

**COMPUTERIZED STUDENTS PERSONAL RECORD**

**A CASE STUDY OF**

**NIGER STATE POLYTECHNIC, ZUNGERU**

**BY**

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OF POSTGRADUATE DIPLOMA IN COMPUTER SCIENCE.**

**MARCH, 1998.**

## CERTIFICATION

This is to certify that Mr. Iliya Yohanna carried out this study in the Department of Mathematics/Computer Science of the Federal University of Technology, Minna.

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DATE

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EXTERNAL EXAMINER

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DATE

## **DEDICATION**

This project is dedicated to my parents, brothers, sisters and all friends for their care, love and financial support, encouragement and tolerance throughout my period of study in the university.

## **ACKNOWLEDGEMENT**

I wish to first of all thank God for the special love and mercy He demonstrated to me in so many ways throughout the period of my study in the university.

I give special thanks to my supervisor, Mr. Ezeako Lawrence Nnajiuba for his useful advice, suggestion and encouragement.

I wish to sincerely thank the following people for their contributions.

My H.O.D., Dr. K.R. Adeboye and the course co-ordinator, Prince Rasheed Badmus and all the lecturers in the department for their indefatigable effort to the successful completion of my course.

My sincere appreciation also goes to the authority of the Niger State Polytechnic, Zungeru for giving me the data and advice in which I drew inspirations.

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## **ABSTRACT**

Computers are now actively used in almost every part of the business world.

This project presents the need for the conversion of the manually operated students personal information management system to a computerized students personal record keeping system at the Niger state Polytechnic Zungeru.

This gives an accurate, more efficient, less expensive and faster method of processing records.

A program is written in dBASE IV which provides good facilities for updating, Editing, Viewing and deleting of student personal records.

# CHAPTER ONE

1.0

## INTRODUCTION

A computer can be defined as a machine which accepts data from an input device, perform 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.

Today computers are active in almost all divisions of sciences and Technology and are doing their jobs efficiently. Apart from pure computational work, they control production processes, run traffic, handle statistical work, do economic planning, gather and process information and solve logic and other problems.

All computers may be divided into two broad classes, analog and digital. In turn each of these two classes may further be subdivided into general purpose machines capable of tackling a wide range of mathematical problems, and special purpose machines dedicated to a narrow class of problems or even a specific problem.

The historical background of information management or processing information is something that has started right from when man came into existence. However, like a talent or raw data and raw material are of limited importance, this data becomes useful when they are examined, analyzed, summarized, compared and classified then it becomes a useful information for management to use. Over two hundred billions papers are sometimes found in files nearly one hundred millions file drawers are generated annually by some nations or organizations. The offices are filled to the brim

and the store rooms sometimes cannot contain any more file, some of the store rooms contains up to one trillion pieces.

Going by the figures, there was the need for an automated data processing. The setting of industrial revolution and over increasing amount of data to be processed in a shorter way and shorter times, business felt the need for faster, cheaper more efficient method of processing data.

Record or information is the life wire of every organization, regardless of the type of the organization and also the size of that organization. The importance of information otherwise known as record keeping cannot be over - emphasized.

It is inline with this that one realizes that so many problems are associated with the manual information processing method or the current method. It is seen clearly that right from time or historical background piece of papers are still being piled, they result into two bulky papers, this bulky papers tends to create problems in addition to the ones mentioned earlier.

The other problems are:

- (a) Cost of the papers that are in use is much.
- (b) Papers occupied too much space which can be use for another thing.
- (c) Storage method of such papers is faulty.
- (d) Retrieval of such information sometimes becomes increasingly difficult.
- (e) Security of such information is doubtful.
- (f) The accuracy of such information is not certain.

There are more to this problems, this is just to mention but a few.

Going by the advantages attached to the computerize over the existing method, the researcher took it upon himself to the computerization of the student personal record of Niger State Polytechnic Zungeru.

The identified solution was to computerized the existing method, programs were designed and written, which is aimed at taking care of adding more information, deleting of records, sorting of records, updating of records and viewing of records.

Analysis of the programs is given and a users manual is provided to guide whosoever is handling the program for the first time.

### **1.1 THE NEED FOR COMPUTERIZATION OF AN INFORMATION MANAGEMENT SYSTEM OR RECORD KEEPING SYSTEM.**

There is every need for a computerized system in every organization based on the following reasons:-

1. To achieve accurate information or record.
2. To provide security for such information.
3. To be able to easily retrieve information when the need arise.
4. To be able to add more record when the need arise.

There are certain characteristics that are expected with any good computerized information system such good virtues are:

- (a) Recording of information.
- (b) Classification of information.
- (c) Sorting of information.





1.4

## **SCOPE AND LIMITATION**

Exams, accounting system, personal management of the school.

## CHAPTER TWO

### 2.0 HISTORICAL BACKGROUND OF THE INSTITUTION

The institution started as a college of basic studies. It was then known as Zungeru College of advanced Studies(ZUCAS). It came into existence in January, 1977. This college along with eleven others were established for higher education opportunities in the states they are located. The states were educationally disadvantaged, they also had manpower problems because they were unable to produce candidates to fill their quota in universities and other institutions of higher learning.

The instrument establishing the college, that is the Niger state education No. 7 of 1979 specified the objectives of the college as:

To provide for basic studies, training and research in Arts, Science and technology for the purpose of university entry requirement; and to offer courses at sub-degree level in these and other related subjects of study with the ultimate purpose of service to the community.

As a result the college trained students for preliminary courses at I J M B level and also candidates with deficiency in 'O' level credits were admitted for remedial programme.

Apart from these, two diploma programs were introduced one in Mathematics Education and the other is Diploma in Hausa, Arabic and Islamic studies.

However, the two Diploma programs were taken out of the college in 1985 by the state government in order to concentrate on the main objectives of the college,

that is basic studies training. Mathematics Education was transferred to the state college of education while Diploma in Hausa, Arabic and Islamic studies was transferred to the college of Arabia and Islamic legal studies.

A total of 1,494 candidates have benefitted from the preliminary I J M B programme, out of which 1,1109 got the required qualification for university direct entry admission.

The college was converted into a state polytechnic in October, 1991. The higher state Edit no. 9 of 1991 which established the institution specified it's objectives as:

To provide instruction, training and research in science, Technology, commerce, humanities and management. To offer special courses in these and other related areas with the ultimate purpose of service for the community and offer courses in technology at certificate and Diploma levels.

