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Research Paper

A Computerized Educational Administrative Information System For Post-Primary School Management Board (Ppsmb) Enugu State

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***ABSTRACT*:-** The manual approach used in the regulation of the school activities by the management board is very tedious and stressful. This research work investigated into the complications encountered due to the debilitation of man-power admitted into the school management with respect to how in depth it affects other operational system that conduct in school with a view of designing a computerized system to handle the work with less difficulty for an effective decision-making. In the course of the study, an existing system was digested and its deficiencies were detected and emphatically analyzed, after which solutions to the problems were proffered in the new designed computerized system that is reliable and more interactive. The new system terminates all the problems experienced with the existing system. The case study is Post-Primary School Management Board (PPSMB) Enugu.

Keywords:- Manual approach, administrative information and PPSMB.

I. INTRODUCTION

Education is an indispensable system on which the life of everyone is built and as well stimulates the entire life application. It could be referred to as a process designed for the acquisition and dissemination of skills and knowledge to the posterity of the nation. The identified system tends to be implemented in diverse dimensions basically in schools.

For the past ten years, it has been discovered that schools are not what they were as attributed to the wide ranging changes which have occurred and brought new pressure associated with increased size. On the account of this, an increasing complexity of organization has been instigated so that stresses and anxieties of choice have been added to those of dimension.

Education Management Information System not only means to gather statistics from the school by following people; models, method, procedure, processes, rules and regulations. But it actually also relates with the emerging computer technology to get all mentioned functions work together to provide comprehensive, integrated, relevant, reliable, unambiguous and timely data to educate leaders, decision makers, planners and managers to perform their responsibility efficiently to achieve the set goals.

Computer technology provides technical support to the educational management information system by providing right people with right information at the right time to make best decision planning and monitoring in the best interest of organization.

The competent educational administration constitute the intensity of education and its impediments mount a disturbing diffusion and obscuring of purpose and all these changes concede with a major recruiting of curriculum and methodology. In most cases, the manual method adopted in monitoring some school activities undermine other roles like enrolment of students, computation of student's result, examination supervision and making of examination scripts.

II. AIMS/OBJECTIVES

The basic aim of the study is to provide a lasting solution to the problems emanated from the manual means of school management. They are as follows:

- To produce a system this tends to increase the predictability of the organization by assessing critically its obsolescence in relation to fresh challenges.
- To produce a reliable system that would coordinate most of the school activities.
- To produce a flexible and comprehensive system that would meet up with the future development in the school.

- To design and develop a computerized system that would handle the execution of school activities most especially post-primary schools so as to liquidate all the problems identified with the existing system.

Statement of the Problem

The sudden increase in the number of students enroll in each school has transcended the manipulation of the existing system used by the school administrators and this prompted a lot of problems which encompass the inaccurate computation of students result by the staffs on the account of non-availability of adequate number of computer systems for the computation. This is a very ugly development. Also, it was very complicated to observe when the enrolment of students should cease since there was no efficient system for the estimation of enrolment ratio to give a signal when the enrolment tends to move beyond the projection. All these and more are encountered due to the debilitation of the prevailing system used. It was very difficult to point out students who cheat in the course of examination as attributed to the non-standard measure used in the supervision of the examination. The staff complained seriously on the unnecessary stress encountered while marking the examination answer scripts manually.

III. RESEARCH METHODOLOGY, SYSTEM INVESTIGATION AND ANALYSIS

Design Methodology

The methodology used is the Structured System and Design Methodology (SSADM), since it is an acceptable software engineering principle for the design of software. Structured System Analysis and Design Method (SSADM) is a system approach to the analysis and design of information systems. SSADM is a waterfall method by which an Information System design can be arrived at. The SSADM method involves the application of a sequence of analysis, documentation and design tasks concerned with: The three most important techniques that are used in SSADM are

- Logical Data Modeling

This is the process of identifying, modeling and documenting the data requirement of the system. Being designed.

- Data Flow Modeling.

This is the process of identifying, modeling and documenting how data moves around an information system.

- Entity Behavior Modeling

This is the process of identifying, modeling and documenting the events that affect each entity and the sequence in which these events occur.

