Automated Examination Result Processing System for Public Schools in Obudu Local Government Area

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ABSTRACT: Examination is the determinant for progressive evaluation of students' performance in public secondary schools in Nigeria. It takes basically two dimensions: Continuous assessment which is the resultof cumulative evaluation of each student in the form of text written, demonstrated, practiced or general performance; end of term test popularly known as examination, which is the overall evaluation test administered at the end of the teaching and learning process. The continuous assessment and the examination scores of each student are put together to evaluate the student's performance at the end of the term. Analysis of each of the student's performance at the end of the term, gives the school authority the statistics for general evaluation of education attainment of the students, and leave a window for managerial critical decision making as to attain the national education goal. This critical tool for performance test on educational attainment has been bastardized by most educational stakeholders for self-gratification in the form of examination malpractice. Based on this, proper evaluation of students is no longer realistic thereby leading to the production of half-baked students. This has become a major issue with the educational systems in Nigeria. Hence, the need to rebrand the examination systems. This paper critically examines the existing examination processing system as practiced in public schools in Nigeria, and comes up with an automated examination processing system for result processing in public schools.
Password: Performance, Processing, Automated

I.   INTRODUCTION:

Secondary education is the pivot for formal education that gives definition to choice and careers to youths. It prepares the students by giving general exposure to the teens on the broad view of the available skills needed for vocation and sustainable living in the society where they find themselves.Secondary education being a formal setting is organizedin such a way that students'progress is structural. In each stage, the students are trained specifically according to their curriculum. To move from one stage to the other requires evaluation. Those who are successful graduate from one stage to the other, while those who are not successful are carefully examined with a view to repeating the previous stage for definition of where there may fit better and counsel properly.

The Nigeria secondary education at most arms have been corrupt such that adequate evaluation is not done. This leads to the migration of student from one level to the other who are not really qualified. This has led to so many graduates of secondary schools with certificate who in reality has nothing to offer in commensurate to the certificates they possess (Eneji, Idiege, Angib and Asinde, 2020).

One of the most effective tools used to evaluate students is examination. Examination is a test conducted on students for the purpose of accessing their levels of comprehension of subject matter. Examination produces statistics of individual's performance per subject at any given level. It is the criteria used in deciding the set of students who are qualified to move from one level to the other. Result of performance per student is produce after a successful conduct of examination in the form of terminal results or certificates after a successful completion of the secondary education programmed. It is expected that anyone who have successfully completed a secondary education should measure up to a given level of academic attainment. But this is not so in most cases. It becomes puzzling if the secondary system has changed. It is worth to note that the challenge majority is as a result of wrong system of examination. Today, anyone can rise up to take exams they were not trained for. The rather hire machineries who write the exams for them. They end up having certificates with nothing to offer.

There is every reason to overhaul the examination processing system in our secondary school for purposeful education.

Global best practice of the 21st century encourages the use of computer and information technology in computable operations (Lawal, 2018).Nigeria secondary education still uses the crude method of examination and result processing. This paves ways into all forms of malpractices in examination and result processing. Management information system (MIS) applied three-resource system required for effective organizational management (Lawal, 2018). The resources include: people information and technology Application of MIS in examination and result processing in Nigeria secondary schools will go a long way to ameliorate the system from continues decay. Lawal (2018) noted that if MIS is used in processing students result, the following advantages would be achieved;

1. Automatic results processing
2. Common/deliberate mistakes would be averted.
3. Effective, efficient and error free results would be processed.

Manual results processing as practiced in most Nigerian secondary schools are prone to much vulnerabilities and cost ineffective (Afiulika, Bala and Nyap, 2014). They also observed that manual result processing system leads to delay in results declaration which caused heavy loses to the students, repetition of work by continuous duplication of results, tempering with student records due to lack of security and absolute restriction, difficulty in access to results etc.

Amadin, and Ukaocha (2014) opined that the effective measure which can improve the efficiency of result processing system is the introduction of computerization. Lawal (2018) noted that there is enormous problems associated with manual computation of students' results. The author further opined that there is need for efficient method that is error free that will enable results to be processed automatically. Nnabuko, Iroegbu, Eteng and Okoronkwo (2013) are of the view that manual result processing is tedious, error-prone and leads to late release of results. They further stated that there is need to evolve a computerized process in result processing that will effectively capture the important objects associated with result processing. This study sorts to come up with a computerized result processing system that will automatically process students' results effectively and efficiently and timely turnout students'results.

