APPLICATION OF COMPUTER TO THE OPERATIONS OF AN INTERNATIONAL SPORTS CONFEDERATION

(A CASE STUDY OF THE AFRICA BASEBALL AND SOFTBALL ASSOCIATION)

BY

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APPROVAL SHEET

This project, titled ***"Application of Computer to the Operations of an International Sports Organisation (Case Study of the Africa Baseball and Softball Association)"*** which was undertaken by Olugbemiga Olanrewaju Bolarinwa (Sr.), has been examined and found acceptable in partial fulfilment of the requirement for the Post-Graduate Diploma in Computer Science of the Federal University of Technology, Minna.

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EXTERNAL EXAMINER	DATE

DEDICATION

This project is dedicated to African Youths, whose development and future the ABSA is committing its resources to shape, using the sports of Baseball and Softball as the vehicle, in spite of the constraints and limitations of the contemporary African situation.

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I would like to glorify the Almighty God, the Eternal Light for another of life's wonderful opportunities in the quest for knowledge.

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ABSTRACT

This project aims principally at presenting a profound appreciation of the Information Technology (IT), with a view to establishing its impact on the Management Information Systems of the Africa Baseball and Softball Association.

An attempt is made at examining the correlation between sports management and communication, while a panoramic study of the computer as a key component of IT is undertaken to catalogue identified media which form the bedrock of the information circuit proposed for adoption by the ABSA. The role of the computer, as a central player, in the information network between the ABSA and its affiliates i.e. member countries, international sports federations and other continental and international sports bodies, is chosen as a point of reference for this dissertation.

The nature and scope of the existing information system of the ABSA, are analysed with the objective of elucidating the limitations of infrastructural development of the communication systems in Africa.

A program is designed using dBase IV, with a view to enhancing keeping of up-to-date membership records of the ABSA. It is our expectation that the developed program will serve to further enhance the task of coordinating developmental activities of affiliated federations across the African continent.

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CHAPTER ONE

1.0 GENERAL PRELIMINARIES

1.1 INTRODUCTION

It has always been our belief that when an academic exercise of this nature is being undertaken, its relevance to the societal realities and desiderata should be the first consideration and also of paramount importance. A discourse of this magnitude should not only reflect the state of development in a specified field or discipline under the erudite searchlight, but it should also serve as a vehicle for discovering the prospects for advancement in the particular area of human endeavour.

The decision to choose the topic of our present dissertation has been informed by the personal desire to contribute to the laudable efforts to enhance the administrative and organisational efficiency of our Continental Confederation i.e. the Africa Baseball and Softball Association (ABSA) and thereby facilitating the developmental process of the sports of Baseball and Softball in Africa.

This drive is predicated on our experience in international sports administration spanning over ten years and the realisation, as a sports administrator and an executive officer under the employment of the Africa Baseball and Softball Association (ABSA), of the significant and central role that the computer through the emerging Information Technology (IT) has got to play in sports development in Africa, as is the case in other contents like Europe, America, Asia etc.

The Africa Baseball and Softball Association (ABSA), as the name suggests is the Continental Confederation responsible for the development and promotion of the sports of baseball and softball in Africa. Through its Secretariat, which is the organisation's main administrative organ, the ABSA coordinates baseball and softball development activities on the continent.

Baseball (men) and softball (men and women) are sports of American origin, but which have now become Olympic Medal Sports. And they have of course developed into professional sports in some countries like the USA, Canada, Japan, Taiwan, Australia etc. Arguably though, baseball, obviously not the most popular, can be said to be the richest sport in the world, in terms of revenue generated.

However, in spite of the worldwide desire and attendant economic implications of participating in these sports, due to lack of awareness only very few African countries have embraced the games, where they are being played as organised sports. At present, ABSA has only 15 member countries, out of about 52 nations that make up the continent.

Against the backdrop of the low level of development of these sports on the African continent, the ABSA aspires to accelerate their growth by ensuring the introduction of the games of baseball and softball in at least 50 out of the 53 African countries by the end of the first quarter of the 21st Century.

We require this background information on ABSA in order to appreciate the enormity of the task of spreading these games in Africa and the significant role the computer has to play in achieving this goal.

1.2 BRIEF ON THE AFRICA BASEBALL AND SOFTBALL ASSOCIATION (ABSA)

The acronym A.B.S.A. which shall be adopted for our use throughout this dissertation, is used to refer to the Africa Baseball and Softball Association. This Confederation which is the umbrella body for all the national Associations governing baseball and softball in the respective African countries was formed on June 8, 1990 in Lagos, Nigeria.

The ABSA founding countries are Angola, Botswana, Ghana, Lesotho, Namibia, Nigeria, Sierra Leone, Zambia and Zimbabwe. The Africa Baseball and Softball Association is the only existing and recognised body responsible for the development and promotion of the twin sports of baseball and softball on the African Continent.

The ABSA is affiliated to and recognised by international and continental sports governing bodies such as Supreme Council for Sports in Africa (SCSA), Association of African Sports Confederations (AASC), Association of National Olympic Committees of Africa (ANOCA), International Baseball Association (IBA), International Softball Federation (ISF) and World Little League Baseball Incorporated (LLB Inc.).

The primordial function of any sports body is the organisation of championships for its members or affiliates at whatever level be it district, state, zonal, national, continental etc. The ABSA in spite of a relatively short history has been able to live up to its billing as a Continental Sports Confederation.

The ABSA organises various championships for both baseball and softball in the junior and senior categories for club sides as well as national teams at zonal and continental levels. Africa Senior Baseball and Softball Championships are organised by the ABSA annually for National Senior Men's teams and National Senior Women's teams respectively. The club championships are organised annually. The ABSA also organises U-12, U-15 and U-17 Youth Baseball and Softball championships as scheduled in its calendar of activities based on the approval by the Congress.

Baseball (Men) and Softball (Women) are new Olympic Medal Sports, they became medal winning events during the 1992 Olympic Games in Barcelona, Spain and at the Atlanta Olympic Games in the USA in 1996 respectively.

Thanks to the unrelenting efforts of the ABSA leadership and member Associations, Baseball (Men) and Softball (Women) featured as medal winning events in the 7th All-Africa Games in Johannesburg, South Africa held from 9 – 20, September 1999. Under the auspices of the ABSA, baseball and softball were played as Demonstration Sports during the 6th All-Africa Games held in Harare and Bulawayo respectively from 13 - 23 September, 1995.

The 7th All-Africa Games Baseball and Softball competitions served as the qualifying rounds and platform for selecting African representatives in the 2000 Olympic Games baseball and softball competitions in Sydney, Australia.

1.3 OBJECTIVES OF THE ABSA

A review of the objectives of the ABSA, as stated below, will assist us in getting an insight into the scope of activities and the modus operandi of the confederation:

a. To promote, encourage and develop Baseball, Softball and Little League Baseball and Softball within the Continent of Africa and its Islands as well as assisting, where practicable, in other parts of the world.

b. To be a member of the International Baseball Association (IBA), the International Softball Federation (ISF) and the World Little League Incorporated (WLL Inc.) in achieving the objectives of this organisation and the objectives of the IBA, the ISF and the LLB Inc.

c. To encourage its member countries to participate in Regional, Continental, Olympic and World Championships in Baseball, Softball and Little League activities through the appropriate bodies.

d. To develop harmonious relationships between its members leading to the strong development of Baseball, Softball and Little League on the Continent through mutual cooperation.

e. To mediate in any dispute that may arise between its members.

f. To conduct any other functions (Championships, Tournaments, Seminars, Clinics and the like) broadly in keeping with the preceding objectives.

g. To enter into contractual relationships with its members or other legally constituted organisations to bring about the above objectives and any other relationships that shall benefit the ABSA, its members and Baseball, Softball and Little League development.

1.4 THE ORGANISATION STRUCTURE OF THE ABSA

In accordance with its statutory provisions, the ABSA carries out its activities through the following organs:

a. **Congress.** The Congress which is the highest decision making body of the ABSA is made up of the Executive Council and delegates of member Associations of the ABSA. The Ordinary Congress meets every two years, while the Election Congress meets every four years after the games of the Olympics.

b. **Executive Council.** The ABSA Executive Council comprises the elected Executive Committee members, three non-elective and non-voting members i.e. the Immediate Past President, the Legal Adviser and the Media Relations Adviser as well as the Chairpersons of the ABSA Development Zones.

c. **Executive Committee.** The Executive Committee is composed of members elected to serve for a period of four years namely the President,

the Vice-President Baseball, the Vice President Softball, the Secretary General, the Treasurer. The Immediate Past President, the Legal Adviser and the Media Relations Adviser are a non-elective and non-voting members of the Executive Committee.

d. Standing Commissions. The ABSA has seven Standing Commissions, they are the Marketing and Media Relations Commission, the Finance Commission, the Technical and Tournament Commission Baseball, the Technical and Tournament Commission Softball, the Medical Commission, the Youth and Development Commission and the Arbitration Commission. The Standing Commission members are appointed by the Congress upon the recommendation of the Executive Council. The ABSA Standing Commissions meet regularly as the need arises.

e. Development Zones. The composition of the ABSA Development Zones is as indicated below. The headquarters of a Zone is normally located in the country of the Zonal Chairperson.

Zone I (Northern Zone).

Members: Algeria, Egypt, Djibouti, Libya, Mauritania, Morocco, Somalia, Sudan, Tunisia.

Zone II (Western Zone).

Members: Burkina Faso, Benin Republic, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo.