The polytechnic started with four departments namely:

- (i) Department of General and Libraries studies.
- (ii) Department of Environmental studies.
- (iii) Department of Science and preliminary studies.
- (iv) Department of Accounting, statistics and computer.

The Department of General and liberal studies is handling the teaching of English and General studies for all the Departments. In addition there were Diploma and Certificate programs which were phaseout in 1995. The courses were:

- (i) Diploma in Hausa.
- (ii) Diploma in Islamic studies.
- (iii) Certificate in Hausa.
- (iv) Certificate in CRS.
- (v) Certificate in Theater Arts.

The Department of Environmental studies handles Diploma in land management, and Diploma in rural Development, the Diploma in Rural Development was phased out in 1994.

Department of science and preliminary studies started with Diploma in integrated science and certificate in laboratory technology.

the Department of Accountancy, Statistics and Computer Science started with:

- (i) Diploma in management studies.
- (ii) Diploma in Statistics.
- (iii) Certificate in supervising management (now referred to as certificate in Business management)
- (iv) Certificate in Assistant stores officers course.

Presently there are seven departments handling additional programs as follows:

#### 1. **DEPARTMENT OF BUSINESS AND MANAGEMENT STUDIES**

- (i) National Diploma in business studies.
- (ii) Pre-N.D. Business.
- (iii) Diploma in Management studies.

- (iv) Certificate in Business Management.
- (v) Assistant stores officer's certificate.

**2. DEPARTMENT OF ENVIRONMENTAL STUDIES**

- (i) Diploma in Land Management.
- (ii) Intermediate Certificate in Land survey.

**3. DEPARTMENT OF BASIC AND APPLIED SCIENCE**

- (i) National Diploma in Science Laboratory Technology.
- (ii) Pre-ND science.
- (iii) Diploma in Science Laboratory Technology.
- (iv) Certificate in Laboratory Technology.

**4. DEPARTMENT OF MATHEMATICS AND STATISTICS**

- (i) National Diploma in Statistics.
- (ii) Certificate in Statistics.
- (ii) Certificate in Computer Science.

**5. DEPARTMENT OF MECHANICAL ENGINEERING.**

- (i) Certificate in Automotive Technology.
- (ii) Certificate in Metal fabrication technology.

## **6. DEPARTMENT OF CIVIL ENGINEERING**

- (i) Intermediate certificate in Structural Engineering.
- (ii) Advanced certificate in Structural Engineering.

## **7. DEPARTMENT OF GENERAL AND LIBERAL STUDIES**

- (i) English and general studies for all the Departments.
- (ii) Remedial programme.

In addition, the I J M B was re-introduced in Science and Management Subjects.

The programme is co-ordinated by the office of the vice Rector.

### **2.1**

### **ADMISSION POLICY**

the admission policy is based on merit. Even though it is always ensured that all parts of the state are represented, but merit is not compromised. Also being a state owned institution, attention is always on the state indigenes.

### **EXAMINATION MODERATION**

Exams are moderated by some experienced lecturers in the universities and polytechnic in order to promote academic excellence.

## CALIBRE OF STAFF

DEPARTMENTS	PROFESSIONALS	NON-PROFESSIONALS
Gen. & Library Studies	11	-
Business & Mgt. Studies	11	2
Maths and Statistics	9	-
Basic & Applied Science	12	3
Electrical Engineering	1	-
mechanical Engineering	1	1
Civil Engineering	-	4
Environmental Studies	4	1

### 2.2

## LITERATURE REVIEW

Retrieval of information takes a very long time where you have up to 3000 files, the ability to get out a particular information takes a very long time.

Security of such information is questionable. Such files or papers are left and every one has an easy access to them. Accuracy of such information are doubtful sometimes you see papers flying from such files. The information contained in such files are inadequate as some papers are missing.

Corrections of some of such information is nothing to rely on, going by the missing papers such information might have no meaning, when you read through the papers.

According to some cultures enumerating further on the problems associated with manually information processing system. In his book title "INFORMATION TO THE COMPUTER, THE TOOL OF BUSINESS WILLIAM .M. FLIORI" has this to say.

Over 300 billion pieces of paper filling nearly 100 million file drawers are generated annually by the nations business (U.S.A.) papers piled up over the years in offices and store rooms through out the nation over one trillion piece. The business community started thrilling with this volume of papers. it is advised to take the automated information processing.

INFORMATION TECHNOLOGY AT WORK BY DICK DAVIES has this to say "In the traditional office information is stored on paper, it has recently been estimated that in the U.S.A. there are around 200 million sheets of papers stored in offices. These are being added to at the rate of one million per day.

Storing information on papers causes two problems.

- (i) Where to store it all. The file have to be protected from fire, etc. by storage in metal filing cabinets, the space taken up by these cabinet must be rented.
- (2) How to find this document when needed when information are required, it takes time before they are seen.

In our ministries or government organizations, some people use this system to make money, when your file is in process, some clerks retrieve this files and hide them until when they are bribed, then such files are released.

In fact, so much have been said concerning the problems associated with manual way of processing information.

The students of Niger state polytechnic Zungeru will not be free from such problems since, they operate the same way.



In another book by Andrew L. Friedman with Dominic S. Cornford, titled *Computer System Development History, organization and implementation* has this to say.

The advances in data storage and data access that would make the computer a suitable media for storing information and that would make the computer system suitable for the transmission of data, still lay in the future. The early applications of the computer were largely confined to areas of the firms information processing that conformed most closely with the computers' capabilities- applications that involved simple arithmetic operations on a large number of transactions., These were primarily high-volume, routine, clerical activities.

There are a number of reasons why these activities were the first to be computerized. The importance of high-volume was directly related to the cost of carrying out the process without a computerized system and thus the potential gains that the system could offer.

In January 1954 the first business Dp applicator in the UK, the payroll for J. Lyons, was processed on the LEO Computer. Payroll is the business application 'par excellence' of the first phase of computerization.

As well as being the most frequently computerized application during this period, it embodies many of the characteristics of all early business applications.

In the same book titled *Computer Systems Development History, organization and implementation* by Andrew L. Friedman with Dominic S. Cornford has this to say.

The number of clerical office workers had been growing rapidly from early in the twentieth century.

In UK in 1920 they represented 6% of all workers. By the early 1960s they represented 14% (Friedman, 1977, pp.203 and 222). They thus represented a growing element in firms overall costs.

This clerical functions were ripe for computerization to save the reduction in clerical manpower.

The advantage of the computer is that data, once collected, can easily be structured in many different ways with different degrees of details.

