Development and Implementation of Student Registration Portal

(Case Study of Information Technology Department)

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Abstract:- In this century, course development is springing. So, there is need to provide and maintain high quality of teaching and learning services. This paper is about developing and implementing of student registration portal which aim at creating a system whereby common educational challenges can be undertaken without much pressure for the students or staff. PHP and MySQL were used in the development of the portal. This Portal is web-based designed systems that takes care of student registration, produces students' blacklist, quick report of students' result, provision for uploading and downloading course materials and departmental course allocation. It gives the department more value on admission, online result, students and staff inquiries. This system maintains all necessary information of the department using a centralized database which allow each staff to view significant information from anywhere outside the school premises.

Keywords:- Module, Portal, Database, Synchronous, Asynchronous, Stud Id, Black List, LMS, VLS, and DFD.

I. INTRODUCTION

We can't over-emphasize the role of education as a tool for encouraging the socio-economic, political and cultural development of any nation.

According to Abdulkareem (2001), a nation's growth and development is determined by its human resources. The main relevance of education in Nigeria has been said to be the provision of much-needed manpower to accelerate the growth and development of economy (Ibukun, 2017).

Days are gone when education are meant for only learned families, most people do not have the privilege of going to school when less people have the privilege of being in school most especially in the rural areas where we have less civilization In the rural areas where the majority lived, children learned the skills of farming and other work, as well as the duties of adulthood, from participation in the community. This process was often supplemented by age-based schools in which groups of young boys were instructed in community responsibilities by mature men. By the 1970s, education experts were asking how the system could be integrated into the more formal schooling of the young, but the question remained unresolved by 1990.

Western-style education came to Nigeria with the missionaries in the mid-nineteenth century. Although the first mission school was founded in 1843 by Methodists, it was the Anglican Church Missionary Society that pushed forward in the early 1850s to found a chain of missions and schools, followed quickly in the late 1850s by the Roman Catholics. In 1887 in what is now southern Nigeria, an education department was founded that began setting curricula requirements and administered grants to the mission societies. By 1914, when north and south were united into one colony, there were fifty-nine government and ninety-one mission primary schools in the south; all eleven secondary schools, except for King's College in Lagos, were run by the missions.

Usage of new technologies in schools is very limited. Most of them have dozens of computers but they are only used for teaching the computer subject and nobody uses them for administration purposes. There are some limited numbers of schools that use a computer instead of a typewriter by using Microsoft Word or for saving some data in Microsoft Excel. There are however numerous tasks that can be done by computers if they are programmed to do, such as managing students' grades. Students' grade management is one of the most tedious duty of administration staff and teachers of schools, which they have to perform manually at the school. Managing students' grades is a task of administration staff and lecturers of the department, which is very time consuming and error prone.

STATEMENT OF THE PROBLEM

Student's information is manually recorded in different files by different admission staff in the department. This causes a lot of problems for the students in getting accurate information from the department. It is also a problem to the staff each time they want to update or record student information. This issue of so many staff handling of students information causes a lot of inconsistency in delivering student information.

AIM AND OBJECTIVE OF THE STUDY

The Aim of this paper is to create a system whereby common educational challenge can be undertaken without much pressure from the students or staff.

Objectives of the paper include:

a. Creating a system whereby students can copy and submit their assignments online.

b. Gets information about their academic history without going through the course lecturer.

c. Keep records of all Students in all levels.

d. Generates quick Result of each and every student.

e. Automatic Generate student registration number which differs from the matriculation numbers.

f. Generate black list for Students.

g. The system can allow the administrator to select the unnecessary information and delete them from the database.

h. Administrators have total control on Site; he can delete or edit information.

i. Provide the facility like send mail for recover password.

j. Upload course details.

II. REVIEW OF RELATED WORKS

In 1997 Graziadei, W.D., et al., published an article entitled "Building Asynchronous and Synchronous Teaching-Learning Environments: Exploring a Course/Classroom Management System Solution". They described a process at the State University of New York (SUNY) of evaluating products and developing an overall strategy for technology-based course development and management in teaching-learning. The product(s) had to be easy to use and maintain, portable, replicable, scalable, and immediately affordable, and they had to have a high probability of success with long-term cost-effectiveness.