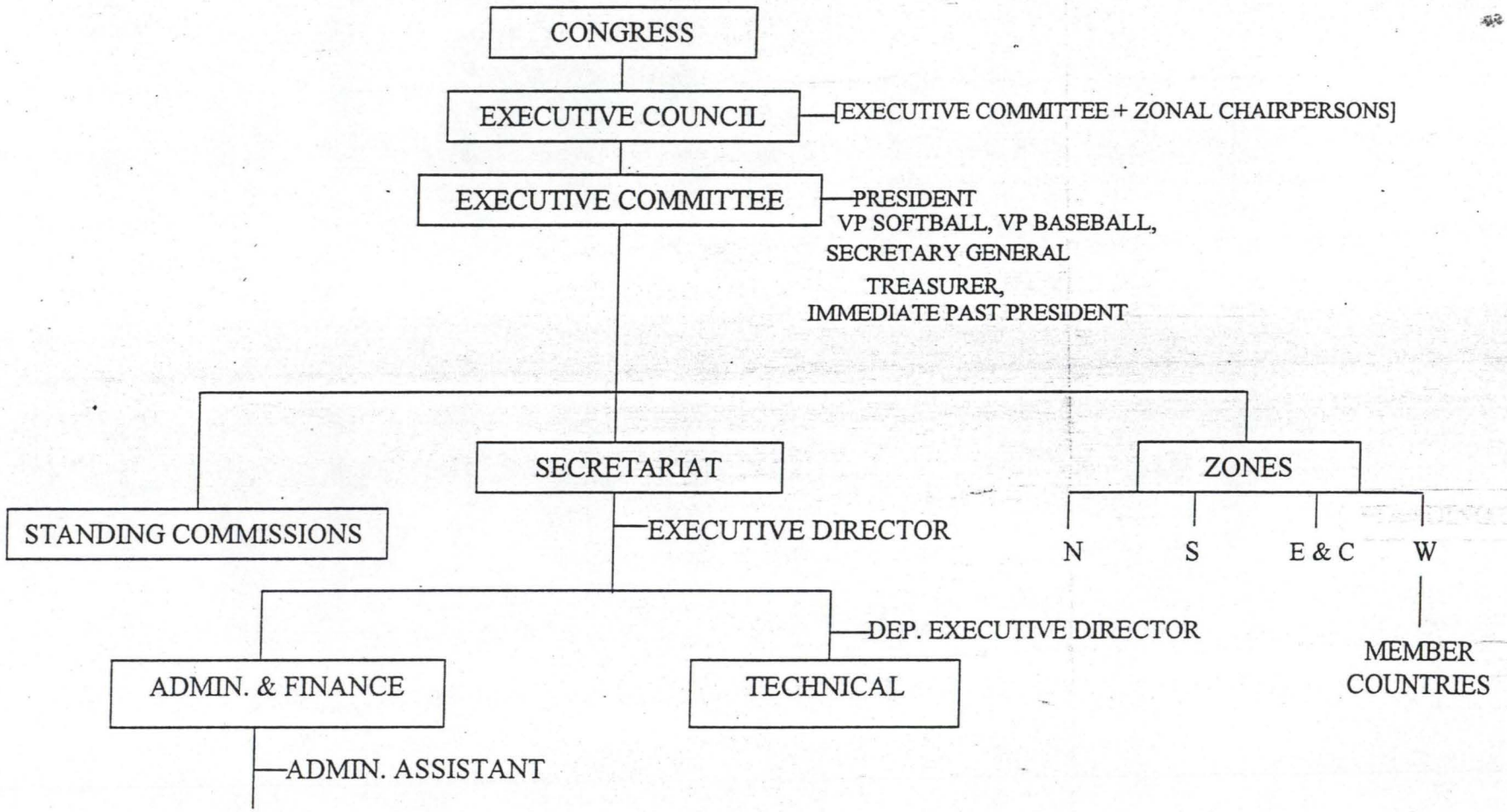
Zone III (East and Central Zone).

Members: Burundi, Cameroon, Chad, Central African Republic, Congo, Comoros, Eritrea, Ethiopia, Equatorial Guinea, Gabon, Kenya, Rwanda, Sao Tome & Principe, Seychelles, Tanzania, Uganda, Zaire.

Zone IV (Southern Zone).

Members: Angola, Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa; Swaziland, Zambia, Zimbabwe.

ABSA ORGANISATION CHART



1.5 RESEARCH METHODOLOGY

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

(a) **Observation**:- This method is used to directly study the operations of the existing system.

(b) **Record Review**:- On the basis of available documents and records written information such as forms and reports used in the operations of the system are reviewed and analysed.

© **Interviewing**:- This is used mainly to confirm some information gathered using the above two methods. It was also used to obtain information or suggestions that can be considered relevant to the proposed system.

(d) **Consultation**:- Information are also gathered and collated by consulting collected or available relevant reference materials on the related disciplines within the scope of our present research.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 OBJECTIVES OF THE STUDY

This study is undertaken with a view to enhancing the administrative and organisational efficiency of the ABSA by:

a. Establishing the need for the application of the computer for its data management for the storage of large volumes of information, their classification and retrieval at high speed.

b. Examining the key components of the emerging Information Technology (IT) which are essential to the ABSA Management Information System to ensure accurate and reliable processing of required data.

c. Analysing the role of the computer system as a functional unit within the ABSA and its importance to the information network between the organisation and its respective affiliates on the African continent and worldwide.

d. Exposing the limitations of the existing data management system and establishing the relationship between the administrative and organisational constraints of the ABSA and the type of system in use.

e. Presenting in form of recommendations and strategy for development, a proposal aimed at adopting an improved management information system through the acquisition of appropriate computer system which will incorporate a program that is specifically designed and tailored to suit the current and

which could be modified and expanded to satisfy future operational needs of the continental organisation.

2.2 APPRECIATION OF THE COMPUTER

Over the years computers have taken over the centre-stage of societal existence and its impact is felt in all spheres of human endeavour or entreprise. Irrespective of the field of study or occupation, the computer has now become an effective instrument for enhanced performance in administrative and organisational setups.

On the impact of computers on society, CK Ayo states that, "It would have been tedious, inexhaustive, incomplete and inaccurate to list all the possible applications of computer. There is no limit to the uses and applications of computer.." Having said so much about the indispensability of the computer, it is pertinent to understand how it works and to establish the need for its application and incorporation within the administrative and organisational structures of the ABSA.

What is a computer? This seemingly simple question has attracted several responses, as experts in many fields have attempted to define computer on the basis of its applications to their respective specified needs. However, because of the limitations of our present assignment we shall only examine a few of the available definitions of the computer.

A computer has been defined as an electronic device which works under the control of

a stored program. A program is a sequence of instructions written in a specified computer language. In his lecture note on the "Introduction to Computer System" Prince Badmus defined a computer as "a machine which hardly has any moving parts and which carries out various tasks, arithmetic operations and logic operations, without human intervention."

On his own part Kola Abdul Raheem presented his computer definition in the following terms: "A computer can be defined as a machine which accepts data from an input device, performs arithmetic and logical operations in accordance with a pre-defined program and finally transfers the processed data to an output device either for further processing or in final printed form."

From the definitions above, we can conclude that a computer is basically required for processing information. Ordinarily, information is stored in different forms such as texts, figures, graphs and charts, pictures etc. Thanks to the computer all such information can be converted to sequences of binary digits (bits) i.e. ones and zeros. These digital data can be stored in many ways with each offering a particular combination of capacity and relatively low cost.

The introduction of computer has greatly enhanced information handling which comprises five stages i.e. input, processing, storage, transmission and output. Some or all of these five stages are built into various systems, which are composed of

equipment (hardware) and logical programs (software) which control the operation of both individual pieces of equipment and of the system as a whole.

2.3 COMPUTER PROCESSING PHASES

The computer is made up of three major components or systems i.e. software, hardware and humanware, which are responsible for its proper functioning. Software is a set of computer programs, procedures and associated documentation relating to the effective operation of data processing system. Hardware refers to the physical components of a computer comprising all mechanical, magnetic, electrical and electronic devices and they are required for input, storage, processing and control. Humanware is a term used to refer to human beings involved in the operation of the computer system, which includes programmers, systems analysts, systems engineers, computer operators etc.

INPUT

The process of passing of data from the user to the computer is generally referred to as input. This communication or transfer of data is accomplished through the medium of input devices such as the keyboard, mouse, magnetic tapes, scanners etc. to the processor.

The keyboard is a very important input device, as most information are fed into computers through it. Instructions for operating the computer system and the

information to be processed are typed using the keyboard. Other input devices include punched cards and punched paper tapes, magnetic tapes, optical scanners etc.

Special writing pads which can translate letters and figures in particular individual's handprinting automatically into a computer input is now available. Automatic data input is possible through devices such as cash dispenser cards which have been developed using magnetically encoded cards. Voice recognition system can already respond to a limited vocabulary from a wide range of speakers or a wider vocabulary from a limited number of speakers. Systems that will extract features from visual images such as television pictures, e.g. for control of robots, scientific investigations and medical diagnosis, are also being developed.

PROCESSING

Every computer system contains a unit whose primary purpose is to process data. This unit which is called the Central Processing Unit (CPU) is the nerve-centre of the entire computer system. It accepts data from the various input devices, processes these data according to the programmers' instructions and conveys the results to the printer or other output devices for recording. The CPU is capable of performing very complex operations at an incredibly high speed for example, in millionths of a second it can add, subtract, multiply, divide, move elements of data from one storage location to another, or compare two quantities etc. The CPU is made up of three functional sub-

units i.e. the Control Unit (CU), the Arithmetic and Logic Unit (ALU) and the Storage Unit (SU).

Control Unit: The Control Unit (CU) for a computer's CPU, as the name indicates, is responsible for the control and coordination of the activities of a computer system. The CU determines the instructions to be executed and the operations to be performed by the instruction. It coordinates the storage and retrieval of data and ensures the execution of instructions.

Arithmetic and Logic Unit: The Arithmetic and Logic Unit (ALU) performs three basic functions which include transfer of data, arithmetic calculations and decision making. Data transfer involves movement of data from one location to another within the computer. Decision making signifies the ability to speedily compare two quantities or numbers and taking appropriate action based on the outcome of the comparison. It is possible to test for the existence of a condition encountered during the processing of a particular application and alter the sequence of instructions accordingly.

Storage Unit: The Storage Unit (SU) of the computer which is also referred to as the memory of the computer is analogous to the human memory. It is capable of storing large quantities of data, which can be recalled from its location in storage and moved to a location elsewhere in the computer such as to the arithmetic unit, in millionths or billionths of a second. The SU is also used in storing instructions which are necessary to direct the computer in the solution of a given problem, these are fed into the computer through the medium of a number of input devices and are stored in the computer's memory or storage unit.

STORAGE

Computer storage implies the use of a device into which data can be fed, held retrieved as may be required at any point in time. This consists of a large volume of cells, each with a fixed capacity for storing data, unique location and address. Each storage cell is capable of holding specific unit of data may be fixed number of digits, characters, words or even an entire record. All such information are translated into sequences of binary digits (bits) i.e. ones and zeros.

The storage systems are divided into two distinct classes ie. primary and secondary stores. The primary storage which is the main or internal storage is usually called the Random Access Memory (RAM). All data or instruction entering or leaving the CPU must necessarily pass through the primary storage. All instructions and data currently being processed by the CPU must be held in the RAM. In comparison to the secondary storage, the primary storage usually has limited capacity. Instruction and data that are not currently processed are usually relegated to the secondary storage devices in order not to tie up the primary storage.

When instructions and data are required in primary storage, they are transferred from input devices or secondary storage to the primary storage. When instructions and data are no longer needed for current processing they are normally transferred to the output devices or secondary storage devices.

Secondary storage supplements the function of the primary storage. It is often considered to be a form of input or output device which is also referred to as auxiliary or external storage, low-speed and mass storage. Secondary storage devices are classified into two broad categories. The first category are devices which are attached to the CPU, whose files are continuously maintained on- line which include fixed-storage such as magnetic cores, magnetic drums and fixed magnetic disks. The second category includes devices which are attached to the CPU, whose files are continuously maintained off-line. This class of storage devices includes magnetic tapes, removable magnetic disks, punched cards, punched- paper-tapes. The files used by such devices are normally processed by the computer, removed for physical storage and then replaced on the storage devices by other files.