In another book by Elaine Mullins titled Information Processing Students book has this to say 'Each business has its own reason for computerizing its office functions.

The most common reasons are:

- (1) Existing system are unable to accommodate the rate of growth.
- (2) Delays in output of information (turnaround time).
- (3) Delays in retrieving and collecting information.
- (4) High error rate in output.
- (5) Inefficient and time wasting procedures, often involving duplication. Any one of the above could result in reduced company growth, loss of business, reduced profits, projection of a poor company image and the lowering of staff morale.

Another has this to say, in the book titled Analysis and design Information system by James A. Senn. The benefits of computer aided tool. Information further improved the benefits of using tools. The time needed to perform tools decreases, labour intensity is reduced procedures are followed constantly and data describing the system and captured for storage in computer readable form.

- (1) Decrease Elapses time.
- (2) Automated tedious task.
- (3) Ensure Consistent Procedures.
- (4) Capture System Date.

In a related development in the book titled introduction to the Computer, the tool of business by WILLIAM .N. FUORI has this to say "Regardless of whether the system used to process the data is manual, mechanical or electronic, certain fundamental operations are:

- (1) Recording
- (2) Classification
- (3) Sorting
- (4) Calculating
- (5) Summarizing
- (6) Reporting

He went on to explain them this way.

Recording is the transcribing of data into a permanent form. -Classification or grouping of like terms or transaction.

Sorting arranging of data into sequence according to common characteristics.

Calculating or computing is the adding, subtracting, multiplying or dividing of raw data to produce useable result.

Summarizing involves the consolidating of data, emphasizing main points and tendencies.

Reporting once the data have been summarized, they must be reported to management or other concerned user(s) .

## **2.3 FEASIBILITY OF PRESENT SYSTEM**

The present system is operated manually. The students affairs department is in charge of students registration in the polytechnic.

The duties of the students affairs office are as follows:

- a. To give registration number to new students.
- b. To compile list of students during registration. Or computing the list.
- c. To compile students data in conjunction with the academic registrar.
- d. Prepare student and staff identity cards.
- e. Issue hostel form.

## **STUDENTS RECORDS IN NIGER STATE POLYTECHNIC ZUNGERU**

Students are issued with forms immediately they come back from the end of session break including new students since forms are designed in such a way that the necessary information or record required of a student can be found there.

### **STUDENT PERSONAL DATA**

All his/her personal data as name, date of birth, place of birth, local government, home town, residential address, postal address, sponsor, expected year of graduation, next of kin, medical report and so many other things, in addition you have mother's place of birth, Registration number, religion, State of origin.

A copy of the form is shown below:

The next place for registration is the bursary's office the bursar signs the form and writes the student's name. The next person that signs the form is the Students Affairs Officer. Officer in charge certify that the above named student has been registered into the polytechnic his\her registration number is.... ID card to be issued. the student affairs officer signs and write the date.

The student moves from there to the department he\she is admitted.

The H. O. D. signs too and register the student concerned. The student then moves to the clinic where he registers and is issued with a medical card.

The coach is also not left out, the coach signs and registers the students name. The admission officer then certify the concerned has been duly. The academic affairs

officer certify that the student has registered with the appropriate department to take care of his\her welfare\academic interest.

This forms are finally returned to the student affairs office, in submitting such forms they are accompanied with 3 files and three passports. This files are distributed this way, one to the H. O. d., the other one to the course Co-ordinator office, but the central system is the student affairs office, where every information required are kept.

### **HOW DOCUMENTS ARE KEPT**

These files are kept in cabinets, the cabinets are labelled based on the year of entry.

There is a central Register inform of a hard cover notebook where, each and every students enter his\her name.

In addition to the name you have your admission number, normally the year of admission is also included in the admission number.

### **RETRIEVAL OF INFORMATION**

Such is done by checking the cabinet where, the year of admission is written and the clerks search for the file. Sometimes since files are not easily seen or not seen at all.

### **EDITING OF RECORD**

Such is done by searching for the person's file concern, when such files are seen, the necessary amendments are made.

## 2.4 PROBLEM ASSOCIATED WITH THE EXISTING SYSTEM

All problems associated with the manual information processing system is equally found in the polytechnic's student affairs department such were seen through observation and discussion with the personal of the department.

1. They complained of inadequate storage facilities and that is more reason why some files are still lying on the ground.
2. They complained of some papers flying away that makes the information inadequate.
3. Sometimes you find it difficult to know where a particular student file is, so the whole thing becomes cumbersome.
4. When the ex-students comes back for their certificates you find it at times difficult to locate their files, not that such files are not seen but it takes time and the students will have to go round to get clearance from lecturers which takes time.
5. A better way of grouping students record is not in existence at all, who is repeating, who is withdrawn and others.

It is in line with these problems that the researcher feels, the system should be changed. The feasibility studies was embarked upon to see how suitable it will be to implement the new system as compared to the old system or manual way of keeping records.

Since the Institution was established in January 1977, it has been operating in the manual way and it has been characterized by the above mentioned problems.

## **2.5 WHY COMPUTERIZE STUDENTS RECORD IN THE POLYTECHNIC**

The school which has large number of students need to be computerized, such a system will store large volume of student record in the computer, because no matter the number of students in the school all the school need to do is to buy a computer with a large memory space to store such records in the hard disk of the computer and each time such records are needed, they can easily be accessed they can equally be stored in floppy disk.

### **SECURITY OF SUCH RECORDS**

The security of such records will be guaranteed because the password will be used by the data manager before one can have access to such records, this time around is not the question of papers flying away, some records are supposed to be kept in confidence such will be taken care of, sometime you see students just coming to pick up their files just to alter certain records or information, with computerization such students will not have access to such information.

Another very important reason why the records of the students should be computerized is to know who is still in school and who is no longer in school, in fact when one visits the students affairs department, where such records are kept at the open registry, there are students that are withdrawn but their files are still in cabinet



not only that there are students repeating but such students records or files are never updated.

The computerization of such department will in no small way help the school financially, the rough estimate spent on buying of files and each producing three files, the estimated market price of the file per one is about ₱10.00.

The number of staff in the open registry are up to four and just two of them can be trained and the rest are sent to other department, where manpower is lacking.

Sometimes when you get to the open registry, you will find out that a particular students record is not found but such records are found in the department, such problems arises as a result of late admitted students and such records are not appended in the existing records, with computerization the data manager will always be informed of the new students and such records will be appended in the existing files.

In summary, computerization is very important and necessary due to the reasons enumerated above.