The SSADM method involves the application and design tasks concerned with the following.

- Feasibility Stage
- Requirement Analysis
- Requirements Specification Stage
- Logical System Specification Stage
- Physical and Design stage

Existing System Investigations

In the investigation of the system input and output forms, the researcher started with the method of data collection adopted as it relates to the modern system.

There was in-depth and comprehensive studies carried out on the modern system so as to come up with relevant facts that will be helpful in designing the proposed system, it consist of the fact-finding methods and analysis of the facts found.

System investigation was carried out Post Primary School Management Board, Enugu State, in order to find the areas that need computerization and the setback that are involve in the old system.

The observation made from the existing system of information system used for the specification of the major operation and routines that will be going on (carried on) in the new system as having studied and analyzed the old system. The proposed system will be designed to enable and enhance efficient and effective information system procedure. The new system is almost the same as the old system except for some of the powerful modifications that will help to arouse the user's interest. These exceptional modifications include:

a) Database to store students record
b) Automatic generation of students registration number
c) Students termly result calculation
d) Students cumulative result calculation and promotion to a new class

Problems of the Existing System

During the investigation, it was discovered that computation of students result was done manually, mechanically and mentally with the aid of calculators and this results in waste of materials, time and other

resources, roughness of the result booklet, duplication of jobs, lost of files and result sheet, dubious act, etc. Other problem which necessitates this study includes:

- The problem of stress faced by teachers due to manual computation of students result.
- The problem of students being reluctant to study their books as attributed to non-standard supervision of class test and examination.
- The problem of genuineness of result being undermined due to the weak system being used.
- The problem of students cheating in the examination hall since the inadequate number of supervisors is sent.
- The problem of student not having a sound academic performance due to the over admission of students in one class.

Justification for the New System

With the computerization of these processes a lot of problems which were in the current system will either be overcome or minimized. Below are some other justified reasons.

Time:- The speed of a computer's central processing unit measured in millions of instruction per second (MIPS). This implies that information for management as regard to educational administration can be produced faster and this enhances the decision making process at the various level of administration. It reduced the time used during fraction calculation.

Overload:- In terms of overload, it saves the staff from the hard labor. Huge data or record can be shifted through and summarized in short period of time.

Storage Device:- Files and records can be stored in magnetic tapes or disks. It is from this storage of files and records that the security is enhance and save some file when there is a fire disaster.

Versatile:- It is versatile because it can cope more readily than manual system with increased work-loads which occurs when results are being worked out immediately after examination as long as input can be made available and the output is dealt with. It is therefore said to be flexible.

Reliable and Diligent:- Computer is reliable and diligent because it will not absent itself from duty due to illness and will not arrive late or spend lengthy lunch-hours over a bottle of wine. Once a program is running, operation is automatic and no further human intervention is necessary and execution is accurate.

Computerization create avenue for random enquires to be easily performed on stored data. It de-personalizes some processes and services.

Computerization would equally give the staffs and the school administrators the joy and satisfaction of being a part of the computer age and technology.

Hence, of old system has been carefully studied for the purpose of this project and the settlement taken into consideration. This proposed new system is a formulation of feasible solution to the problem observed in the old system.

IV. SYSTEM DESIGN AND IMPLEMENTATION

Output Specification and Design

The output specification and design of the educational administration as regard to the computation of the students' result in the post-primary schools is given below:

The system computes the termly report and termly report average for the three terms and determines the remark too. It then computes the annual report average for the academic year and the final result.

Input Specification and Design

The input specification and design for the administration of the school as regard to the computation of the students' result is given below:

Table 1: The file for the individual result has the following field specifications:

Field Name	Field Description	Field Type	Field Width
SN	Serial Number	Numeric	2 Character
SUBJ &	Subjects	Alphabetic	26 Character
SCR	Score	Numeric	3 Character
GO &	Grade Obtained	Alphabetic	7 Character
REMARK &	Remarks	Alphabetic	10 Character

N/B: The courses in which the student is referred to have the same field descriptions and widths as above. The file is a sequential file.