TRANSMISSION

Nowadays, as a result of computerised communications systems, large quantities of information for a very wide variety of purposes can be transmitted over optical fibres. This technology has the advantage of not only relieving existing congested cross-city cable routes, it also provides the possibility of low cost trunk and local distribution networks for telephony, data transmission, and where required, `wide band' services such as television and videophones.

The need for and dependence on cable and terrestrial radio systems have been greatly reduced. This due to the availability and cost- effectiveness of small ground terminals for receiving signals from satellites which have made direct communication between

two locations possible.

The radio frequency spectrum available for broadcasting, communications, navigation and other uses is a limited resource. Digitised speech or video signals are very suitable for processing by microcircuits but, by comparison with analogue signals, require wider band of frequencies. However, microelectronics technology also makes a reduction in the amount of information transmitted to produce voice or picture possible. This reduces demands on the frequency spectrum which is important both for the introduction of digital radio transmission and for releasing radio frequencies for new services.

OUTPUT

Visual display of information using a cathode ray tube, as in television set, is fast and versatile. It is capable of using colour and showing both text and graphical information. The printer is another very important output device; current technical advances offer the prospect of printers that are both faster and quieter. Unlike video terminals, where the old information disappears off the screen as new information is written, printers produce a permanent record on paper, which is usually referred to as `hard copy'. In producing the characters on paper, two basic methods are used, which include fully-formed characters or dot matrix depending on the type of printer in use.

Fully-formed character printers function on the same principle as a typewriter. A

fully-formed, raised letter which is embossed on a little hammer is struck against the paper with an ink ribbon between the letter and the paper. And example of this class of printers are daisy wheel printers, drum printers, chain printers, band printers etc.

Dot matrix printers form the characters using a matrix of dots. Print wire printers, electrostatic printers, thermal printers, ink jet printers and laser xerographic printers are common examples of dot matrix printers.

2.4 APPLICATIONS OF THE COMPUTER

An ever-expanding spectrum of applications of the computer and IT in the automated transfer of routine information has resulted in the effective management of major operations and in the provision of speedier services both in the public and the private sectors.

PUBLIC ADMINISTRATION

Computers have been of significant benefit to governments at various levels. Tasks such as payroll calculations, revenue collection, accounting and the planning of major activities such as defence logistics, demographic operations, VAT transactions etc. are facilitated by the use of the computer.

The armed forces are major users of IT for communication, command and for administration. Naturally, many applications are classified, but the potential commercial benefits of techniques, software, devices and equipment developed for

defence operations are considerable. The pace of advance is such that developments are quickly declassified and spin-off from the defence sector are improved by systematic examination of classifications in the light of advances in technology.

In advanced countries, computers are already extensively used in local government administration. In addition to educational applications and technical calculations of architects, engineers and planners which account for a sizeable proportion of local authority work, other areas of IT applications include housing allocation, police work and fire services as well as in management information systems and some strategic studies.

EDUCATION

The application of IT in the provision of teaching aids is manifested in the adoption, by increasing number of schools, of small computers for teaching purposes. In realisation of the importance of computer literacy, the British government recently embarked on a programme estimated at $15 million for curriculum development and teacher training. Nowadays, instruction in many subjects are provided through interactive learning systems.

HEALTH SERVICES

Administrative computers are already being extensively used in the provision of heath services. The use of small systems for keeping records in doctors' and dentists' practices are already in use and are gaining more grounds by the day. Systems

providing improved monitoring in intensive care units have been introduced to many health institutions and are becoming widespread. The wider accessibility of data banks has enhanced medical diagnosis and epidemiological researches. Interactive terminals in surgeries now enable patients to prepare basic information for the doctor before an appointment.

TRANSPORT AND COMMUNICATIONS

Computers are already being used effectively to enhance transportation in many countries of the world. Traditional methods are replaced, as computers are adopted for scheduling and monitoring transport services and maintaining seat booking systems. Better systems for traffic management are evolved, with more extensive linking of traffic controls. Improved telecommunication facilities such as video-phones and conference systems have reduced the demand for physical travel, especially as energy costs are on the rise.

BANKING, FINANCE AND INSURANCE

Transactions in the banking industry and financial sector general have had fair share of the impact of computers, where financial transactions have been greatly improved and characterised by computers and rapid communications. Terminals in branches, with more powerful data handling capacities are linked with central computers. Innovative services, such as self service are available using the plastic smart cards with magnetic or microprocessor memories or through closer integration of the IT systems of the

financial institutions with those of corporate and private customers. Through the electronic mail, international data links already provide vital financial and commercial information worldwide.

PRINTING AND PUBLISHING

Optimal use of the computer has completely revolutionised traditional printing activities. It is now possible for the editing and composition of a newspaper to be wholly done electronically. Through the use of IT, printing and publishing companies are breaking new grounds in electronic printing and publishing, providing information for Prestel and other viewdata systems.

PERSONAL

Information technology provide wider scope of communications and instantaneous access to a wide range of information for the individual, even in the comfort of his home. It is possible to store and use personal information as a result of developments in Prestel. Electronic mail is gradually replacing correspondence and telephoning, as IT enable more people to work at home, which is particularly beneficial to the unemployed persons.

2.5 INFORMATION TECHNOLOGY AND SPORTS DEVELOPMENT

As a result of the advances in technology, the world has been transformed into a global village where the interaction between countries making up the international community has greatly underscored the essence of communication. It is no doubt that

technological advancement has greatly enhanced worldwide dissemination of information, whilst modern day sports have benefited tremendously from this dispensation.

Instantaneous electronic transmission of computer-generated texts, images and data by means of global communication satellites are among the main applications, which in recent years, have greatly enhanced global awareness in sports. S.A. Ekwelie was apt in his description of this scenario: "Technology has brought us instant communication. Today, by means of satellite in orbit, we can relay a football game or any other event of our choice. The world witnessed in 1974, on television, the Kinshasa boxing feat of Mohammed Ali..."

Developments in Information Technology (IT), has engendered a remarkable increase in the quantity of rapidly accessible information and in the ability to manipulate it. And of course, the concept of Management Information System (MIS) in all its ramifications, in all spheres of human entreprise including the administration of sports has undergone fundamental transformation.

In broad terms, IT encompasses not only the equipment used to collect, store, process, transmit and display information and software that controls it, but also its interactions with human activities and management systems. It is from this perspective that UNESCO defines IT thus: "The scientific, technological and engineering disciplines

and the management techniques used in information handling and processing; their applications; computers and their interaction with men and machines; and associated social, economic and cultural matters"

The above definition is buttressed by a postulation that, "Information Technology includes computing, communications and control systems, all based on digital microelectronic components, more commonly known as chips. IT provides us with the means of sending, receiving, manipulating and sorting information at speeds and in quantities never before possible."

Traditionally, sport is defined as any form of physical activity or exercise undertaken for leisure and recreational purpose, which is meant to condition the human body in order to maintain a state of physical fitness and mental balance.

However, sport is a dynamic human activity whose philosophy, principle and practice conform with the diachronic and synchronic factors of social existence. Hence, sport in the modern day context has witnessed marked growth and diversification in both its objectives and concept.

Against this background, we posited in a paper titled "Nigerian Sports in the 21st Century: Towards a New Order" which was delivered at a seminar in Lagos in March 1994 on the "Administration of Independent Sports Association in Nigeria", that: "Sport has become big-time business and offers great economic prospects for

equipment manufacturers, the construction industry, the media and legal practitioners etc."

The incredible transformation of sport into great entertainment and money spinning event has engendered professionalism as against amateurism. A wide variety of sports disciplines provide career and employment opportunities for a sizeable and inexhaustive number of people including elite athletes, administrators, technical personnel etc.

The above assertion is true for sport in most advanced nations of the world, but unfortunately and sadly though, the same cannot be said regarding sport in virtually all African countries. What factors are responsible for the low level of sport development in Africa? In what ways can African sport be improved?

A case study of the sport machinery in other continents and particularly in developed countries has revealed the preponderant role of IT in their stupendous achievements in the *domaine sportif*. Basing our logic on the above premise, the significance of IT in sport development cannot be overemphasised and critical examination of ways of exploiting IT to its fullest capacity deserve serious attention and will go a long way in ensuring future and optimal growth of African sport.

CHAPTER THREE

3.0 SYSTEM ANALYSIS AND DESIGN

3.1 DESCRIPTION OF THE EXISTING SYSTEM

System Analysis has been described as the procedural study of the operations of an existing system, with the ultimate goal of discovering what its basic problems are. The aim of this stage is to ensure that all feasible alternatives are eventually produced. Therefore, an attempt is hereby made to define application problems of the ABSA Management Information System, in order to determine system specifications, recommend equipment changes and to design database procedures for the proposed system, which will meet current demands and future challenges of the administrative machinery and technical organisation of the ABSA.

In the light of the above, this study is undertaken with a view to analysing all phases of ABSA Management Information System (MIS), which is the existing system, and developing detailed procedures for collection, manipulation and evaluation of all associated data.

An assessment of the existing ABSA system has revealed that the process of automation of ABSA operations which has already commenced, still requires considerable inputs for this all-important task to be concluded. As a sports Organisation, whose area of jurisdiction is the Continent of Africa, the main focus of

operations of the ABSA is the management of information relating to its members or affiliated Associations.

In other words, the ABSA Management Information System (MIS) has as its fundamental objective, the coordination of the activities of affiliated associations which can be classified into two major groups of database, that is, membership status and championship records.

For the purpose of our current project, membership status, which is the bedrock of administrative operations of the continental sports Organisation, has been chosen as the area of study where our attention will be focused. In order of priority, it is the most significant of the two groups of database identified above and the scope of this project will not permit the coverage of both areas.

The processes involved in the ABSA MIS include collection of data, data processing, creation of database, storage and transmission of information. *Ab initio*, these tasks were carried out manually, but because of the perceived and attendant advantages or benefits derivable from automation of routine administration of the ABSA Secretariat, the computerisation scheme was initiated with the acquisition of a computer system.

Data including correspondence, minutes of congresses and meetings, reports of development activities like seminars, clinics and contact visits, statutory documents

and directories etc. emanating from various component organs of the ABSA i.e. Congress, Executive Committee and Executive Council, Standing Commissions and Development Zones, Member Associations etc. are forwarded to the ABSA Secretariat for processing.

Such collected data are collated and processed, in their various forms and transformed into information to service the ABSA Management Information System and for the consumption of all categories of end-users. Thus, a database of the ABSA affiliates and other relevant bodies is established through the ABSA Secretariat which serves as the central workstation for the continental Confederation.