II. AIMS AND OBJECTIVES

The aim of this study is to design and develop automated result processing system for public secondary schools in Obudu Local Government Area.
The objectives include:

1. To produce students' results that is free from conscious and unconscious errors.
2. Save time and reduce stress associated with results processing.
3. Facilitate timely results publication.
4. Create easy avenue for managing large volume of result processing.
5. Reduce cost associated with manual result processing.
6. Provide easy means of transmitting results to both students and parents/caretaker.
7. Provide comprehensive statistics of students results for management decision.
8. To maintain best practice in result processing.

III. SYSTEM ANALYSIS AND DESIGN METHODOLOGY:

The system was analyzed with Object Oriented Methodology (OOM). OOM is suit for the development of large system which can be broken into sub-systems and components. It gives room for easy restructuring of system, reusability of components, inheritance and data abstraction. These features enable for the design of a portable but very powerful system with less memory consumption. Onu and Eneji (2017) noted that OOM suits for the design of both small and large system.

System Analysis:

System analysis is the critical examination of an existing system with the intention of improving on the system for better performance (Onu and Eneji, 2017). The process of analyzing or evaluating existing system to find out how it works or how it meets users' needs is system analysis (Mbam, 2002).
Manual results processing system involves:

a. Marking and recording of Continuous Assessments (CA) for each student per subject.
b. Marking and recording of end of term test (examination) for each student per subject.
c. Computing CA scores sure as required to assess students CA for each subject. A percentage total score per student per subjects is recorded.
d. Computing the total score (that is, addition of CA with end of term test (exam) for each student per subject offered.

e. Computing students' averages in a given class per term.
f. Rearranging the overall students' results in decreasing order of magnitude.
g. Assigning positions to students accordingly with their averages.
h. Submitting results prepared by a class teacher for management authentication and ratification.
i. Preparing results per student for released to each student.

The manual result processing as presented is tedious and error prone especially when the teacher is dealing with large population of students in a class. It is paper consuming as such cost and time ineffective. It gives room for easy manipulation of results. It equally delays the release/publishing of students' result.

System Design
System design is the definition of the architecture, components, modules, interfaces and data for a system satisfy specific requirements;
a. High level model of the proposed automated result processing system for public schools in Obudu
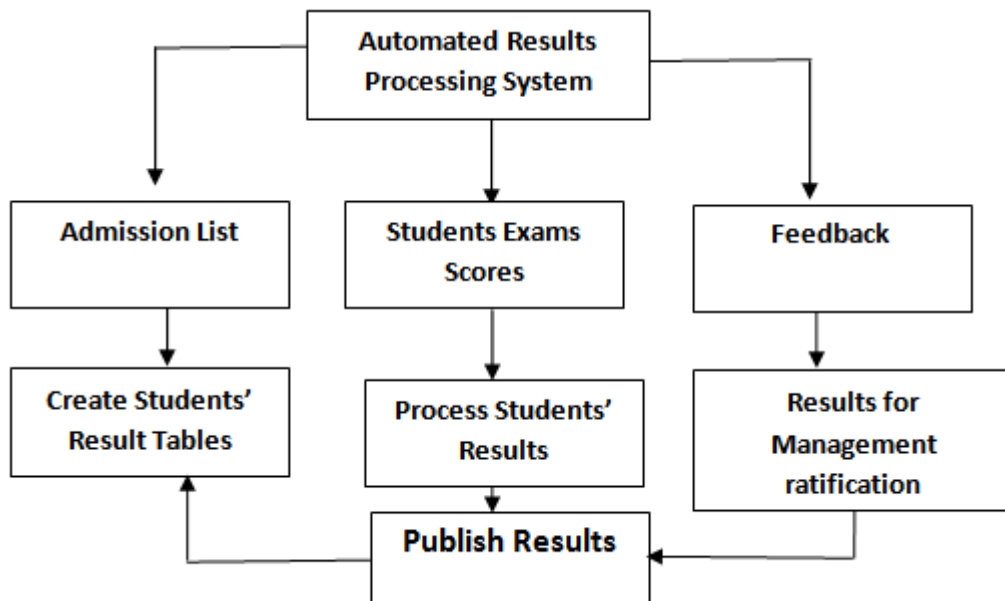
Figure 1: **High level model of Automated Results processing system.**