Procedure Chart

The procedure chart for the new system is given below:-

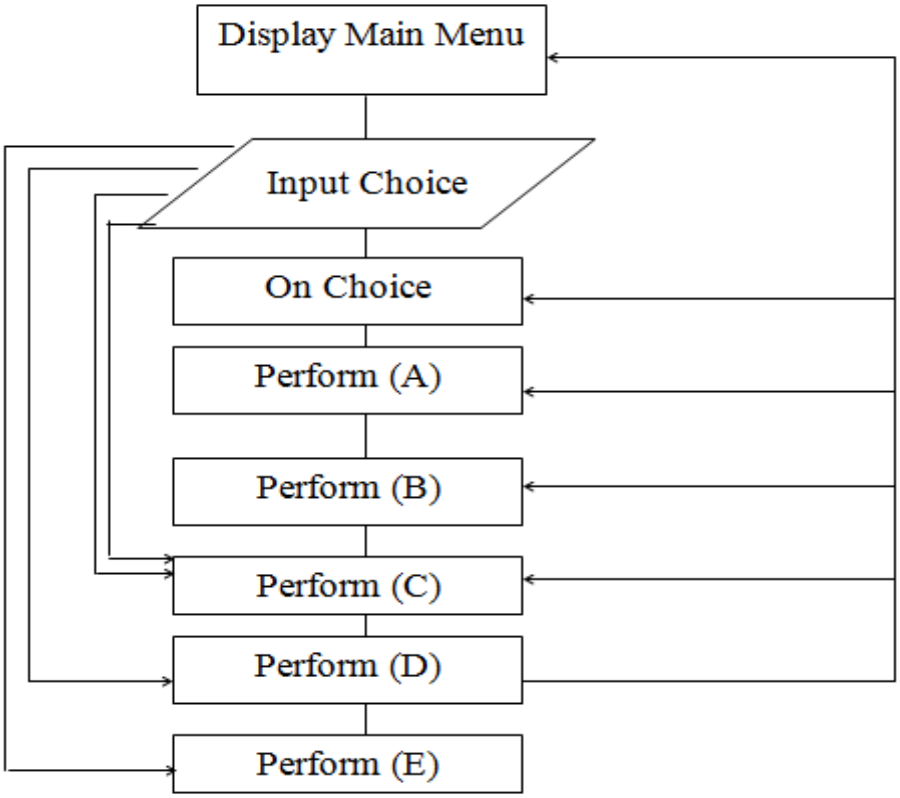