Storage of these information is achieved through filing, which is the main memory system currently in use within the ABSA Secretariat. The filing system can be described as a storehouse of information which is manually operated and where required information can be retrieved, used, up-dated and restored ready for the next session. However, as a result of partial automation of the management procedures, a negligible part of the information is stored electronically on computer hard disk and on floppy diskettes.

Information are shared between the ABSA Secretariat and ABSA affiliates. Information in form of database are sourced from the ABSA Secretariat and transmitted to the recipient or target public by mails through the Post Office and

Courier Service companies, by telephone and facsimile (fax) through the Telecommunications system.

The fax machine which uses the principle of the photocopying machine and telephone, is also employed for the transmission of digital signals between the ABSA Secretariat, to produce from the original text, a similar hard copy (on paper) for the benefit of recipients at another different location.

3.2 PROBLEMS OF THE EXISTING SYSTEM

1. Production and reproduction of correspondence, minutes of meetings, reports of activities and other documents usually go through many drafts before the final version is produced. Manuscript amendments are made, sections are rewritten and material re-ordered, while whole or major parts of the texts have to be re-typed. This re-typing takes time and carries the risk of new errors being introduced.

2. The filing system adopted within the ABSA Secretariat cannot be said to be an exception to the traditional problems of the filing system which include storage, access, retrieval, follow-up, re-storage and space. Irrespective of storage in terms of the method and the choice of filing aids to be used, a relatively large space is required for keeping closed volumes of files as the Organisation advances in age. This makes access and reference to documents contained in these files laborious, cumbersome and time consuming job, as much time is wasted in searching through the folios for the

desired document, which causes undue delay and increases reaction time to queries and enquiries from affiliates.

3. Maintenance of filing aids or accessories such as files, file jackets, card indexes, wallet files, box files etc. is extremely difficult because they become dilapidated with constant use over time. This often leads to damage, loss of quality as result of undue exposure and sometimes destruction of documents therein contained.

4. Data security cannot be fully guaranteed in case of hasards or accidents like fire, floods etc. where original copies of stored printed materials or documents in physical files, may be destroyed. Maintenance of back-up copies is difficult to achieve through physical storage or filing system because of the large volume of space that will normally be required.

5. Postal services in Africa are characterised by gross inefficiency which results in regular reports of outright loss of clients' mails in transit and incredible delays in delivery services not only locally, but also internationally. In spite of the above vagaries, increasing cost of postal services is another adverse factor that has made it unrealistic especially for an organisation like the ABSA whose operations depends largely on communication between its Secretariat and affiliates to rely totally on the Post Office for the despatch of its numerous mails.

6. Courier services run by private firms on multi-national basis, on the other hand, are more efficient, but too expensive and unaffordable to be employed by the organisation, especially when the traffic is heavy.

3.3 CHOICE OF SOFTWARE: dBASE IV

The versatility and flexibility of Database Management System (DBMS) are strong factors that informed its choice as the language for the design of the program for the proposed system. It is a software that constructs, expands and maintains data contained in a database. DBMS provides the interface between the user and the data in such a way that it enables the user to record, organise, select, summarise, extract, report on and otherwise, manage the data contained in a database.

DBMS programs keep information in files, and within each file is a collection of related information. The data in a file are organised into rows and columns, with each row making up a record. A column of data is known as a field and the column heading is a field name. The content of a field determines the field type. The usual field types are numeric, character, memo date, logical etc.

The ultimate objective for the development of databse technology is the treatment of data as an organisational resource and as an integrated whole. The DBMS allows for the protection and organisation of data separately from other resources such as hardware, software and program. Some specific objectives of the database system are the following:

Data Integration: Generally in a database, information from several files is coordinated, accessed and processed as if it is contained in a single file. Logically, the information is centralised, and phisically the data may be located on different devices. Furthermore, compatible data may be shared by two or more applications.

Data Redundancy: Data redundancy happens when the same data is unnecessarily replicated in more than one file. This results in data in wastage of storage space and duplication of efforts during data entry. An advantage of the DBMS is that, in a database environment similar data are not duplicated.

Data Independence: Another significant feature of DBMS is that it enhances data independence because application programs are isolated from any physical or logical storage of data. This feature seeks to allow for changes in the content and organisation of physical data without re-programming of applications, as well as creating room for modifications to application programs without re-organising physical data.

Data Integrity: This is an important feature of DBMS since data is stored one without duplication, the information retrieved is consistent as only one update is enough in case of any change in the data.

There are many types of database management software such as FoxPro, Oracle, Informix, Paradox etc. dBASE IV is an advanced version of dBASE that provides a full relational database environment to users. While many users found the assistant mode in dBASE III Plus too restrictive, it will be discovered that the control centre of dBASE IV is a marked improvement. Through the Control Centre and without the use

of command language, databases can be designed, records and files can be manipulated and edited, reports can be generated, database query can be performed, labels can be designed and databases can be browsed. Default values as well as valid ranges can be specified. Automatically data can be verified as they are entered into fields.

In addition, up to 255 fields can now be specified per record, and a database can be related to more than two other databases. Programs and procedures can also be compiled and saves as object codes for faster execution. Pop-up menus and windows can be designed. A larger number of memory variables, user definable functions, up 99 files can be opened at one time all these are improvements over dBASE III Plus. Indexing is also improved, a larger command line buffer, an improved command line editor, improved printer handling capabilities and faster execution. A query-by-example function is also provided.

Full relational database capabilities using Structured Query Language (SQL) that is compatible with IBM machines is perhaps the most significant improvement of dBASE IV over dBASE III Plus. Databases can be viewed through the SQL facility as relational databases. Database queries and updates can be executed using the SQL command language. SQL command language is far more powerful than dBASE command language and provides relational database capabilities that far exceed those offered in dBASE III Plus. For example, using SQL, it is possible to perform queries on relationships that span several databases without using the large number of

commands that would be necessary with dBASE III Plus. Consequent upon these highlighted advantages of dBASE IV, it has been chosen for writing the proposed system.

3.4 DESIGN OF THE NEW SYSTEM

In designing the new system for the ABSA, we shall capitalise on the innovative application of the Personal Computer combined with the communication systems, for the carrying out the task of obtaining, organising, storing, retrieving, preparing and transmitting required information through electronic means in order to greatly enhance the organisation's operational efficiency.

The use of PC with visual displays for the storage of text on disc and diskettes, can now reduce the routine work of both typists since unaltered sections can be re-typed automatically and authors since less checking is required, and enable successive drafts to be produced more rapidly.

Computer-based files will enhance the ABSA MIS as these will allow for the storage of a large amount of information, which can be retrieved, modified and manipulated faster than any manual process. Electronic filing requires a considerably less space and back-ups are easier to manage on computer hard drives, floppy diskettes, writeable CDs, zip diskettes etc. with huge and expansive storage capacity. Hence, the concept of "*Grandfather, Father and Son*" can be adopted and applied for the safety and security of stored information.

The acquisition of communications software packages and transmission of electronic signal with the aid of a modem (modulator-demodulator), will make it possible for the PC to perform the function of a regular fax machine. A good example is the Microsoft Ring Central Fax which combines the power of the Personal Computer with the modem to centralise all communication requirements in one easy-to-use interface.

Electronic mail (E-mail) is one of the most frequent applications of computer communications, which is the exchange of messages and information, as well as access to data sources irrespective of physical distance, which use computers and telecommunications devices, such as telephones and modems. E-mail is a type of communication that allows correspondence to be sent and received by computer, instead of putting a letter in the mail or using a fax machine.

E-mail messages include text-based materials known as ASCII files such as simple messages, letters, notes and memos, unformatted conference papers, documents etc. depending on the e-mail system in use, formatted text can be transmitted i.e. any document prepared and saved as a word-processed document such as WordPerfect document with graphics, data files from spreadsheets or databases and software programs also referred to as "executable files".

The design of the proposed system is borne out of the above analysis and is tailored to suite the software requirements of the computerisation procedures of the existing

Management Information System of the ABSA. Both the required input and output as well as database files that will be required by the system are given adequate consideration.

This section treats the physical construction of the logical design below, regarding program specification for output-input database files and processing into computer softwares. The designing of the computer software is important to guarantee that the actual programs produced perform all intended tasks and to allow for future modifications to be carried out efficiently with minimum destruction to the design of the system.

3.5 PROGRAM DOCUMENTATION

The program documentation provides basic information on the source program, which include methodology as well as codes required for its manipulation or operation. The methodology adopted for the program design is characterised by a modular system, with a specific number of modules. Each module has its own program which is coordinated by the main program. The documentation of the program specification is as listed in Appendix I and Appendix II.

3.6 COST AND BENEFIT ANALYSIS

A) DEVELOPMENT COST

1) Equipment Purchase

i. 4 Units of Microcomputers with the following specifications:

1 **Compaq Presario Model 5140**

400 Mhz Pentium II Mmx Intel Processor
64 MB SyncDRAM
512KB L2 Pipeline Burst Cache
16 GB EIDE Hard Disk Drive
3.5" (1.44MB) Diskette Drive
2nd Generation DVD-ROM Drive
Laser-sharp quality MPEG2
ATI Rage Pro Hardware Accelerated 3D Graphics
56K Bps Fax Modem
Compaq 17" FX700 Multimedia Monitor
Win 95 Enhanced Keyboard
Enhanced Compaq Mouse
Mini-Tower Chassis - ₦330,000.00

3 **Compaq Deskpro Model EP**

Intel Celeron 266 Mhz Processor
32 MB RAM, 3.2 GB Hard Disk
1.44 MB 3.5" Floppy Drive
ATI Range IIC AGP Graphic Controller
24x Multimedia Kit CD ROM,
Sound Card, Speakers
Win 95 Keyboard, Mouse,
Win 98 & Office 97 Installed
Desktop Monitor Chassis

	15" Compaq SVGA Color Monitor		
	Internal 56K Fax Modem	-	₦565,380.00
ii.	Peripherals		
	1 HP Scanjet Model 6100C	-	₦96,000.00
	2 HP Laserjet Printer Model 6L	-	₦90,000.00
	2 HP Deskjet Printer Model 920Cxi	-	₦80,000.00
	1 APC UPS	-	₦220,000.00
	3 APC BACK-UPS PRO 1400VA	-	₦30,000.00
	10 APC Surge Protectors	-	₦50,000.00
2)	System Installation	-	₦50,000.00
3)	3 Wall Units Air Conditioners	-	₦105,000.00
4)	Personnel Training for 2 Months	-	₦50,000.00
5)	Miscellaneous Expenses	-	₦20,000.00
	TOTAL DEVELOPMENT COST		₦1,686,380.00

B)	SYSTEM OPERATING COST		
1)	System Analyst Consultancy Services	-	₦72,000.00
2)	Retainership for Equipment Maintenance	-	₦48,000.00
3)	Labour Cost - 1 Computer Operator @ ₦10,000 per Month for 1 Year	-	₦120,000.00
4)	Computer Consumables and Stationery supplies	-	₦35,000.00
5)	Miscellaneous expenses	-	₦15,000.00
	TOTAL OPERATING COST		₦290,000.00

GRAND TOTAL - **₦1,976,380.00**

BENEFITS

In the long run, the ABSA will derive huge benefits which will outweigh the supposedly heavy financial investments involved in setting up the new system. The newly designed system will:

i. Enhance productivity through the efficient and systematic workflow of the ABSA Secretariat.

ii. Facilitate the coordination of development activities as communication between the ABSA and member nations and other relevant bodies.

iii. Improve the information through qualitative data processing, increased storage capacity for the data bank and maintenance of data security.

iv. Allow for continuous improvement of standards through regulated modification, upgrading and expansion of the new system when it becomes necessary.

v. Reduce to the bearest minimum, if not completely eliminate other problem areas of the former system.