The proposed system is made up of seven (7) Modulus: Admission list, students' exams scores, create students result tables, process students' results, results for management ratification, publish results and feedback. Thesystem creates tables in the database for each student admitted. Scores of each student to include the continuous Assessment (CA) and end of term test are entered by each class teacher and saved in the database against each student. Results are processed for the recorded scores. A comprehensive result for sets of students is heated and submitted to management for ratification and approval, if there be any adjustment by management, the system will automatically compute the results according to management demand (s) and re-submit the results to management for ratification and approval. Once results are ratified and approved by management, the result is automatically published in the school website for access by students and parents/guidance. Feedback from students and stakeholders are sent to management for action after which responses are generated and given accordingly.
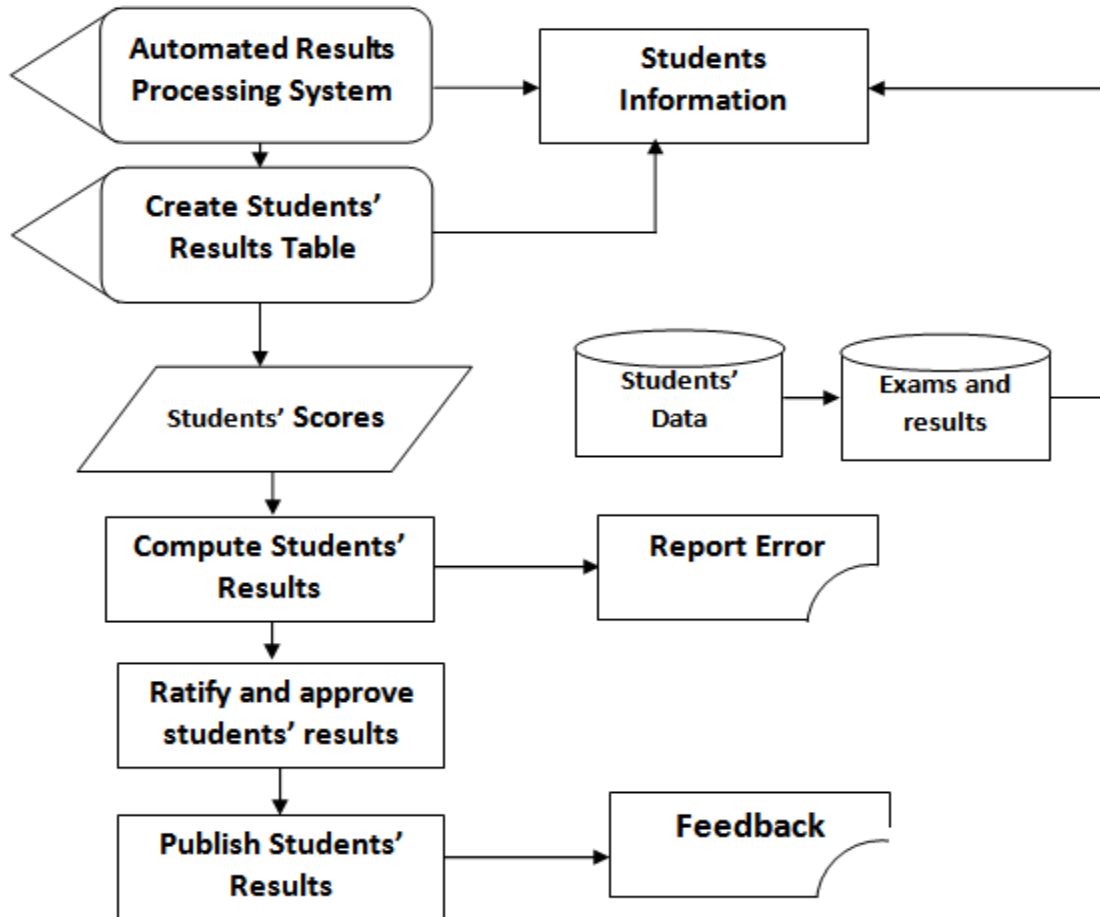
(a)   System Architecture for Proposed System

Figure 2: System Architecture of the proposed system

The proposed system creates results table in the database gathering data from the students' information in the database. Students' results are processed using data from the exams and results database. The processed results are presented for management perusal, ratification and approval. Approved results are published for access, while error report and feedback are managed accordingly.