Figure 1 Procedure Chart

System Flowchart

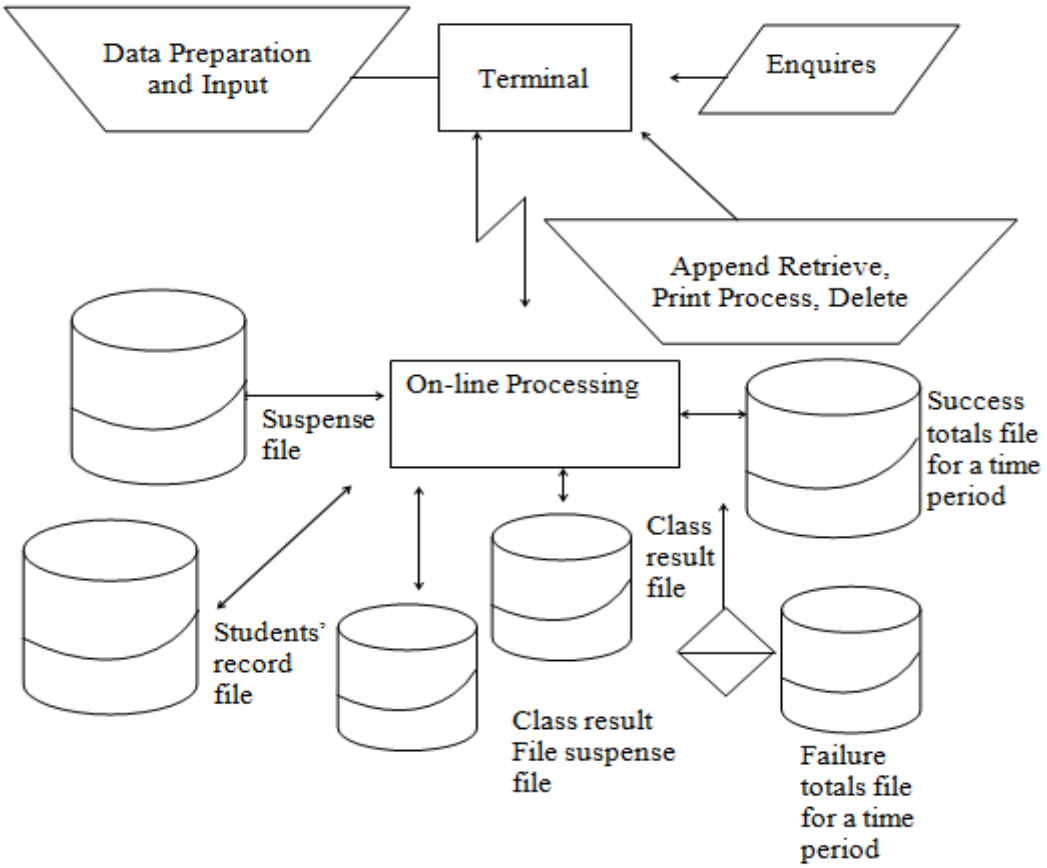
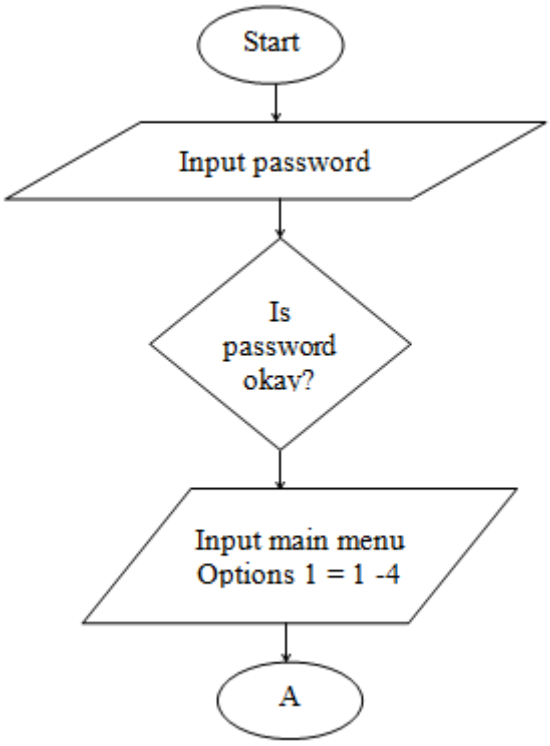