CHAPTER FOUR

4.0 SYSTEM IMPLEMENTATION AND APPLICATION

4.1 DATA INPUT REQUIREMENTS AND SPECIFICATION

The data required for processing are referred to as input into the newly designed system. The source and type of data that will be fed into the system are determined by the input requirements. The efficiency of the system will depend, to a very large extent, on the type of data entered and the mode of entry.

In view of the above, cognizance must be taken of the following considerations, in designing the input form:

i. Reduction of data entries to eliminate or minimise the level of errors introduced during the course of data input

ii. Data validation is required to ensure that correct data are supplied to the system

iii. Data requirements and input form are acceptable to the users.

Specifically, the proposed system requires information to be furnished on the ABSA members such as the name of national Federations, date of affiliation, financial status etc. It is important to note that the input design is in an interactive mode, whereby users are given prompts by the system to make entries.

4.2 OUTPUT SPECIFICATION AND FORMAT

Output which is otherwise called report, is the result and information that are generated by a system from data supplied, which are communicated to end users after processing. It is expected that the proposed system will generate a hard copy output or report, which will indicate the position of all available tools at any point in time.

4.3. DATABASE FILES DESIGN

The new system requires a master file for the storage of data needed for effective operation of the system. The file is a database file which contains detailed information about the data needed by the system. The name of the file is ABSA.DBF and the structure of the file is as shown below:

S/No.	FIELD NAME	FIELD TYPE	WIDTH
1	FNO	CHARACTER	3
2	NFED	CHARACTER	50
3	TFED	CHARACTER	1
4	CCODE	CHARACTER	3
5	DATEF	DATE	8
6	CADDR	CHARACTER	50
7	PNO	CHARACTER	15
8	FAXNO	CHARACTER	15
9	EADDR	CHARACTER	30
10	DATEA	DATE	8
11	EXCO	NUMERIC	3
12	INTER	CHARACTER	1
13	MEMB	NUMERIC	8
14	CLUBS	NUMERIC	5
15	NPLAY	NUMERIC	8
16	NCOACH	NUMERIC	5
17	NUMP	NUMERIC	5
18	NSCORE	NUMERIC	5

19	NADMIN	NUMERIC	5
20	NEMPLOY	NUMERIC	5
21	STATUS	CHARACTER	1
22	REGION	CHARACTER	1
23	LANG	CHARACTER	1
24	ABSA	CHARACTER	1
25	SCSA	CHARACTER	1

4.4 HARDWARE REQUIREMENT

The hardware components required for efficient operation of the new system is referred to as the hardware requirement. The selection of the computer configuration, which is the collection of hardware that constitute a complete computer system, must be carried out, with a view to satisfying the current and future operational needs of the ABSA. In this process, cognizance must be taken of the nature and volume of data to be processed.

In view of the exigencies of the ABSA Management Information System, Microcomputers with higher speed and storage capacity are to be used as Server supported by others as Workstations. Pentium IBM-compatible PCs, with CD-ROM drive are recommended. All the units will be connected in a Network configuration.

Other items of Information Technology or peripherals such as the Modems, Scanners, Printers etc. are also to be procured. A modem, which is a device that connects the computer to the telephone line converts digital signals to analog ones (for transport over phone lines) and then back to digital at the other end, for use by the recipient computer. Scanners will be procured, to enhance production of graphics and images using the microcomputers. Printers will be required for the production of hard copies of processed data. Because of frequent power cuts experienced in Nigeria, there is a need to procure UPS and Surge Protector units to forestall damages that may be caused due to interruption while the systems are in use.

4.5. SYSTEM TESTING AND CHANGEOVER

System testing refers to the penultimate step in the implementation stage of the new system. This stage is necessary to ensure that the newly introduced system functions accurately and efficiently before the commencement of life operations of the system. The system test should be a confirmation that, the system is correct and provides the opportunity to demonstrate that the system works. At this stage, the logical and physical design of the system should undergo critical and continuous examination on paper to ensure that they will work when implemented.

The proposed system is fully tested to confirm its reliability. A user acceptance testing, in which users of the system are involved, is performed to confirm that the system is functional. This testing is carried out, using a set of carefully selected test data which are entered into the system. The result is compared with the result

obtained from the previous run and must be found to be the same and it will therefore be concluded that the newly developed system is functioning well.

File conversion requires changing the existing system files to the specified format for the new system. File set-up is the process of establishing new files that would be required to work with the new system.

Changeover is the full replacement of all the old files by the new one. In the proposed system, the file set-up and changeover are required while conversion is not needed, because the old system is a manual procedure. The file set-up is required to create the database files needed for the successful operation of the new system. Changeover could be achieved in the following ways:

i) Direct changeover

ii) Parallel changeover

iii) Pilot changeover.

In direct changeover, the existing or old system is discarded and replaced by the new in one swoop. While in a parallel changeover, the process allows for the continuous use of the existing and new systems to cross-check result. It allows the output of the new system to be compared with that of the old one before final acceptance by the user, thereby promoting user's confidence. And in the case of pilot changeover, data from one or more previous periods for whole or part of the system and new results are compared with the old.

Given the various types of changeover, parallel changeover is adopted for the purpose of the new ABSA system. This would imply the processing of current data by both the old and new systems. The main attraction is that the old system is kept running or operational, until the new system has been used for at least one system cycle, using life data in the real operational environment of place, people, equipment and time. In addition, it will provide the opportunity of comparing the results of the new ABSA system with the existing one.

4.6. SYSTEM DOCUMENTATION

System documentation is the process of describing how a system works. It serves as a reference point for end-users in case they run into one problem or the other. In documenting the new system, the mode of starting the system as well as the description of the new menu structure is considered. This is to enable the potential users understand the full operational mode of the system and required steps or procedures for carrying out specific tasks.

Starting the System

Once the system is installed, it occupies a directory of its own. Starting the system involves the following steps:

- After booting the system, the icon of the newly installed program (developed using Clipper/dBase IV) appears on the desktop. To start the package, the user will be expected to double click the ABSAMIS icon on the desktop, after which the main menu appears on the screen.

Alternatively, the ABSAMIS could be accessed as follows:

- Click at Start Button
- Select Program from the Start-up List
- Move cursor, using the mouse, to the Files directory displayed
- Select ABSAMIS and double-click.

At this point, the main menu is loaded onto the computer screen from where the users will get the prompt to select required option.

Description of Menu Structure

The menu structure will be discussed, using the screen design contained in Appendix I. This will be referred to as figure in the description below:

The Main Menu consists of five options, as displayed in Figure 1 in the Appendix. Each of this is itemised and discussed as follows:

- Membership Registration System
- Enquiry System
- File Update System
- Report Generation System
- System Exit.

Membership Registration System

This option contains five sub-menu as displayed in Fig. 2. It is used to manipulate the content of the master file i.e. ABSA.DBF, which contains the details of the affiliated Member-Federations of the ABSA. The sub-menus are "Adding Membership Data"

for entering new record; "Viewing Membership Data" for displaying record; "Changing Membership Data" for modifying record; "Cancelling Membership Data" for deleting membership record; and "Sub-menu Exit" for moving out of the sub-menu option.

Enquiry System

This option which contains seven sub-menus as displayed in Fig. 3 is a form of directory with specific information on member-federations. The sub-menus are "Listing by Federation Type" which provides details on type of federation; "Listing by Language Zone" provides details on linguistic zone to which the federation/country belongs; "Listing by Sub-region" provides information of the geographical location of the federation/country within the African continent; "Listing by ABSA Zone" provides details of classification on the basis of ABSA zonal structure; "Listing by SCSA Zone" provides details of classification on the basis of SCSA zonal structure; "General Listing" provides details on affiliated members in alphabetic order.

File Update System

The File Update System containing five sub-menus is used for updating membership record as indicated in Fig. 4.

Report Generation System

The menu is used to reproduce reports from the system representing the result of processed data. Output obtained by the users is normally produced in hard copy.

Exit System

This option is used to move out of the system.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 NEED FOR AUTOMATION OF ABSA INFORMATION SYSTEM

In the light of the above, the ABSA in its operation, requires the application of the computer and consequently the IT for its Management Information System (MIS). The ABSA should capitalise on the ability of the computer to enter, store, retrieve, modify, sort, index and selectively report on data depending on the ABSA's requirements.

Data management, which involves, storage of large amounts of data, their classification and retrieval will definitely enhance administrative and organisational efficiency. In other words, computerised information systems will help to improve the quality of decision-making in the ABSA because of the availability of substantial information on which a decision can be based.

Through the use of the computer, required information on sports performance (individual and team statistics and result of matches), outcome of meetings of administrative and technical organs of the ABSA will be collated, processed and stored in any medium whether paper, data, images and sound for the benefit and consumption of the general public, press agencies and television companies, researchers etc.

The acquisition, by the ABSA, of application software packages such as the spreadsheet will ensure faster and more accurate processing of figures to a predetermined requirement, such as periodic preparation of budgets, cash flow analyses, logistics and statistical reports for the continental sports body.

Finally, the computer will also be needed for automated transfer of routine information. That is to say, documents prepared by word processing, CAN BE ELECTRONICALLY TRANSMITTED THROUGH ELECTRONIC MAIL SYSTEM, between the ABSA Secretariat and member federations, prospective members, government agencies, individuals and other relevant regional, continental and international sports bodies AT ANY LOCATION IN THE WORLD.

This lofty objective can only be attained through the effective computerisation of the operations of the ABSA, in anticipation of the envisaged inevitable technological inventions and innovations that are bound to characterise the next millennium. In order words, for baseball and softball to be able to compete favourably in the struggle for survival with more popular sports like football, athletics, basketball, handball, volleyball etc., the ABSA in competition not only against other African Sports Confederations, but also against counterparts governing baseball and softball in other continents must be "2000 compliant" in its Management Information System (MIS).