## **CHAPTER THREE**

### **3.0 SYSTEM ANALYSIS AND DESIGN**

System analysis is defined as the methods of determining how best to use computers with other resources to perform tasks which meet the information requirements of an organization.

Also system analysis is concerned with converting the objectives of management as far as information and data are concerned into methods that are amenable processing by a computer. It is a link between management and software/hardware of computing.

System design is the analysis of the current problem to develop objectives for the proposed system. Systems analysis and design is a process similar to problem solving.

### **3.1 DATABASE MANAGEMENT SYSTEM (DBMS)**

A database management system (DBMS) is a computer based system to manage database or collection of database or files.

In database management system files are designed to allow many programs to share fields or allow many different types of access by student name, by student number e.t.c. When a change is made in field that change is made only once since a field only exists in one location.

Most data processing system require access to a master file. If more than one program had to use the same fields of data, these fields of ten are stored in more than one file. This practice causes a great deal of duplicated data to be stored.

### 3.2

## **METHOD OF DATA GENERATION**

This research was conducted in Niger State polytechnic Zungeru. The study is centered on the computerization of students' personal record of Niger State polytechnic Zungeru.

The information were collected through the most effective methods of data collection. They are through personal discussion or interview and observations.

Interviews were conducted with the students' Affairs official, senior Assistant personal officers, clerks and some students.

I tend to ask so may questions as regard to student's personal record keeping in the institution. I kept in touch with the open registry and found out that certain files were left uncered for, I ask why such files were left there, I was made to understand that no enough cabinet to keep them. And some were for people whose data were not complete.

There are files that the owners cannot be identified at all, because no proper records are kept for such files. Observations in the cause of studies there, when a student comes to ask for his file, it takes these clerks the next one or two hours to get out these files. Sometimes, such files are wrongly shelved, while other time such files are not even found.

Another significant observation is the way the papers in such files are allowed to fly out without file tags, such missing papers makes the information inadequate.

Ultimately, statistics based on students' records and reports are needed at all levels, local, state national and international by all persons and organizations interested in the institution or involved in decision making.

### 3.3 **ANALYSIS OF THE PROGRAM.**

This chapter gives a brief description of the operational procedures involved in the student's personal record keeping system of Niger State Polytechnic Zungeru.

It also explain the major problems identified in manual record keeping systems.

However, having undergone an intensive postgraduate program in computer science, I'm fully convinced beyond reasonable doubt that computer can be used to solve virtually all problems of record keeping, using a well designed program. At the end of this project a computer software will be developed, which can be used to process students' personal record and store these records for future reference.

### 3.4 **COMPUTER PROGRAMMING/CODING**

The Niger State polytechnic Zungeru Dbase computer programs for the students' personal record keeping system.

The Dbase II plus is a relational database, a database file is organized in the form of a table made up of rows which are records. The records of a database file must have the same structures and must contain the same type of information.

### **3.5 MODULAR PROGRAM STRUCTURE (PROCEDURE)**

Modular program structure shows the logical relationship between the processes and the way in which data has to be moused to support these activities. Duties to be performed in the modular structure include MAIN MENU. This displays the menu of this new system. It consist of the sub programs to be performed in the system.

### **3.6 STRUCTURE REGISTRATION**

This is for the registration of students in the polytechnic at the beginning of each semester/session.

#### **COURSE CODE CREATION**

This deals with course to be offered by all the students in the polytechnic for a particular semester.

#### **EXAM/CONTINUOUS CREATION**

Store scores obtained by students in the Exams/Continuous Assessment.

#### **G.P.A COMPUTATION**

The grade pint average (G.P.A) and the cumulative grade point average (C.G.P.A) are being computed for all the students in the polytechnic.

#### **FACULTY/DEPARTMENT CODE GENERATION**

This deals with the faculty/Department the student is offered admission into for all the students in the polytechnic.

## NEW SEMESTER/SESSION

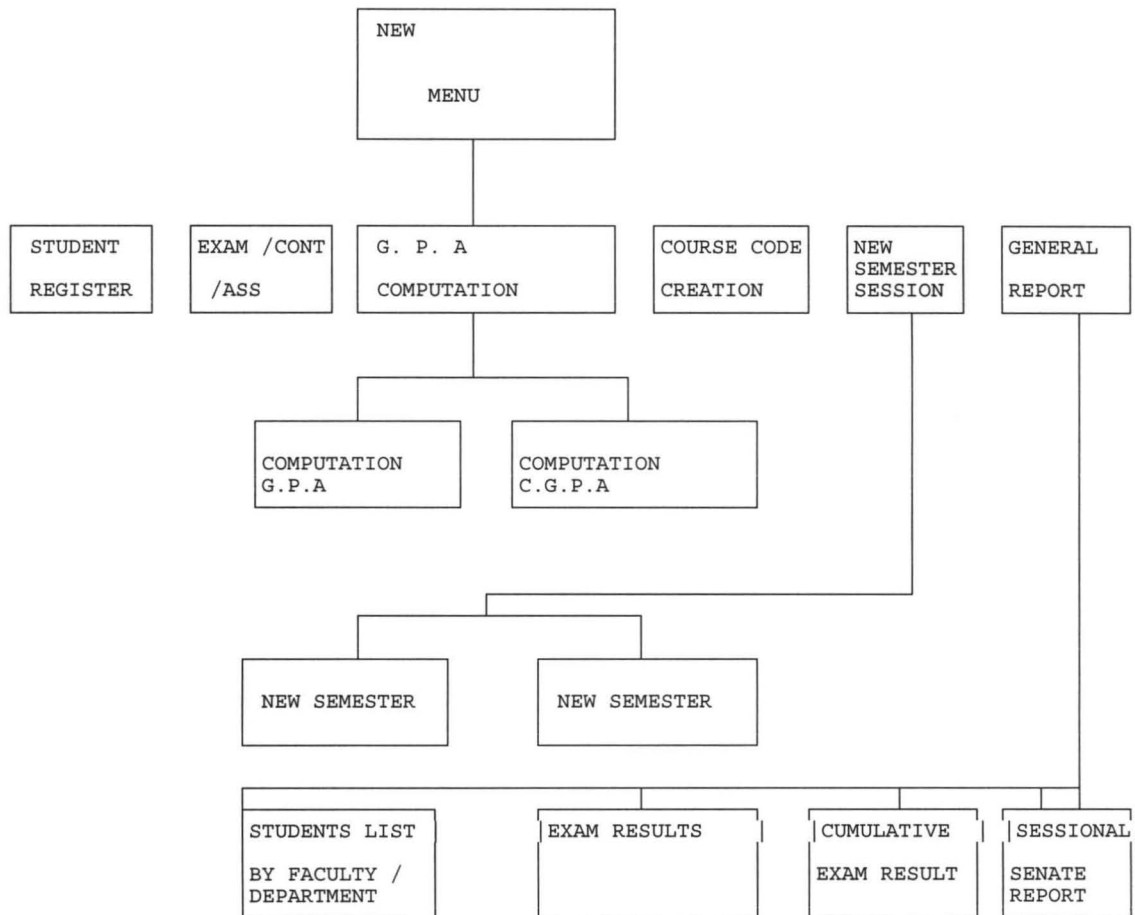
Prepare the system for fresh registration and data computing.