(b) Main Menu Design
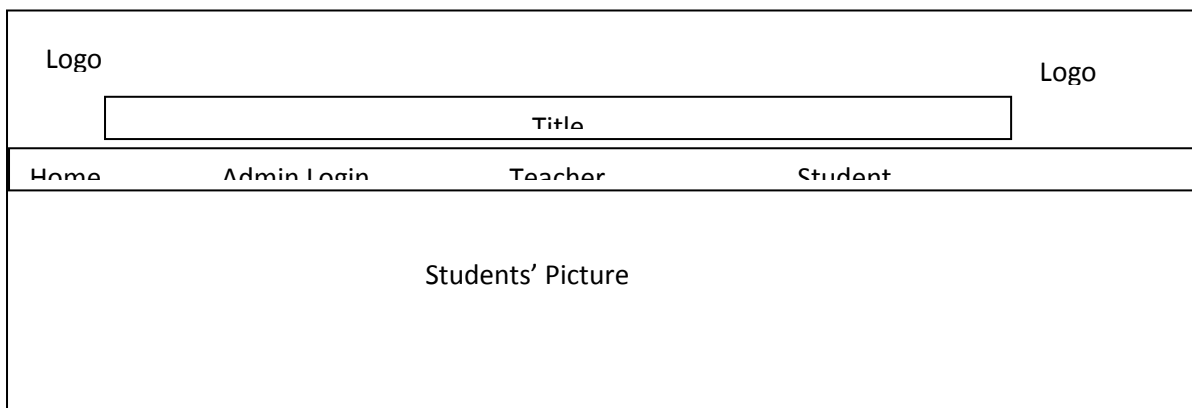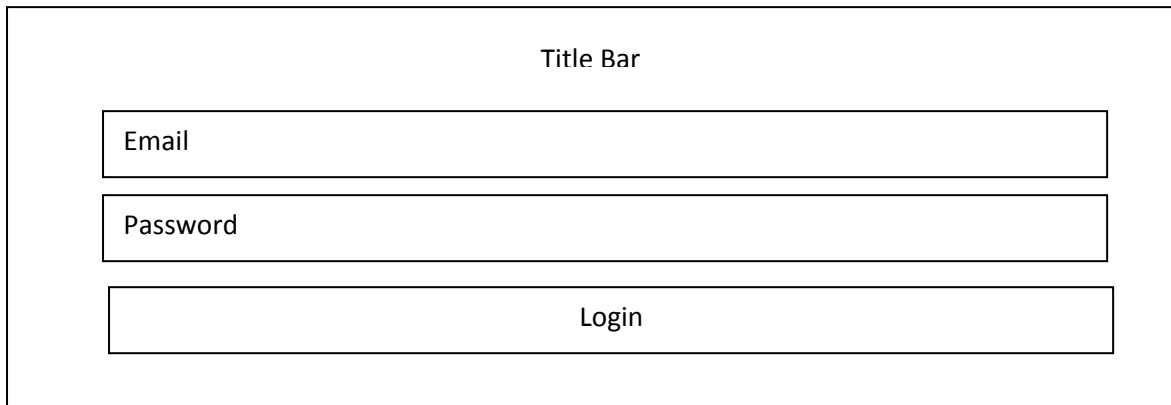
Figure 3: Main Menu

The Main Menu consists of, two Logo Controls,Title Bar, Menu Bar (Home, Admin Login, Teacher, and Student), and a Picture Control used by Admin, Students and Teachers to access and navigate the entire result processing system

(b) i. Admin LoginForm Design

This menu consists of the following options; Title, EmailPassword, and Login for Admin to access the system

Title Bar

Email

Password

Login

Figure 4: Admin Login Form

(b) iii. Class Creation/Management Form Design

The Class Creation/Management consists of class selection, Arm selection, Subject selection and term selection. This controls are used by the Admin to manage class information.