Fig. 2: System Flow Chart

Program Flowchart



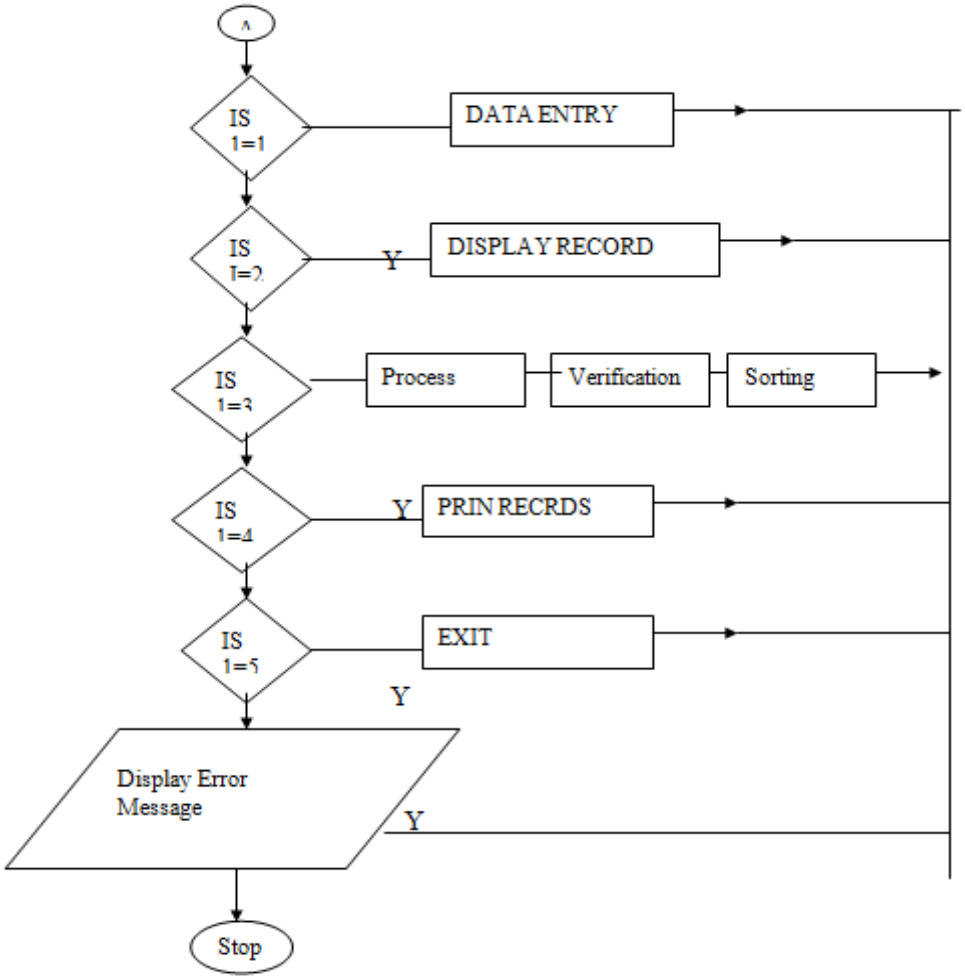


Fig. 3: Program Flow Chart

DATA ENTRY

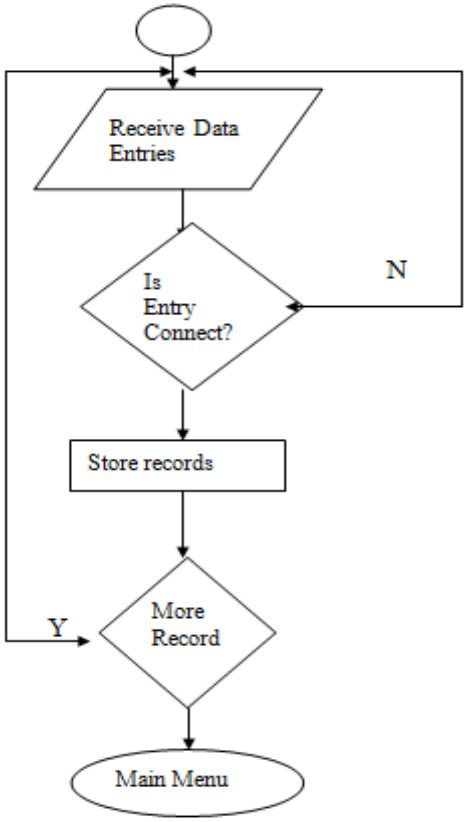


Fig. 4: Data Entry

DISPLAY MODULE

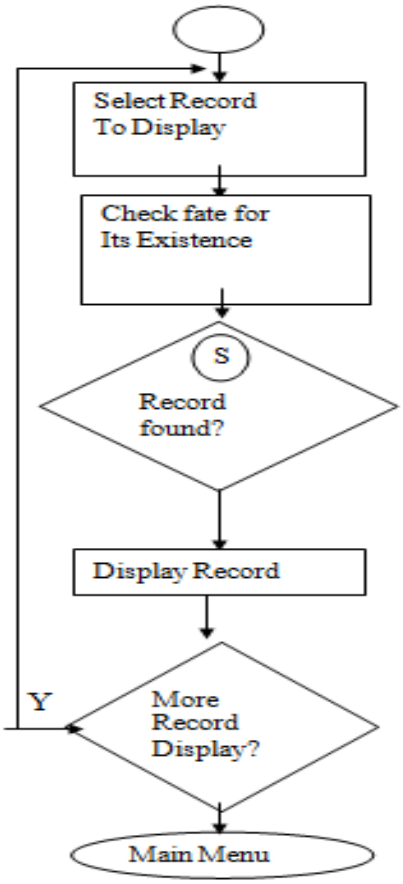


Fig. 5: Display Module

PROCESS MODULE

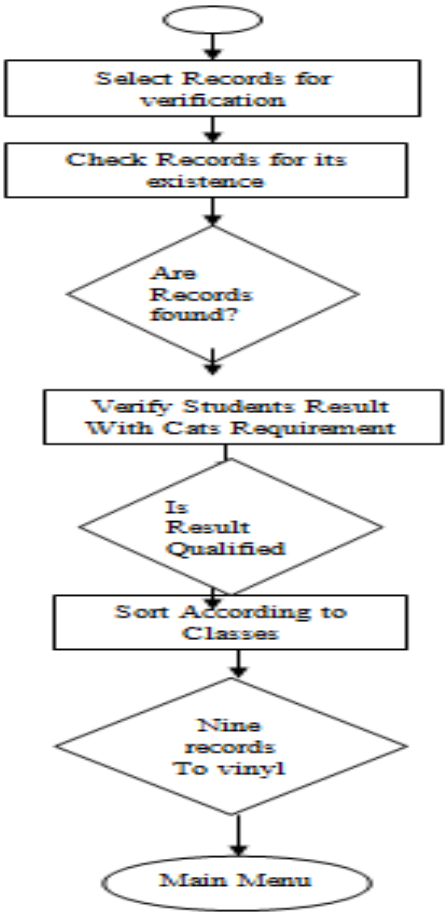


Fig. 6: Process Module

PRINT MODULE

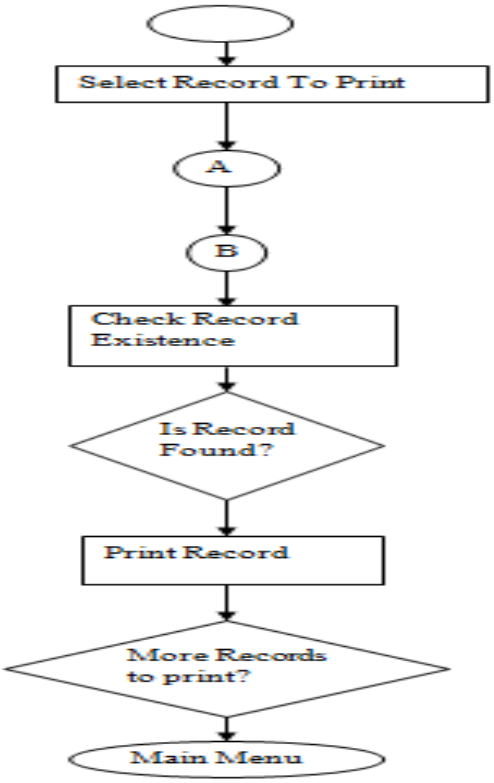


Fig. 7: Print Module

System Requirements

Four types of requirements namely hardware, software, people ware (personnel) and environmental requirements are essential for the efficient operation of this system.

Hardware Requirements

The hardware requirements include:-
An IBM PC 486 or above with

- 3½ inch floppy drive
- 100MB hard disk (or higher)
- an enhanced keyboard
- VGA monitor
- 4MB RAM (Minimum
- The above configuration will constitute a network server with distributed workstations or terminals located at principal's and administrators' offices and teachers' recording room. Each workstation could be an IBM 386 (or above) or a WYSE terminal.

Software Requirement

- MS-Disk Operating System (Version 6.22)
- Novel Network 3.12 (or later version)
- Dbase 4 (Programming Environment)

Personnel (or People ware)

The only personnel required is one computer specialist that will

- Man the computer centre and take care of minor problems
- Train the teachers and the students on the use of the system

Environmental Requirements

All environments both for the server and the workstation/terminals should be

- Protected from dust and fire
- Kept at low temperature (air-conditioned)
- Spacious and devoid of unnecessary furniture
- Fortified against burglary and unauthorized access

Implementation of the New System

To implement on this program, only visual basic is used for the program, this is because it is most suitable for it due to the fact that it is more flexible and more efficient than most data management program.