This part is mainly concerned with the generation of reports on students data.

## EXIT

This gets you out of the program.

FIGURE 3.4(i) SYSTEM STRUCTURE



## **CHAPTER FOUR**

### **4.0 SOFTWARE DEVELOPMENT AND IMPLEMENTATION**

#### **INTRODUCTION**

It is important to note that a computer system does nothing until directed to do so, by the user. A program which consists of instructions to the computer, is how anyone can tell a computer to perform a particular task.

These instructions are logically produced step-by-step and assembled through the act of programming. Programmers use a variety of programming languages, such as COBOL, FORTRAN and PASCAL to communicate instructions to the computer.

In developing this package, a suitable user friendly programming language is used.

The language chosen for development is the database.

#### **ADVANTAGES**

1. Allows the creation of data structure easily.
2. It is user friendly and relatively flexible.
3. Detects errors easily whether run-time or compiler errors
4. It can easily be used with clipper software for the compilation of the source program to machine executable format.
5. Flexible text editor for writing program.

## **IMPLEMENTATION**

There is the need to implement a new system whenever, it is developed. The implementation process is made of three basic activities which include training, change over procedure (conversion) and post implementation.

### **CHANGE OVER PROCEDURE**

The change over procedure from old to the new system may take place when:

1. The system has been proved to the satisfaction of the systems and the other implementation activities have been completed.
2. User managers are satisfied with the results of the system tests, staff training and reference manuals.
3. The target date for changeover is due.

## **DOCUMENTATION**

Installation and detailed description of the modules of the system. The requirement of the installation with a personal computer which has disk operating system of not less than 5.0 version.

The software developed is stored on 3.5 inch floppy disk WITH 1.44mb STORAGE SPACE.



#### 4.1 HOW THE NEW SYSTEM WILL BE USED IN TERMS OF INPUT SPECIFICATION, OUTPUT SPECIFICATION AND REQUIREMENTS.

##### INPUT SPECIFICATION

In examination offices, the input data are the students' scores in their various subjects. In summary many at times, class teachers do mistakingly record students marks against wrong subjects. In order to prevent this mix-up, the students will be grouped into their departments and departmental database files will be created for them.

Fig. 4.2 STRUCTURE FOR DATABASE

FIELD	FIELD NAME	TYPE	WIDTH	DEC
1	EXAM. NO.	C	8	
2	SURNAME	C	9	
3	INITIALS	C	2	
4	DEPARTMENT	C	3	
5	PART	N	3	
6	SEMESTER	N	2	
7	SESSION	C	7	
8	COURSE	C	6	
9	TITLE	C	15	
10	C.A	N	5	2
11	EXAM	N	5	2
12	UNIT	N	5	2
13	SCORES	N	5	2

14	PASSED	N	2	
15	GRADE	C	2	
16	GRADE NO.	N	2	

After creating these database files, students' records will be entered in each database file for testing. These file structures are also to be used anytime a new file is to be created either for a new term or a new session.

### **OUTPUT SPECIFICATION**

The software to be designed will be user friendly that non-computer scientist can use it. This is made possible because of the provision of user's Guide tells the user the available options open to him. From these options, he is expected to pick one.

Instructions on how to choose an option will be displayed, usually at the bottom of the screen. Some of the screen outputs in this project are shown below.

In summary the system is very easy to use.

NIGER STATE POLYTECHNIC, ZUNGERU

COMPUTERISED STUDENT RECORD - FIRST LEVEL MENU

CODE

OPERATION

- |   |                      |
|---|----------------------|
| 1 | STUDENT REGISTRATION |
| 2 | REPORTS PRODUCTION   |
| 3 | RESULT UPDATE        |
| 4 | SESSION/SEMESTER     |
| 5 | EXIT                 |

Press a TASK CODE:

NIGER STATE POLYTECHNIC, ZUNGERU

STUDENT REGISTRATION MENU

CODE

OPERATION

- |   |                                 |
|---|---------------------------------|
| 1 | ADD STUDENT REGISTRATION DATA   |
| 2 | EDIT STUDENT REGISTRATION DATA  |
| 3 | VIEW STUDENT REGISTRATION DATA  |
| 4 | ERASE STUDENT REGISTRATION DATA |
| 5 | EXIT                            |

Press a TASK CODE:

NIGER STATE POLYTECHNIC, ZUNGERU  
DEPARTMENT OF BUSINESS STUDIES

STUDENT REGISTRATION FORM - ADDING RECORD

Enter STUDENT NUMBER (or 99/999 to exit): 97/013

SURNAME: MOHAMMED OTHER NAMES: JUBRIL

STATE OF ORIGIN: NIGER SEX: M AGE: 21

DEPARTMENT OF: CIVIL ENGINEERING

DIPLOMA LEVEL: 1

TRANSFER DATA TO FILE (Y/N):

NIGER STATE POLYTECHNIC, ZUNGERU

STUDENT REGISTRATION FORM - EDITING RECORD

Enter STUDENT NUMBER (or 99/999 to exit): 97/013

SURNAME: MOHAMMED OTHER NAMES: JUBRIL

STATE OF ORIGIN: NIGER SEX: M AGE: 21

DEPARTMENT OF: CIVIL ENGINEERING

DIPLOMA LEVEL: 1

TRANSFER CHANGES TO FILE (Y/N):