5.2 RECOMMENDATIONS

The proposed system was developed with the hope that the ABSA will take maximum advantage of anticipated benefits. In order to fulfil this aspiration, we would like to make a case for the following recommendations to be adopted as prerequisite conditions for effective utilisation of the newly designed system:

1. The computerisation of an Organisations' operations normally requires the re-orientation and training of potential users both on the use of customised packages and the pre-written softwares for a result-oriented management of computer resources and efficient execution of the computerisation procedures. For this reason, it will be necessary to prompt old staff to undertake computer literacy courses and ensure that new employees are computer literate. All prospective users in the ABSA Secretariat must be trained on how to operate the new system.

2. The security of both the hardware and software components in a computer based system is of paramount importance to ensure confidentiality and protection of information and avoid the danger of equipment collapse and system malfunction. Therefore, the access to the workstation or the computer centre must be strictly restricted to computer-user staff.

3. Basically, computers are electronic products which are susceptible to damage when exposed to high temperatures and dusty environment. Hence, it imperative for the ABSA authorities to make provision for adequate cooling facility and dust-free atmosphere in order to ensure the durability of the system.

4. Because of their delicate nature computer systems require regular servicing by trained technical personnel. System support agreement with a reputable firm with qualified manpower, is cost-effective and necessary equipment for regular maintenance of system components, repairs and replacement of spare parts in case of breakdown, to ensure a longer life span for the entire system.

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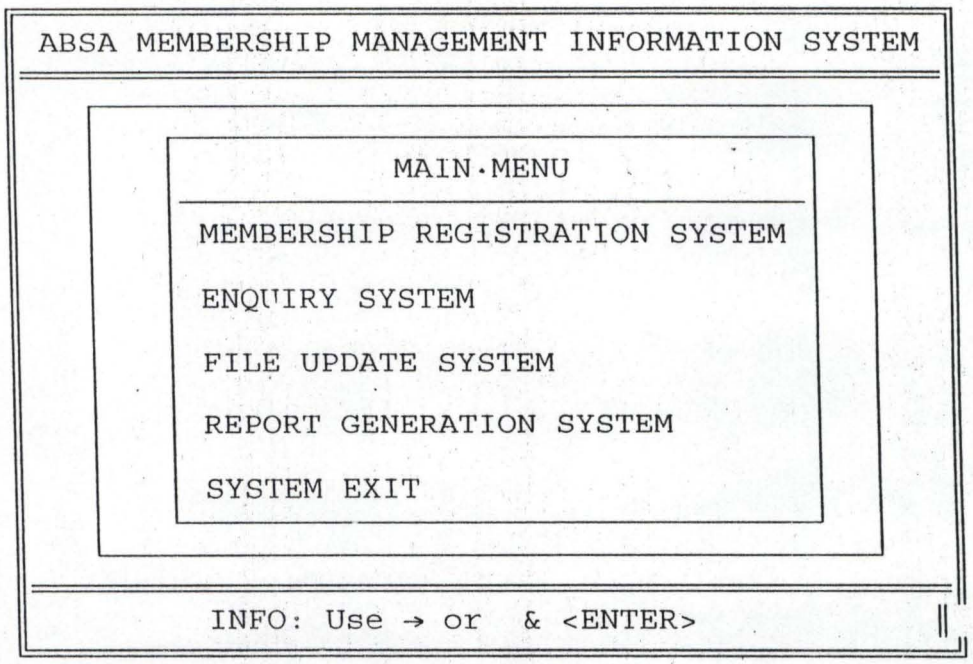
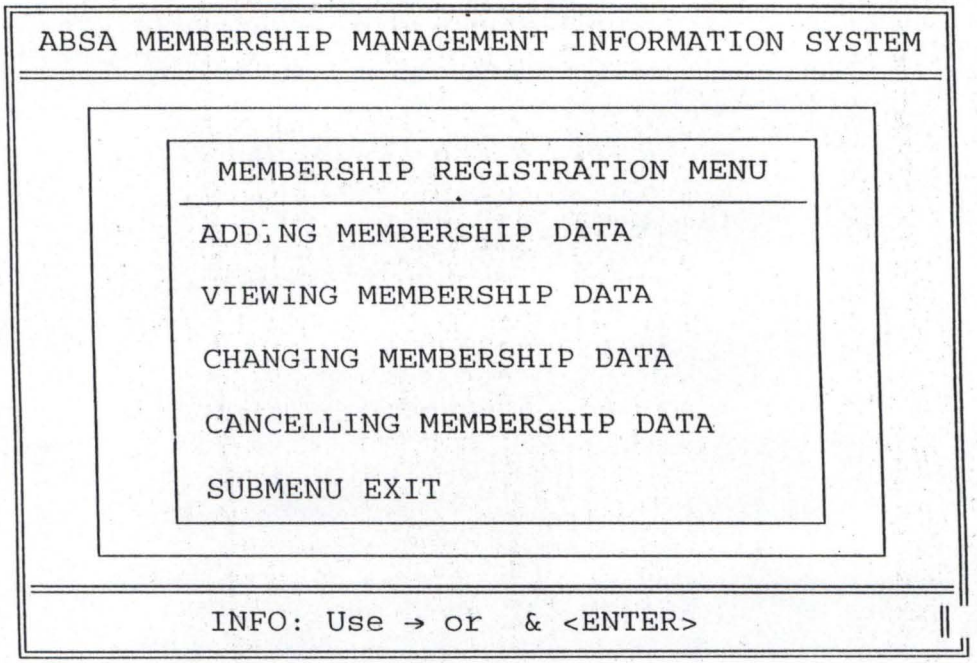
APPENDICES

APPENDIX 1 - FORM DESIGN AND PROGRAM OUTPUT




ABSA MEMBERSHIP MANAGEMENT INFORMATION SYSTEM
MEMBERSHIP REGISTRATION MENU
ADDING MEMBERSHIP DATA
VIEWING MEMBERSHIP DATA
CHANGING MEMBERSHIP DATA
CANCELLING MEMBERSHIP DATA
SUBMENU EXIT
INFO: Use → or & <ENTER>

ADDING MEMBERSHIP REGISTRATION DATA

ISTRATION NO (Press "ENTER KEY" to Exit): 011 DATE: 19/08/00

E OF FEDERATION: GHANA SOFTBALL ASSOCIATION

ERATION TYPE [Enter "1" for Baseball, "2" for Softball, "3" for Both]: 2

NTRY CODE: 003 DATE OF FORMATION: 12/01/96 PHONE NO: 031-02-4563319

TACT ADDRESS: NO 5, KWAME KURUMA ROAD, KUMASI

NO: 031-02-6912345 E-MAIL ADDRESS: GSA@AOL.COM

E OF AFFILIATION/ADMISSION: 27/05/97 NO OF EXCO MEMBERS: 30

-REGION [Enter Valid CODE]: 2 LANGUAGE ZONE [Enter Valid CODE]: 1

A ZONE [Enter Valid CODE]: 3 SCSA ZONE [Enter Valid CODE]: 2

Press ary key to go to the Next Screen

ADDING MEMBERSHIP REGISTRATION DATA

GISTRATION NO (Press "ENTER KEY" to Exit): 011 DATE: 19/08/00

ME OF FEDERATION: GHANA SOFTBALL ASSOCIATION

ER DETAILS:

TERNATIONAL AFFILIATION [Enter "1" for IBA, "2" for ISF, "3" for Both]: 2

SIZE OF MEMBERSHIP:	60	NO OF CLUBS:	3
NO OF PLAYERS:	35	NO OF CERTIFICATED COACHES:	8
NO OF UMPIRES:	6	NO OF SCORERS:	15
NO OF ADMINISTRATORS:	10	NO OF EMPLOYEES:	6

ATUS (1--Active, 2--Dormant, 3--Suspended, 4--Temporary, 5--Expelled): 1

Enter "S" to SAVE or "A" to ABANDON:

ABSA MEMBERSHIP MANAGEMENT INFORMATION SYSTEM

ENQUIRY MENU

LISTING BY FEDERATION TYPE

LISTING BY LANGUAGE ZONE

LISTING BY SUB-REGION

LISTING BY ABSA ZONE

LISTING BY SCSA ZONE

GENERAL LISTING

SUBMENU EXIT

INFO: Use → or & <ENTER>

ABSA MEMBERSHIP MANAGEMENT INFORMATION SYSTEM

FILE UPDATE MENU

SUB-REGION FILE

ABSA ZONE FILE

LANGUAGE ZONE FILE

SCSA ZONE FILE

SUBMENU EXIT

INFO: Use → or & <ENTER>

ABSA MEMBERSHIP MANAGEMENT INFORMATION SYSTEM

REPORT GENERATION MENU

REPORT BY FEDERATION TYPE

REPORT BY LANGUAGE ZONE

REPORT BY SUB-REGION

REPORT BY ABSA ZONE

REPORT BY SCSA ZONE

GENERAL REPORT

SUBMENU EXIT

INFO: Use → or & <ENTER>

APPENDIX 2 SOURCE PROGRAM LISTING

ABSA.PRG

```
set talk off
set stat off
set scor off
set safe off
set wrap on
set date brit
do whil .t.
  set colo to w+/b+
  clea
  @ 2,15 to 22,63 doub
  @ 3,17 say 'ABSA MEMBERSHIP MANAGEMENT INFORMATION SYSTEM'
  @ 4,16 to 4,62 doub
  @ 6,23 to 18,56
  @ 7,35 say 'MAIN MENU'
  @ 8,24 to 8,55
  @ 20,16 to 20,62 doub
  @ 5,19 to 19,59
  @ 21,25 say 'INFO: Use '+chr(26)+' or '+chr(27)+' & <ENTER>'
  @ 9,25 prom 'MEMBERSHIP REGISTRATION SYSTEM'
  @ 11,25 prom 'ENQUIRY SYSTEM'
  @ 13,25 prom 'FILE UPDATE SYSTEM'
  @ 15,25 prom 'REPORT GENERATION SYSTEM'
  @ 17,25 prom 'SYSTEM EXIT'
  menu to mch
  do case
    case mch=0
      loop
    case mch=1
      do regist
```

```
  case mch=2
    do enquiry
  case mch=3
    do update
  case mch=4
    do report
  othe
    exit
 endc
endd
clea
retu
```

REGIST.PRG

```
do whil .t.
 set colo to w+/b+
 clea
 @ 2,15 to 22,63 doub
 @ 3,17 say 'ABSA MEMBERSHIP MANAGEMENT INFORMATION SYSTEM'
 @ 4,16 to 4,62 doub
 @ 6,23 to 18,56
 @ 7,26 say 'MEMBERSHIP REGISTRATION MENU'
 @ 8,24 to 8,55
 @ 20,16 to 20,62 doub
 @ 5,19 to 19,59
 @ 21,25 say 'INFO: Use '+chr(26)+' or '+chr(27)+' & <ENTER>'
 @ 9,25 prom 'ADDING MEMBERSHIP DATA'
 @ 11,25 prom 'VIEWING MEMBERSHIP DATA'
 @ 13,25 prom 'CHANGING MEMBERSHIP DATA'
 @ 15,25 prom 'CANCELLING MEMBERSHIP DATA'
 @ 17,25 prom 'SUBMENU EXIT'
 menu to mchs
```

```
do case
  case mchs=0
    loop
  case mchs=1
    do addm
  case mchs=2
    do viewm
  case mchs=3
    do changem
  case mchs=4
    do cancelm
  othe
    exit
 endc
endd
clea
retu
```