Logo   Logout

Subject   Classes   Students   Scores

Select Class

Select Arm

Select Subject

Select Term

Go it

Figure 5: Class Creation/Management Form

(b) iv. Class Management Form Design
The Admin used this form to Schedule classes according to their Arms and sizes.

Logo			Logout
Subject	Classes	Students	Scores
ID	Name		Arm

Figure 6: Class Management Form

(b) v. Students' Management Form Design
The form consists of Lists of students for the Admin do edit accordingly.

Logo			Logout
Subject	Classes	Students	Scores
RegNo:	First Name	Middle Name	Last Name

Figure 7: Students' Management Form

(b) vi. Students' Registration Form Design

The Students' Registration form is used by the Admin to enlist students into the system's platform for the student to have a profile which will be used for processing of their results as well as have access to their results.

Figure 8: Students' Registration Form

(b)vii. Student's Result Sheet Design
The students result's sheet displays students result per query.

Figure 9: Student's Result Sheet

IV. SYSTEM IMPLEMENTATION

The system is web based, runs on browsers that are windows compatible. It is design with user friendly interfaces for self-manipulation with little or no training to use the system.

©. i. Login Window

Figure 10: System Main Login Window

The Login Window gives System Administrator the opportunity to navigate and manipulate the proposed system to the benefit of the design. The Administrator in the cause of login provides email and password which will be authenticated and grant access if successful. The main window has a single menu that contains sub menus (commands) namely; Home, AdminLogin, Teacher, and Student. When any of the sub-menus is clicked, a drop down menu appears with different options for selection. For example, if the AdminLogin command is clicked, a drop down menu with options such as Register student, view subject, view students and view results appears.

©ii. Admin Login Window

The Admin login window provides Admin with the opportunity to provide his email and password which is used to login to the system if authenticated.
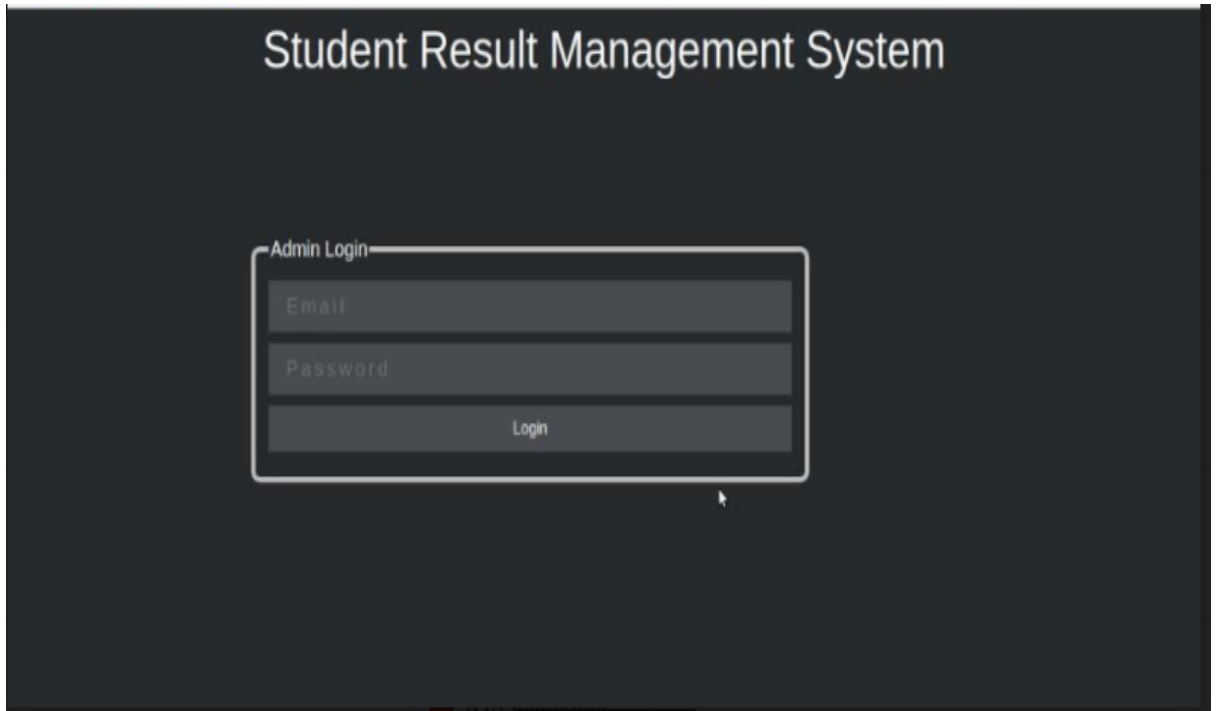
Figure 11: Admin Login