NIGER STATE POLYTECHNIC, ZUNGERU

STUDENT REGISTRATION FORM - VIEWING RECORD

Enter STUDENT NUMBER (or 99/999 to exit): 97/013

SURNAME: MOHAMMED                      OTHER NAMES: JUBRIL

STATE OF ORIGIN: NIGER                      SEX: M              AGE: 21

DEPARTMENT OF: CIVIL ENGINEERING

DIPLOMA LEVEL: 1

VIEWING RECORD - PRESS ANY KEY TO CONTINUE

NIGER STATE POLYTECHNIC, ZUNGERU

STUDENT REGISTRATION FORM - DELETING RECORD

Enter STUDENT NUMBER (or 99/999 to exit): 97/013

SURNAME: MOHAMMED                      OTHER NAMES: JUBRIL

STATE OF ORIGIN: NIGER                      SEX: M              AGE: 21

DEPARTMENT OF: CIVIL ENGINEERING

DIPLOMA LEVEL: 1

IS THIS THE RECORD TO BE DELETED (Y/N) :

NIGER STATE POLYTECHNIC, ZUNGERU

REPORT PRODUCTION MENU

CODE

OPERATION

1	STUDENT INDIVIDUAL REPORT
2	GENERAL CLASS RESULT
3	EXIT

Press a TASK CODE:

NIGER STATE POLYTECHNIC, ZUNGERU

RESULT UPDATE MENU

CODE

OPERATION

1	EXAMINATION SCORES
2	CONTINUOUS ASSESSMENT SCORES
3	EXIT

Press a TASK CODE:

## CHAPTER FIVE

### 5.0 POST IMPLEMENTATION REVIEW

The new system that is computerized students personal record system of Niger State polytechnic Zungeru has facility for back up files against unauthorized users. This allow for more than one copy of a file or a program. That is files on hard disk are copied to a floppy disk to serve as back up so that the other copies can still be accessed.

The computerized student personal record of Niger State Polytechnic Zungeru has logging facility via user's registration number. This program protects data in net work against other users as they can not temper with data or instructions stored in computer memory with this registration number.

There is also the facility that makes it possible for database file to be encrypted so t hat the data in it is converted to coded values.

The records are arranged serially and this makes it easy to maintain the file in physical sequence by merging, sorting or doing any other manipulation, either when new file is created or later on when new records are updated to the end of the file.

User's of the system should be well trained in the operational and procedural methods and there must be restriction on outsiders.

Security involves the need to protect the corporate information database, its integrity and accessibility as well as prohibiting an infringement on stored files.

There must be clearly laid down personal policies and procedures by the computer centre management. These policies are such that may lead to data/program files destruction.

Having viewed and analysed the features, advantages of both the old i.e. manual system of record keeping and the New that is computerised record keeping system we can safely conclude without contradiction that the computerised (New system is better than the old (existing) one.

## 5.1 **RECOMMENDATION**

Record or information is the life wire of every organization. So the need for computerization of an information management system or record keeping system cannot be over emphasized as this will lead to improvement an efficiency and enhance effectiveness. It also has advantages of minimizing cost from the polytechnic.

The training of personal in the operational and procedure methods of personal record keeping or information management.

## 5.2 **CONCLUSION**

Having identified all or most of the problems associated with old system (manual system) of students record keeping in the polytechnic and with the increasing number of intakes of students which also amounts to large volume of data, lack of security of records and most importantly space for storage that is why a computerised system of record keeping is designed and developed for Niger state polytechnic Zungeru.



Generally, the project has helped me to know and understand what system design and development entails and how to go about it, not only in the school as a project but also for future needs.

In any modern library, information processing needs to be fast, efficient and error free.

To achieve this computers has to come in and more so a system to do the processing must be developed.

## REFERENCES

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## APPENDIX

```
set talk off
set stat off
set scor off
set date brit
set proc to poly
do while .t.
  clear
  mstnumb = spac(6)
  @ 0,5 to 24,74 doub
  @ 2,28 say 'NIGER STATE POLYTECHNIC, ZUNGERU'
  @ 4,6 to 4,73 doub
  @ 5,16 to 7,63 doub
  @ 6,17 say 'COMPUTERISED STUDENT RECORD - FIRST LEVEL MENU'
  @9,22 say 'CODE' + space(21) + 'OPERATION'
  @ 8,21 to 10,26 doub
  @8,46 to 10,56 doub
  @11,23 say '1' + space(19) + 'STUDENT REGISTRATION'
  @13,23 say '2' + space(19) + 'REPORTS PRODUCTION'
  @15,23 say '3' + space(19) + 'RESULT UPDATE'
  @17,23 say '4' + space(19) + 'SESSION/SEMESTER'
  @19,23 say '5' + space(19) + 'EXIT'
  @21,29 to 23,50 doub
  @22,30 say 'Press a TASK CODE:'
do while .t.
  code = ''
  @22,49 get code pict '!'
  read
  if code = '1' .or. code = '2' .or. code = '3' .or. code = '4' .or. code = '5'
```

```
exit
endif
enddo
do case
case code = '1'
  do regmenu
case code = '2'
  do repmenu
case code = '3'
  do resmenu
case code = '4'
  do change
otherwise
  exit
endcase
enddo
clear
return
```

PROC ADD

```
do while .t.
  clear
  mstnumb = spac(6)
  @ 1,5 to 24,74 doub
  @ 3,24 say 'NIGER STATE POLYTECHNIC, ZUNGERU'
  @ 6,25 say 'DEPARTMENT OF BUSINESS STUDIES'
  @ 7,6 to 7,73 doub
```

```

@ 22,6 to 22,73 doub
@ 8,18 to 10,60 doub
@ 9,19 say 'STUDENT REGISTRATION FORM - ADDING RECORD'
@ 12,8 say 'Enter STUDENT NUMBER (or 99/999 to exit):' get mstnumb pict
'99/999'
read
if mstnumb = '99/999'
  exit
endi
use dip1
loca for mstnumb = stnumb
if found()
  @ 23,17 say 'DUPLICATION OF STUDENT NUMBER - PRESS ANY KEY'
  set cons off
  wait
  set cons on
  loop
else
  use dip2
  loca for mstnumb = stnumb
  if found()
    @ 23,17 say 'DUPLICATION OF STUDENT NUMBER - PRESS ANY KEY'
    set cons off
    wait
    set cons on
    loop
  endi
endi
msurname = spac(15)
mothname = spac(20)