The implementation includes putting the program into the computer system for actual performance at the expected operation is it involves the actual interaction between the computer hardware and software system to produce the expected result.

Program Design

The designs were made under modules, which are collectively five modules in number. The entire problems were split into smaller units, then these units were solved individually and coded into computer understandable form. The individual units were later combined to form a whole. The modules include:-

- Data entry
- Display module
- Process module
- Print module
- Exit module

Data Entry

This module handles all the data entry that is made into the system. After receiving the entries, it is automatically saved and stored into the disk, also it is maintained for future use. This module receives individual data items about each student from the user of the system.

Display Module

This module displays all the records about the students or a particular student that have been entered into the system. This is to check if the records are correctly entered and for report generation.

Process Module

This module is for verification of individual's records to check if they are qualified to be posted and admitted as students of the post-primary school. Also this module is for sorting of student's records accounting to their class, surname or admission number.

Print Module

This module is meant to print the files of student or students according to their classes to know the number of students admitted in each class and also to print the general admission list.

Exit Module

This module will help the operator to go out of the program after working on it.

Source Listing

The coded computerized Educational Administration Information system program is fully shown in the appendix section of this project.

Test Run

The program was tested by running it and finds some errors which has been debugged and corrected. And besides it was found efficient and capable of achieving what is expected of it.

Documentation

Documentation is giving a written detail of all the information necessary to provide the use with the understanding of the purpose and how to use the designed program for system so as to achieve its objectives. This helps in carrying out further research and improvement on the system. Also comprehensive information about the new system and its working procedures are outlined so that modification can be done on the system without studying the entire system. In view of this, the documentation of this project is done in two sections namely:

1. Identification
2. Users' information

The identification:

This section entails the title of the project and concise statement of its functions.

Program ID:	Design and Implementation of Computerized Educational Administrative Information System
Authors:	Obiejesi Ogechukwu G.
Purpose:	To design a computer-based student admission into the respective post primary schools for the effective administration of the Post-Primary School Management Board (PPSMB) as regard to her duty.
Date written:	October, 2006
Language:	Visual basic

Users Information:

The program is menu driven. The menu has options that guide users on every step. To run this effectively the following steps are to be followed. This can be achieved in system that is WINDOW based, select the program icon. From it select MS DOS then at the C/prompt, change to A drive by typing A: and press <enter> key. The files in the diskette will be displayed, then select the file name which is posting and admission and press the <enter? Key or from the WINDOW EXPLORER click on the drive (a:) and double click on the posting admission to run the program.

Data Entry Menu

Through this menu, data are fed into the system. This is done by pressing to on the keyboard and immediately the screen for data entry is launched for data entry to proceed. End each response to the display prompt with the <enter> key.

Display Menu

It is selected by pressing D on the keyboard. Once is done, the entered data are displayed on the screen for other processing.

Process Menu

This menu is selected by pressing the key P on the keyboard. The process is called up for verification of results and sorting students admitted according to classes.

Print Menu

These are selected by processing R key and from this menu choose the records to be printed.

Exit

This is activated by pressing X key on the keyboard. This will terminate the program.

Recommendation

The department of administration was established to look strictly into the school activities and the performance of students by keeping record of the performance of each student in the post-primary schools through the annual report of the student and in the process of admission in the particular post-primary school/secondary school. This mode of keeping records involve many processes and it should fast and done well.

For that the effect of the new system will

1. Relieve staffs of much of their tedious and time-consuming work.
2. There would be efficiency in each day's school actuaries and report generations.
3. Would be very fast and speedy for operations especially post- primary schools.
4. The new system would assist the school administrators in discharging their roles in the educational environments

V. CONCLUSION

In conclusion therefore, if the Post-Primary School Management Board (PPSMB), deems it necessary to ensure the promotion of computerized Educational Administrative Information System in the post-primary school especially in the monitoring of the school program and recording of information about a student. There should be no doubt that the school administrators in the secondary schools would have problem concerning school record and this should be done effectively and efficiently.

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