©iii Class Management Window

This enable the Admin to register subject: Display a window for registering new subjects and give options to select the class in which the subject is offered as shown in the figure below.
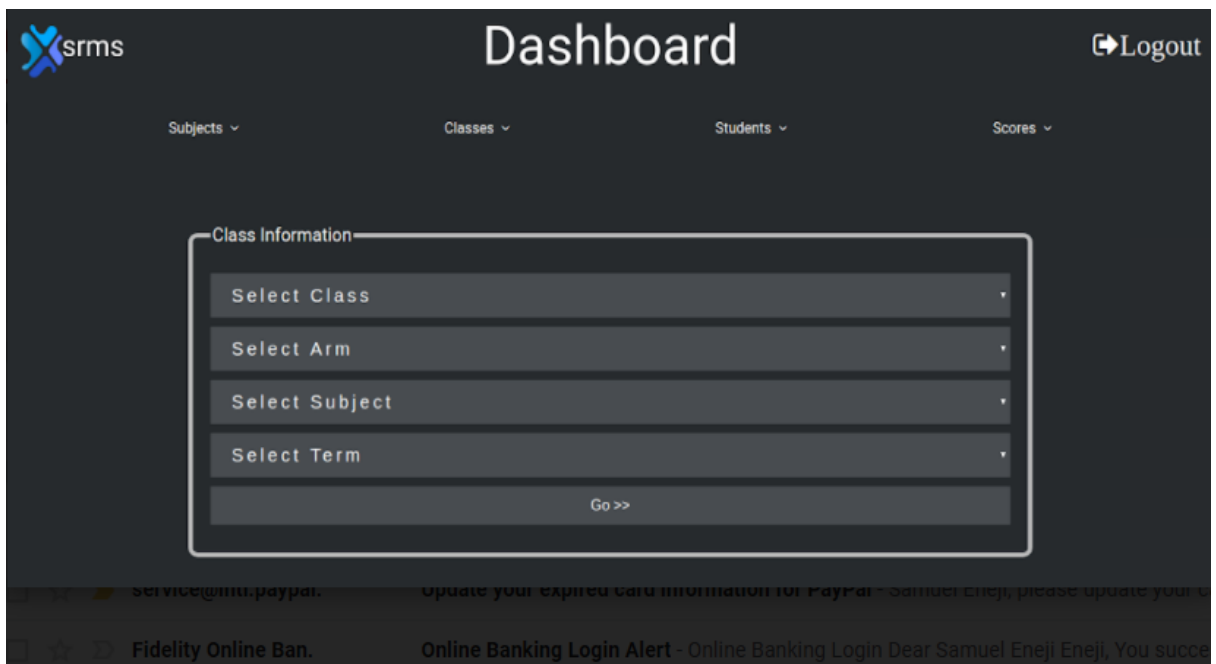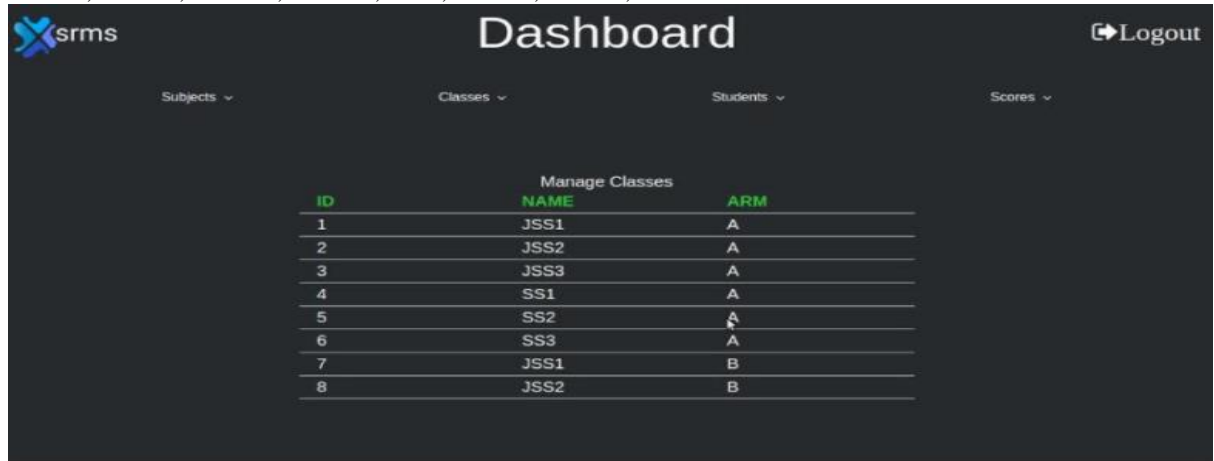