```

```

morigin = spac(15)
msex = ' '
mage = ' '
mdept = spac(40)
mdiploma = ' '
@ 14,8 say 'SURNAME:' get msurname pict '@!'
@ 14,37 say 'OTHER NAMES:' get mothname pict '@!'
@ 16,8 say 'STATE OF ORIGIN:' get morigin pict '@!'
@ 16,45 say 'SEX:' get msex pict '!'
@ 16,57 say 'AGE:' get mage
@ 18,8 say 'DEPARTMENT OF:' get mdept pict '@!'
@ 20,28 say 'DIPLOMA LEVEL:' get mdiploma
read
if mdiploma = '1'
  use dip1
else
  use dip2
endi
@ 23,25 say 'TRANSFER DATA TO FILE (Y/N):'
answer = spac(1)
do while .t.
  @ 23,54 get answer pict '!'
  read
  if answer = 'Y' .or. answer = 'N'
    exit
  endi
  answer = spac(1)
endd
if answer = 'Y'
  appe blan

```

```

    repl stnumb with mstnumb,surname with msurname,othname with mothname
    repl origin with morigin,sex with msex,age with mage,dept with mdept
    repl diploma with mdiploma
  endi
endd
clea
clos all
retu

```

## PROC VIEW

```

do while .t.
  clear
  mstnumb = spac(6)
  @ 1,5 to 24,74 doub
  @ 3,28 say 'NIGER STATE POLYTECHNIC, ZUNGERU'
  @ 7,6 to 7,73 doub
  @ 22,6 to 22,73 doub
  @ 8,18 to 10,61 doub
  @ 9,19 say 'STUDENT REGISTRATION FORM - VIEWING RECORD'
  @ 12,8 say 'Enter STUDENT NUMBER (or 99/999 to exit):' get mstnumb pict
  '99/999'
  read
  if mstnumb = '99/999'
    exit
  endi
  use dip1
  loca for mstnumb = stnumb
  if .not. found()

```

```
use dip2
loca for mstnumb = stnumb
if .not. found()
  @ 23,21 say 'ILLEGAL REGISTRATION NUMBER - PRESS ANY KEY'
  set cons off
  wait
  set cons on
  loop
endi
endi
msurname = surname
mothname = othname
morigin = origin
msex = sex
mage = age
mdept = dept
mdiploma = diploma
@ 14,8 say 'SURNAME:' get msurname pict '@!'
@ 14,37 say 'OTHER NAMES:' get mothname pict '@!'
@ 16,8 say 'STATE OF ORIGIN:' get morigin pict '@!'
@ 16,45 say 'SEX:' get msex pict '!'
@ 16,57 say 'AGE:' get mage
@ 18,8 say 'DEPARTMENT OF:' get mdept pict '@!'
@ 20,28 say 'DIPLOMA LEVEL:' get mdiploma
clea gets
@ 23,19 say 'VIEWING RECORD - PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
endd
```



```
clea
clos all
retu
```

```
PROC INDIV
```

```
stor 2 to c1,c2,c4,c7,c8,c9,c10,c11,c16,c17
stor 3 to c3,c5,c6,c12,c13,c14,c15
stor 0 to p
use dip1
set devi to prin
do while .not. eof()
  mstnumb = stnumb
  msurname = surname
  mothname = othname
  mdiploma = diploma
  mcgpa = cgpa
  mca101 = ca101
  mca102 = ca102
  mca103 = ca103
  mca104 = ca104
  mca105 = ca105
  mca106 = ca106
  mca107 = ca107
  mca108 = ca108
  mca109 = ca109
  mca110 = ca110
  mex101 = ex101
  mex102 = ex102
```

mex103 = ex103

mex104 = ex104

mex105 = ex105

mex106 = ex106

mex107 = ex107

mex108 = ex108

mex109 = ex109

mex110 = ex110

mt101 = mca101 + mex101

mt102 = mca102 + mex102

mt103 = mca103 + mex103

mt104 = mca104 + mex104

mt105 = mca105 + mex105

mt106 = mca106 + mex106

mt107 = mca107 + mex107

mt108 = mca108 + mex108

mt109 = mca109 + mex109

mt110 = mca110 + mex110

mt = mt101

do grade

g101 = g

mgpa = mgpa + p \* c1

mt = mt102

do grade

g102 = g

mgpa = mgpa + p \* c2

mt = mt103

do grade

g103 = g

mgpa = mgpa + p \* c3

```
mt = mt104
do grade
g104 = g
mgpa = mgpa + p * c4
mt = mt104
do grade
g104 = g
mgpa = mgpa + p * c4
mt = mt105
do grade
g105 = g
mgpa = mgpa + p * c5
mt = mt106
do grade
g106 = g
mgpa = mgpa + p * c6
mt = mt107
do grade
g107 = g
mgpa = mgpa + p * c7
mt = mt108
do grade
g108 = g
mgpa = mgpa + p * c8
mt = mt109
do grade
g109 = g
mgpa = mgpa + p * c9
mt = mt1010
do grade
```

```

g1010 = g
mgpa = mgpa + p * c10
mgpa = mgpa / 23
mcgpa = (mcgpa + mgpa) / 2
repl t101 with mt101, g101 with mg101, t102 with mt102, g102 with mg102
repl t103 with mt103, g103 with mg103, t104 with mt104, g104 with mg104
repl t105 with mt105, g105 with mg105, t106 with mt106, g106 with mg106
repl t107 with mt107, g107 with mg107, t108 with mt108, g108 with mg108
repl t109 with mt109, g109 with mg109, t110 with mt110, g110 with mg110
repl gpa with mgpa, cgpa with mcgpa
skip
endd
use
clear
return

```

PROC EDIT

```

do while .t.
clear
mstnumb = spac(6)
@ 1,5 to 24,74 doub
@ 3,24 say 'NIGER STATE POLYTECHNIC, ZUNGERU'
@ 7,6 to 7,73 doub
@ 22,6 to 22,73 doub
@ 8,17 to 10,61 doub
@ 9,18 say 'STUDENT REGISTRATION FORM - EDITTING RECORD'
@ 12,8 say 'Enter STUDENT NUMBER (or 99/999 to exit):' get mstnumb pict
'99/999'

```

```

read
if mstnumb = '99/999'
  exit
endi
use dip1
loca for mstnumb = stnumb
if .not. found()
  use dip2
  loca for mstnumb = stnumb
  if .not. found()
    @ 23,21 say 'ILLEGAL REGISTRATION NUMBER - PRESS ANY KEY'
    set cons off
    wait
    set cons on
    loop
  endi
endi
msurname = surname
mothname = othname
morigin = origin
msex = sex
mage = age
mdept = dept
mdiploma = diploma
@ 14,8 say 'SURNAME:' get msurname pict '@!'
@ 14,37 say 'OTHER NAMES:' get mothname pict '@!'
@ 16,8 say 'STATE OF ORIGIN:' get morigin pict '@!'
@ 16,45 say 'SEX:' get msex pict '!'
@ 16,57 say 'AGE:' get mage
@ 18,8 say 'DEPARTMENT OF:' get mdept pict '@!'