ADDM.PRG

```
today=date()
use absa
do whil .t.
 clea
 @ 0,0 to 24,79 doub
 @ 1,22 say 'ADDING MEMBERSHIP REGISTRATION DATA'
 @ 2,22 to 2,56 doub
 @ 22,1 to 22,78 doub
 mfno=spac(3)
 @ 4,62 say 'DATE:' get today
 clea gets
 @ 4,2 say 'REGISTRATION NO (Press "ENTER KEY" to Exit):' get mfno
 read
```

```
if mfno='    '
  exit
endi
go top
loca for fno=mfno
if foun()
  @ 23,18 say 'REGISTRATION NO Already Exit, Press Any Key'
  set cons off
  wait
  set cons on
  loop
endi
mnfed=spac(50)
mtfed=spac(1)
mccode=spac(3)
mdatef=ctod('  /  /  ')
mcaddr=spac(50)
mpno=spac(15)
mfaxno=spac(15)
meaddr=spac(30)
mdatea=ctod('  /  /  ')
mexco=0
minter=spac(1)
mmemb=0
mclubs=0
mnplay=0
mncoach=0
mnump=0
mnscore=0
mnadmin=0
mnemploy=0
mstatus=spac(1)
mregion=spac(1)
```

```
mlang=spac(1)
mabsa=spac(1)
mscsa=spac(1)
@ 6,2 say 'NAME OF FEDERATION:' get mnfed pict '@!'
@ 8,2 say 'FEDERATION TYPE [Enter "1" for Baseball, "2" for Softball, "3" for
Both]:' get mtfed
@ 10,2 say 'COUNTRY CODE:' get mccode
@ 10,23 say 'DATE OF FORMATION:' get mdatef
@ 10,53 say 'PHONE NO:' get mpno
@ 12,2 say 'CONTACT ADDRESS:' get mcaddr
@ 14,2 say 'FAX NO:' get mfaxno
@ 14,30 say 'E-MAIL ADDRESS:' get meaddr
@ 16,2 say 'DATE OF AFFILIATION/ADMISSION:' get mdatea
@ 16,50 say 'NO OF EXCO MEMBERS:' get mexco pict '999'
@ 18,2 say 'SUB-REGION [Enter Valid CODE]: ' get mregion
@ 18,41 say 'LANGUAGE ZONE [Enter Valid CODE]: ' get mlang
@ 20,2 say 'ABSA ZONE [Enter Valid CODE]:  ' get mabsa
@ 20,41 say 'SCSA ZONE [Enter Valid CODE]:      ' get mscsa
read
@ 23,21 say 'Press any key to go to the Next Screen'
set cons off
wait
set cons on
@ 23,20 clea to 23,60
@ 8,2 clea to 20,77
@ 7,1 to 7,78
@ 9,1 say 'OTHER DETAILS:'
@ 10,1 to 10,14
@ 11,2 say 'INTERNATIONAL AFFILIATION [Enter "1" for IBA, "2" for ISF, "3"
for Both]:' get minter
@ 13,4 say 'SIZE OF MEMBERSHIP:  ' get mmemb pict '99,999,999'
@ 13,41 say 'NO OF CLUBS:                ' get mclubs pict '99,999'
@ 15,4 say 'NO OF PLAYERS:        ' get mnplay pict '99,999,999'
```

```
@ 15,41 say 'NO OF CERTIFICATED COACHES:' get mncoach pict '99,999'
@ 17,4 say 'NO OF UMPIRES:        ' get mnump pict '99,999'
@ 17,41 say 'NO OF SCORERS:              ' get mnscore pict '99,999'
@ 19,4 say 'NO OF ADMINISTRATORS:' get mnadmin pict '99,999'
@ 19,41 say 'NO OF EMPLOYEES:            ' get mnemploy pict '99,999'
@ 21,2 say 'STATUS (1--Active, 2--Dormant, 3--Suspended, 4--Temporary,
5--Expelled):' get mstatus
read
check=' '
@ 23,20 say 'Enter "S" to SAVE  or  "A" to ABANDON:' get check pict '!'
read
if check='S'
  appe blan
  repl fno with mfno,nfed with mnfed,tfed with mtfed
  repl ccode with mccode,datef with mdatef,caddr with mcaddr
  repl pno with mpno,faxno with mfaxno,eaddr with meaddr
  repl datea with mdatea,exco with mexco,inter with minter
  repl memb with mmemb,clubs with mclubs,nplay with mnplay
  repl ncoach with mncoach,nump with mnump,nscore with mnscore
  repl nadmin with mnadmin,nemploy with mnemploy,status with mstatus
  repl region with mregion,lang with mlang,absa with mabsa,scsa with mscsa
 endi
endd
clos all
clea
retu
```

VIEWM.PRG

```
today=date()
use absa
do whil .t.
  clea
```

```
@ 0,0 to 24,79 doub
@ 1,22 say 'VIEWINC MEMBERSHIP REGISTRATION DATA'
@ 2,22 to 2,57 doub
@ 22,1 to 22,78 doub
mfno=spac(3)
@ 4,62 say 'DATE:' get today
clea gets
@ 4,2 say 'REGISTRATION NO (Press "ENTER KEY" to Exit):' get mfno
read
if mfno='    '
  exit
endi
go top
loca for fno=mfno
if .not. foun()
  @ 23,17 say 'REGISTRATION NO. does no exist, Press Any Key'
  set cons off
  wait
  set cons on
  loop
endi
mnfed=nfed
mtfed=tfed
mccode=ccode
mdatef=datef
mcaddr=caddr
mpno=pno
mfaxno=faxno
meaddr=eaddr
mdatea=datea
mexco=exco
minter=inter
mmemb=memb
```

```
mclubs=clubs
mnplay=nplay
mncoach=ncoach
mnump=nump
mnscore=nscore
mnadmin=nadmin
mnemploy=nemploy
mstatus=status
mregion=region
mlang=lang
mabsa=absa
mscsa=scsa
@ 6,2 say 'NAME OF FEDERATION:' get mnfed pict '@!'
@ 8,2 say 'FEDERATION TYPE [Enter "1" for Baseball, "2" for Softball, "3" for
Both]:' get mtfed
@ 10,2 say 'COUNTRY CODE:' get mccode
@ 10,23 say 'DATE OF FORMATION:' get mdatef
@ 10,53 say 'PHONE NO:' get mpno
@ 12,2 say 'CONTACT ADDRESS:' get mcaddr
@ 14,2 say 'FAX NO:' get mfaxno
@ 14,30 say 'E-MAIL ADDRESS:' get meaddr
@ 16,2 say 'DATE OF AFFILIATION/ADMISSION:' get mdatea
@ 16,50 say 'NO OF EXCO MEMBERS:' get mexco pict '999'
@ 18,2 say 'SUB-REGION [Enter Valid CODE]: ' get mregion
@ 18,41 say 'LANGUAGE ZONE [Enter Valid CODE]: ' get mlang
@ 20,2 say 'ABSA ZONE [Enter Valid CODE]:  ' get mabsa
@ 20,41 say 'SCSA ZONE [Enter Valid CODE]:      ' get mscsa
clea gets
@ 23,21 say 'Press any key to go to the Next Screen'
set cons off
wait
set cons on
@ 23,20 clea to 23,60
```

```
 @ 8,2 clea to 20,77
 @ 7,1 to 7,78
 @ 9,1 say 'OTHER DETAILS:'
 @ 10,1 to 10,14
 @ 11,2 say 'INTERNATIONAL AFFILIATION [Enter "1" for IBA, "2" for ISF, "3"
for Both]:' get minter
 @ 13,4 say 'SIZE OF MEMBERSHIP:  ' get mmemb pict '99,999,999'
 @ 13,41 say 'NO OF CLUBS:          ' get mclubs pict '99,999'
 @ 15,4 say 'NO OF PLAYERS:       ' get mnplay pict '99,999,999'
 @ 15,41 say 'NO OF CERTIFICATED COACHES:' get mncoach pict '99,999'
 @ 17,4 say 'NO OF UMPIRES:       ' get mnump pict '99,999'
 @ 17,41 say 'NO OF SCORERS:          ' get mnscore pict '99,999'
 @ 19,4 say 'NO OF ADMINISTRATORS:' get mnadmin pict '99,999'
 @ 19,41 say 'NO OF EMPLOYEES:          ' get mnemploy pict '99,999'
 @ 21,2 say 'STATUS (1--Active, 2--Dormant, 3--Suspended, 4--Temporary,
5--Expelled):' get mstatus
  clea gets
  @ 23,20 say 'VIEWING RECORD - Press any key to continue'
  set cons off
  wait
  set cons on
endd
clos all
clea
retu

CHANGEM.PRG

today=date()
use absa
do whil .t.
  clea
  @ 0,0 to 24,79 doub
```

```
@ 1,21 say 'CHANGING MEMBERSHIP REGISTRATION DATA'
@ 2,21 to 2,57 doub
@ 22,1 to 22,78 doub
mfno=spac(3)
@ 4,62 say 'DATE:' get today
clea gets
@ 4,2 say 'REGISTRATION NO (Press "ENTER KEY" to Exit):' get mfno
read
if mfno='   '
  exit
endi
go top
loca for fno=mfno
if .not. foun()
   @ 23,17 say 'REGISTRATION NO. does no exist, Press Any Key'
   set cons off
   wait
   set cons on
   loop
endi
mnfed=nfed
mtfed=tfed
mccode=ccode
mdatef=datef
mcaddr=caddr
mpno=pno
mfaxno=faxno
meaddr=eaddr
mdatea=datea
mexco=exco
minter=inter
mmemb=memb
mclubs=clubs
```

```
mnplay=nplay
mncoach=ncoach
mnump=nump
mnscore=nscore
mnadmin=nadmin
mnemploy=nemploy
mstatus=status
mregion=region
mlang=lang
mabsa=absa
mscsa=scsa
@ 6,2 say 'NAME OF FEDERATION:' get mnfed pict '@!'
@ 8,2 say 'FEDERATION TYPE [Enter "1" for Baseball, "2" for Softball, "3" for
Both]:' get mtfed
@ 10,2 say 'COUNTRY CODE:' get mccode
@ 10,23 say 'DATE OF FORMATION:' get mdatef
@ 10,53 say 'PHONE NO:' get mpno
@ 12,2 say 'CONTACT ADDRESS:' get mcaddr
@ 14,2 say 'FAX NO:' get mfaxno
@ 14,30 say 'E-MAIL ADDRESS:' get meaddr
@ 16,2 say 'DATE OF AFFILIATION/ADMISSION:' get mdatea
@ 16,50 say 'NO OF EXCO MEMBERS:' get mexco pict '999'
@ 18,2 say 'SUB-REGION [Enter Valid CODE]: ' get mregion
@ 18,41 say 'LANGUAGE ZONE [Enter Valid CODE]: ' get mlang
@ 20,2 say 'ABSA ZONE [Enter Valid CODE]:  ' get mabsa
@ 20,41 say 'SCSA ZONE [Enter Valid CODE]:  ' get mscsa
read
@ 23,21 say 'Press any key to go to the Next Screen'
set cons off
wait
set cons on
@ 23,20 clea to 23,60
@ 8,2 clea to 20,77
```

```
 @ 7,1 to 7,78
 @ 9,1 say 'OTHER DETAILS:'
 @ 10,1 to 10,14
 @ 11,2 say 'INTERNATIONAL AFFILIATION [Enter "1" for IBA, "2" for ISF, "3"
for Both]:' get minter
 @ 13,4 say 'SIZE OF MEMBERSHIP:  ' get mmemb pict '99,999,999'
 @ 13,41 say 'NO OF CLUBS:              ' get mclubs pict '99,999'
 @ 15,4 say 'NO OF PLAYERS:      ' get mnplay pict '99,999,999'
 @ 15,41 say 'NO OF CERTIFICATED COACHES:' get mncoach pict '99,999'
 @ 17,4 say 'NO OF UMPIRES:      ' get mnump pict '99,999'
 @ 17,41 say 'NO OF SCORERS:            ' get mnscore pict '99,999'
 @ 19,4 say 'NO OF ADMINISTRATORS:' get mnadmin pict '99,999'
 @ 19,41 say 'NO OF EMPLOYEES:          ' get mnemploy pict '99,999'
 @ 21,2 say 'STATUS (1--Active, 2--Dormant, 3--Suspended, 4--Temporary,
5--Expelled):' get mstatus
  read
  check=' '
  @ 23,12 say 'Enter "S" to SAVE CHANGES  or  "A" to ABANDON CHANGES:' get
check pict '!'
  read
  if check='S'
    repl nfed with mnfed,tfed with mtfed
    repl ccode with mccode,datef with mdatef,caddr with mcaddr
    repl pno with mpno,faxno with mfaxno,eaddr with meaddr
    repl datea with mdatea,exco with mexco,inter with minter
    repl memb with mmemb,clubs with mclubs,nplay with mnplay
    repl ncoach with mncoach,nump with mnump,nscore with mnscore
    repl nadmin with mnadmin,nemploy with mnemploy,status with mstatus
    repl region with mregion,lang with mlang,absa with mabsa,scsa with mscsa
  endi
endd
clos all
clea
```

```
retu
```