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Figure 12: Class ManagementWindow

©iv. Class Management Window
The Class Management Window enables Admin to create and manage classes considering arms of classes such as; JSS1 A, JSS 1 B, JSS 1 C, JSS2, JSS3 A, JSS3 B, etc.
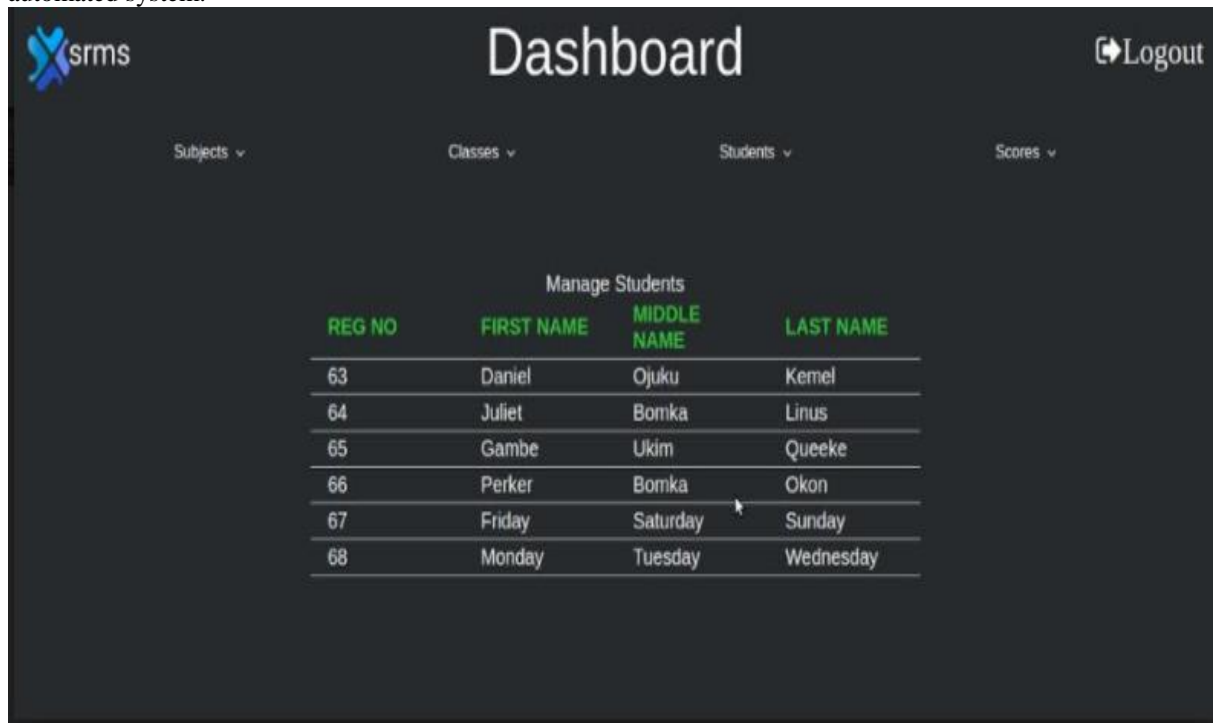