```

```

@ 20,28 say 'DIPLOMA LEVEL:' get mdiploma
read
@ 23,23 say 'TRANSFER CHANGES TO FILE (Y/N):'
answer = spac(1)
do while .t.
  @ 23,55 get answer pict '!'
  read
  if answer = 'Y' .or. answer = 'N'
    exit
  endi
  answer = spac(1)
endd
if answer = 'Y'
  repl stnumb with mstnumb,surname with msurname,othname with mothname
  repl origin with morigin,sex with msex,age with mage,dept with mdept
  repl diploma with mdiploma
endi
endd
clea
clos all
retu

```

## PROC DELETE

```

set talk off
set stat off
do while .t.
  clear
  mstnumb = spac(6)

```

```

@ 1,5 to 24,74 doub
@ 3,24 say 'NIGER STATE POLYTECHNIC, ZUNGERU'
@ 7,6 to 7,73 doub
@ 22,6 to 22,73 doub
@ 8,17 to 10,61 doub
@ 9,18 say 'STUDENT REGISTRATION FORM - DELETING RECORD'
@ 12,8 say 'Enter STUDENT NUMBER (or 99/999 to exit):' get mstnumb pict
'99/999'
read
if mstnumb = '99/999'
    exit
endi
use dip1
loca for mstnumb = stnumb
if .not. found()
    use dip2
    loca for mstnumb = stnumb
    if .not. found()
        @ 23,21 say 'ILLEGAL REGISTRATION NUMBER - PRESS ANY KEY'
        set cons off
        wait
        set cons on
    loop
    endi
endi
msurname = surname
mothname = othname
morigin = origin
msex = sex
mage = age

```

```

mdept = dept
mdiploma = diploma
@ 14,8 say 'SURNAME:' get msurname pict '@!'
@ 14,37 say 'OTHER NAMES:' get mothname pict '@!'
@ 16,8 say 'STATE OF ORIGIN:' get morigin pict '@!'
@ 16,45 say 'SEX:' get msex pict '!'
@ 16,57 say 'AGE:' get mage
@ 18,8 say 'DEPARTMENT OF:' get mdept pict '@!'
@ 20,28 say 'DIPLOMA LEVEL:' get mdiploma
clea gets
@ 23,19 say 'IS THIS THE RECORD TO BE DELETED (Y/N):'
answer = spac(1)
do while .t.
  @ 23,59 get answer pict '!'
  read
  if answer = 'Y' .or. answer = 'N'
    exit
  endi
  answer = spac(1)
endd
if answer = 'Y'
  dele
  pack
endi
endd
clea
clos all
retu

```



## PROC REGMENU

```
set talk off
set stat off
set scor off
set date brit
do while .t.
  clear
  @ 0,5 to 24,74 doub
  @ 2,24 say 'NIGER STATE POLYTECHNIC, ZUNGERU'
  @ 4,6 to 4,73 doub
  @ 5,26 to 7,52 doub
  @ 6,27 say 'STUDENT REGISTRATION MENU'
  @ 9,22 say 'CODE' + space(21) + 'OPERATION'
  @ 8,21 to 10,26 doub
  @ 8,46 to 10,56 doub
  @ 11,24 say '1' + space(10) + 'ADD STUDENT REGISTRATION DATA'
  @ 13,24 say '2' + space(10) + 'EDIT STUDENT REGISTRATION DATA'
  @ 15,24 say '3' + space(10) + 'VIEW STUDENT REGISTRATION DATA'
  @ 17,24 say '4' + space(10) + 'ERASE STUDENT REGISTRATION DATA'
  @ 19,24 say '5' + space(10) + 'EXIT'
  @ 21,29 to 23,50 doub
  @ 22,30 say 'Press a TASK CODE:'
  do while .t.
    code = ''
    @ 22,49 get code pict '!'
    read
    if code = '1' .or. code = '2' .or. code = '3' .or. code = '4' .or. code = '5'
    exit
  endif
```

```
enddo
do case
case code = '1'
do add
case code = '2'
do edit
case code = '3'
do view
case code = '4'
do delete
otherwise
exit
endcase
enddo
clear
return
```

## PROC RESMENU

```
do while .t.
clear
@ 0,5 to 24,74 doub
@ 3,24 say 'NIGER STATE POLYTECHNIC, ZUNGERU'
@ 5,6 to 5,73 doub
@ 7,30 to 9,49 doub
@ 8,31 say 'RESULT UPDATE MENU'
@12,22 say 'CODE' + space(19) + 'OPERATION'
@11,21 to 13,26 doub
@11,44 to 13,54 doub
```

```
@15,23 say '1' + space(15) + 'EXAMINATION SCORES'  
@17,23 say '2' + space(15) + 'CONTINUOUS ASSESSMENT SCORES'  
@19,23 say '3' + space(15) + 'EXIT'  
@21,29 to 23,50 doub  
@22,30 say 'Press a TASK CODE:'  
do while .t.  
code = ''  
@22,49 get code pict '!'  
read  
if code = '1' .or. code = '2' .or. code = '3'  
exit  
endif  
enddo  
do case  
case code = '1'  
do ex  
case code = '2'  
do ca  
otherwise  
exit  
endcase  
enddo  
clear  
return
```

PROC REPMENU

```
set talk off  
set stat off
```

```

set scor off
set date brit
do while .t.
  clear
  @ 0,5 to 24,74 doub
  @ 3,24 say 'NIGER STATE POLYTECHNIC, ZUNGERU'
  @ 5,6 to 5,73 doub
  @ 7,28 to 9,51 doub
  @ 8,29 say 'REPORT PRODUCTION MENU'
  @12,22 say 'CODE' + space(19) + 'OPERATION'
  @11,21 to 13,26 doub
  @11,44 to 13,54 doub
  @15,23 say '1' + space(15) + 'STUDENT INDIVIDUAL RESULT'
  @17,23 say '2' + space(15) + 'GENERAL CLASS RESULT'
  @19,23 say '3' + space(15) + 'EXIT'
  @21,29 to 23,50 doub
  @22,30 say 'Press a TASK CODE:'
do while .t.
  code = ''
  @22,49 get code pict '!'
  read
  if code = '1' .or. code = '2' .or. code = '3'
  exit
endif
enddo
do case
case code = '1'
  do indiv
case code = '2'
  do general

```

otherwise

exit

endcase

enddo

clear

return