End Sub

```

```
If Opt(1).Value = True Then
  TheFile = "Official.rpt"
  RepTitle = "DETAILS OF OFFICIAL RECORDS AS
AT " & Format(Now, "dd-mmm-yyyy")
End If
```

```
If Opt(2).Value = True Then
  TheFile = "NOK.rpt"
  RepTitle = "DETAILS OF NEXT OK KIN RECORDS
AS AT " & Format(Now, "dd-mmm-yyyy")
End If
```

```
If Opt(3).Value = True Then
  TheFile = "Entitl.rpt"
  RepTitle = "DETAILS OF ENTITLEMENT
RECORDS AS AT " & Format(Now, "dd-mmm-yyyy")
End If
```

```
Else 'if it is a selection
  TheFile = "Selection.rpt"
  RepTitle = "STAFF RECORD LIST WHERE " &
UCase(Combo2) & " " & UCase(Combo3) & " " &
UCase(Text1)
```

```
If Opt(0).Value = True Then
  TheFile = "Proll.rpt"
  RepTitle = "DETAILS OF PERSONAL RECORDS
LIST WHERE " & UCase(Combo2) & " " &
UCase(Combo3) & " " & UCase(Text1)
End If
```

```
If Opt(1).Value = True Then
  TheFile = "Oroll.rpt"
  RepTitle = "DETAILS OF OFFICIAL RECORDS
IST WHERE " & UCase(Combo2) & " " &
UCase(Combo3) & " " & UCase(Text1)
End If
```

```
If Opt(2).Value = True Then
  TheFile = "NOKroll.rpt"
  RepTitle = "DETAILS OF NEXT OK KIN RECORDS
IT WHERE " & UCase(Combo2) & " " &
ase(Combo3) & " " & UCase(Text1)
End If
```

```
f Opt(3).Value = True Then
File = "Eroll.rpt"
Title = "DETAILS OF ENTITLEMENT RECORDS LIST
:RE " & UCase(Combo2) & " " & UCase(Combo3)
& UCase(Text1)
d If
```

f

```
reportFileName = ThePath + TheFile
ormulas(0) = "Title=" & RepTitle & ""
ormulas(1) = "Username=" & UserName & ""
estination = crptToWindow
intReport
```

b