Figure 13: Class Management Window

©v. Students' Management Window
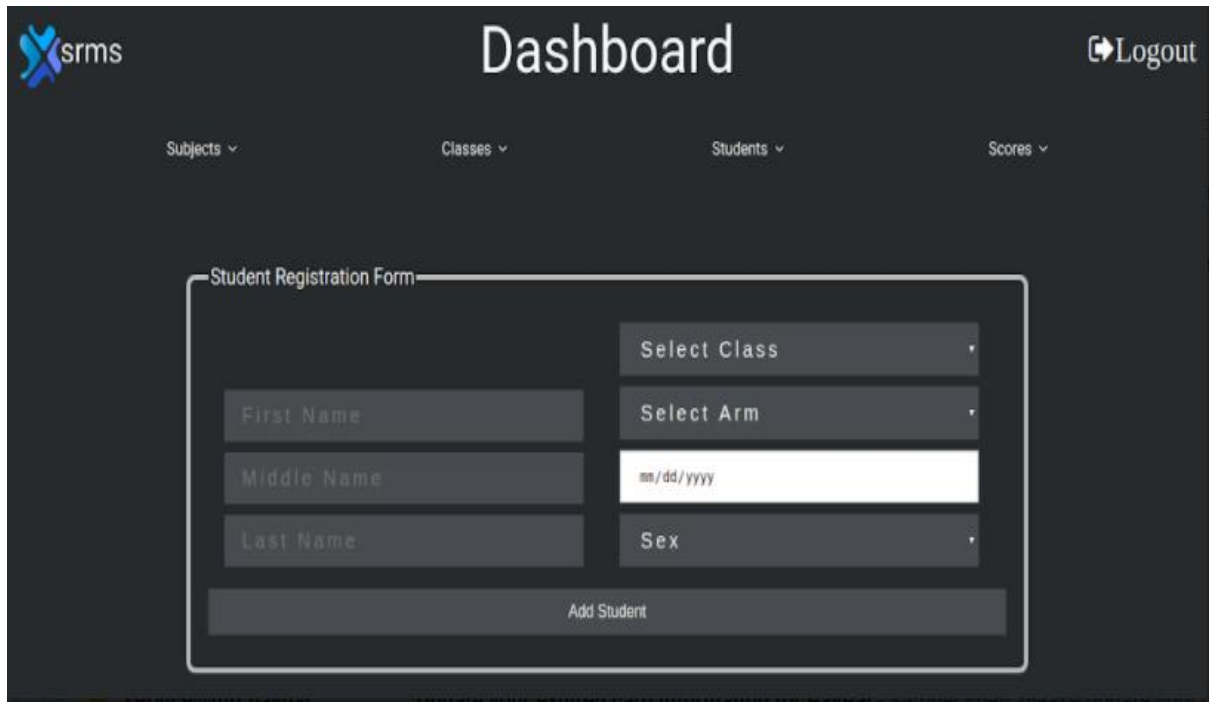The Students' Management Window is used by the Admin to edit and modify students' information in the automated system.

Figure 14: Students' Management Window

©vi. Students' Registration Form
The Admin, teachers or Students can login to the system using appropriate means to create student in the system database provided the student has the basic requirements.

Figure 15: Student' Registration Form

©viii. Students E-result.

The student login with his or her identity as created and saved in the database to access his terminal results as the case may be. He or she is expected to provide the necessary information as may be required and query the desired result accordingly.

Figure 16: Students' E-Result

V. CONCLUSION

Result processing is an essential aspects of the educational systems. It creates opportunity for appropriate and adequate evaluation of students' performance and becomes a criteria for the migration of students from level to the other. A failed examination system is invariably a failed academic system. Therefore, issues of examination processing has to be taken with utmost concern and carefulness. The examination system in public secondary schools in Obudu local government are of Cross River is bedeviled with so any irregularities and become necessary for overhaul. This work has been able to come up with an automated result processing system with the capabilities to cop most of the irregularities in examinations. The designed system carefully understudy the manual result processing system and came up with its replica in the automated form using standard ICT conventions. The designed system if deployed in secondary schools in Obudu will be advantageous in so many ways such as; timely processing and transmission of results to appropriate units, students and parents/caretakers, reduce maximally malpractices on examinations, present true statistics for students' evaluation and critical decision making, less cost in running, processing and publishing of results, safe teachers time used for result processing and eradicate human errors associated with result processing.

The researchers considering the numerous advantages of automated result processing hereby recommend strongly for its adoption and deployment in secondary schools in Obudu local government area of Cross River State.

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