CANCELM.PRG

```
today=date()
use absa
do whil .t.
  clea
  @ 0,0 to 24,79 doub
  @ 1,21 say 'CANCELLING MEMBERSHIP REGISTRATION DATA'
  @ 2,21 to 2,59 doub
  @ 22,1 to 22,78 doub
  mfno=spac(3)
  @ 4,62 say 'DATE:' get today
  clea gets
  @ 4,2 say 'REGISTRATION NO (Press "ENTER KEY" to Exit):' get mfno
  read
  if mfno='    '
    exit
  endi
  go top
  loca for fno=mfno
  if .not. foun()
    @ 23,17 say 'REGISTRATION NO. does no exist, Press Any Key'
    set cons off
    wait
    set cons on
    loop
  endi
  mnfed=nfed
  mtfed=tfed
  mccode=ccode
  mdatef=datef
```

```
mcaddr=caddr
mpno=pno
mfaxno=faxno
meaddr=eaddr
mdatea=datea
mexco=exco
minter=inter
mmemb=memb
mclubs=clubs
mnplay=nplay
mncoach=ncoach
mnump=nump
mnscore=nscore
mnadmin=nadmin
mnemploy=nemploy
mstatus=status
mregion=region
mlang=lang
mabsa=absa
mscsa=scsa
@ 6,2 say 'NAME OF FEDERATION:' get mnfed pict '@!'
@ 8,2 say 'FEDERATION TYPE [Enter "1" for Baseball, "2" for Softball, "3" for
Both]:' get mtfed
@ 10,2 say 'COUNTRY CODE:' get mccode
@ 10,23 say 'DATE OF FORMATION:' get mdatef
@ 10,53 say 'PHONE NO:' get mpno
@ 12,2 say 'CONTACT ADDRESS:' get mcaddr
@ 14,2 say 'FAX NO:  get mfaxno
@ 14,30 say 'E-MAIL ADDRESS:' get meaddr
@ 16,2 say 'DATE OF AFFILIATION/ADMISSION:' get mdatea
@ 16,50 say 'NO OF EXCO MEMBERS:' get mexco pict '999'
@ 18,2 say 'SUB-REGION [Enter Valid CODE]: ' get mregion
@ 18,41 say 'LANGUAGE ZONE [Enter Valid CODE]: ' get mlang
```

```
@ 20,2 say 'ABSA ZONE [Enter Valid CODE]:  ' get mabsa
@ 20,41 say 'SCSA ZONE [Enter Valid CODE]:     ' get mscsa
clea gets
@ 23,21 say 'Press any key to go to the Next Screen'
set cons off
wait
set cons on
@ 23,20 clea to 23,60
@ 8,2 clea to 20,77
@ 7,1 to 7,78
@ 9,1 say 'OTHER DETAILS:'
@ 10,1 to 10,14
 @ 11,2 say 'INTERNATIONAL AFFILIATION [Enter "1" for IBA, "2" for ISF, "3"
for Both]:' get minter
 @ 13,4 say 'SIZE OF MEMBERSHIP:  ' get mmemb pict '99,999,999'
 @ 13,41 say 'NO OF CLUBS:              ' get mclubs pict '99,999'
 @ 15,4 say 'NO OF PLAYERS:       ' get mnplay pict '99,999,999'
 @ 15,41 say 'NO OF CERTIFICATED COACHES:' get mncoach pict '99,999'
 @ 17,4 say 'NO OF UMPIRES:       ' get mnump pict '99,999'
 @ 17,41 say 'NO OF SCORERS:              ' get mnscore pict '99,999'
 @ 19,4 say 'NO OF ADMINISTRATORS:' get mnadmin pict '99,999'
 @ 19,41 say 'NO OF EMPLOYEES:            ' get mnemploy pict '99,999'
 @ 21,2 say 'STATUS (1--Active, 2--Dormant, 3--Suspended, 4--Temporary,
5--Expelled):' get mstatus
  clea gets
  check=' '
  @ 23,25 say 'TO DELETE THIS RECORD (Y/N):' get check pict '!'
  read
  if check='Y'
    dele
    pack
  endi
endd
```

```
clos all
clea
retu

ENQUIRY.PRG

do whil .t.
  set colo to w+/b+
  clea
  @ 1,15 to 23,63 doub
  @ 2,17 say 'ABSA MEMBERSHIP MANAGEMENT INFORMATION SYSTEM'
  @ 3,16 to 3,62 doub
  @ 5,34 say 'ENQUIRY MENU'
  @ 6,20 to 6,58
  @ 21,16 to 21,62 doub
  @ 4,19 to 20,59
  @ 22,25 say 'INFO: Use '+chr(26)+' or '+chr(27)+' & <ENTER>'
  @ 7,27 prom 'LISTING BY FEDERATION TYPE'
  @ 9,27 prom 'LISTING BY LANGUAGE ZONE'
  @ 11,27 prom 'LISTING BY SUB-REGION'
  @ 13,27 prom 'LISTING BY ABSA ZONE'
  @ 15,27 prom 'LISTING BY SCSA ZONE'
  @ 17,27 prom 'GENERAL LISTING'
  @ 19,27 prom 'SUBMENU EXIT'
  menu to mchs
  do case
    case mchs=0
      loop
    case mchs=1
      do fedtype
    case mchs=2
      do lantype
    case mchs=3
```

```
   do subtype
  case mchs=4
   do absatype
  case mchs=5
   do scsatype
  case mchs=4
   do gentype
  othe
   exit
 endc
endd
clea
retu
```

UPDATE.PRG

```
do whil .t.
 set colo to w+/b+
 clea
 @ 2,15 to 22,63 doub
 @ 3,17 say 'ABSA MEMBERSHIP MANAGEMENT INFORMATION SYSTEM'
 @ 4,16 to 4,62 doub
 @ 6,23 to 18,56
 @ 7,32 say 'FILE UPDATE MENU'
 @ 8,24 to 8,55
 @ 20,16 to 20,62 doub
 @ 5,19 to 19,59
 @ 21,25 say 'INFO: Use '+chr(26)+' or '+chr(27)+' & <ENTER>'
 @ 9,30 prom 'SUB-REGION FILE'
 @ 11,30 prom 'ABSA ZONE FILE'
 @ 13,30 prom 'LANGUAGE ZONE FILE'
 @ 15,30 prom 'SCSA ZONE FILE'
 @ 17,30 prom 'SUBMENU EXIT'
```

```
  menu to mchs
  do case
    case mchs=0
      loop
    case mchs=1
      do addm
    case mchs=2
      do viewm
    case mchs=3
      do changem
    case mchs=4
      do cancelm
    othe
      exit
  endc
endd
clea
retu
```

REPORT.PRG

```
do whil .t.
  set colo to w+/b+
  clea
  @ 1,15 to 23,63 doub
  @ 2,17 say 'ABSA MEMBERSHIP MANAGEMENT INFORMATION SYSTEM'
  @ 3,16 to 3,62 doub
  @ 5,29 say 'REPORT GENERATION MENU'
  @ 6,20 to 6,58
  @ 21,16 to 21,62 doub
  @ 4,19 to 20,59
  @ 22,25 say 'INFO: Use '+chr(26)+' or '+chr(27)+' & <ENTER>'
```

```
@ 7,27 prom 'REPORT BY FEDERATION TYPE'
@ 9,27 prom 'REPORT BY LANGUAGE ZONE'
@ 11,27 prom 'REPORT BY SUB-REGION'
@ 13,27 prom 'REPORT BY ABSA ŻONE'
@ 15,27 prom 'REPORT BY SCSA ZONE'
@ 17,27 prom 'GENERAL REPORT'
@ 19,27 prom 'SUBMENU EXIT'
menu to mchs
do case
  case mchs=0
    loop
  case mchs=1
    do fedtype
  case mchs=2
    do lantype
  case mchs=3
    do subtype
  case mchs=4
    do absatype
  case mchs=5
    do scsatype
  case mchs=4
    do gentype
  othe
    exit
 endc
endd
clea
retu
```