Serdiukov (2001), therefore suggested three new models of online web-based college management system, which are:

Teacher-students: This is the traditional model for education with a face between the teacher and the students.

Teacher-computer-students: The teacher–student's model has been transformed into the Teacher-Computer–Student model, which has more advantages because it gives accommodation for Student- computer, Student- Teacher and Teacher–Computer interaction.

Computer–Student: This model terminates live human presence, which means there is no Teacher–Student contact time. There is an interaction of teaching, learning and enabling elements on the World Wide Web that facilitate cognitive change in learners (Rogers, 2001).

Patterson (2006) conducted a post-examination survey of students completing an online exam. The study "found a large majority of students were able to easily access the online exam, found the testing tool easy to use, and were able to complete the comprehensive exam with little difficulty. The future use of online assessment for the comprehensive exam was supported by 87% of respondents." Furthermore, Patterson found that the "Web-based comprehensive exam procedures employed made it possible for students to take the exam at the time and place of their choosing". The exam was able to reduce stress for students by giving them the ability to choose time and location of taking the exam according to Patterson. Patterson (2006) also acknowledged that the "challenges to test items security and the creation of procedures to minimize the possibility of collaboration and cheating on this type of "high-stakes" examination remains to be fully met.

According to Sara Bennet (2009), Learning Management Systems are referred to by several names, including course management systems, virtual learning environments (VLE), and e-learning courseware. The term LMS is more frequently used in the majority of US based publications and VLE is more frequently used in Europe and Asia (Weller, 2007). For the purposes of this report, the term LMS is used synonymously with VLE. A University LMS consists of many interlinked components, as illustrated below (Wise and Quealy 2006): LMSs resemble other systems designed for e-commerce, human resources and student records, but what makes an LMS unique is its functionality and instructional nature. Ellis describes a 'robust' LMS as a system which has the ability to:

1. Centralise and automate administration

2. Use self-service and self-guided services

3. Assemble and deliver learning content rapidly

4. Consolidate training initiatives on a scalable web-based platform

5. Support portability and standards

6. Personalize content and enable knowledge re-use (Ellis 2009:1)

Steinman (2007) also found that "many students choose to enroll in online courses and the demand for online courses is high. Taking an online course can provide educational experiences that would otherwise be unavailable, especially for students who live in rural areas and do not have convenient access to schools." Rowh (2007) also found that "online courses offer convenient learning and those students who take online classes are working hard. They're just doing it at their own pace, on a schedule and in a setting that works for them." Walker (2007) indicates that the "widespread availability of computers and the Internet provide considerable enrichment in terms of variety of material and formats for presentation over what was possible with the old correspondence courses". The Chronicle for Higher Education (2007) reported that a university stated that they "use electronic education to add on to their curriculum, not as the main basis." This lends to the implementation of an online exam into a traditional classroom where students still get the face-to-face interaction with the instructor and classmates but the control of time and location to take their exams.

A recent meta-analysis of student educational outcomes from online learning found that, on average, students in online learning conditions performed modestly better than those receiving face-to-face instruction (US Department of Education Office of Planning Evaluation and Policy Development. 2010). The difference between student outcomes for online and face-to-face classes was larger in those studies contrasting conditions that blended elements of online and face-to-face instruction with conditions taught

entirely face-to-face. The authors noted that these blended conditions often included additional learning time and instructional elements not received by students in control conditions. This finding suggests that the positive effects associated with blended learning should not be attributed to the media per se, and that engagement with instructors is important (US Department of Education Office of Planning Evaluation and Policy Development. 2010). Similarly, Mersham (2009) comments that to be effective, e-learning must put into practice an e-pedagogy that relates to social interaction and collaboration. However, communication opportunities in e-learning are under-used and ineffective when they are grafted onto courses that are rooted in pedagogic models and practices with which they are incompatible. This project examines and discusses the problems, challenges and Benefits of implementing web-based college management system in the country, by reviewing the consciousness and willingness of the selected Colleges. This study also identifies the enabling factors, the traffic-jam and, forecasts the future growth of web-based college management system in Nigeria colleges. Survey research method was adopted for the study, and questionnaire was the only instrument used for the data collection.

The findings of the study show that out of the 18 colleges selected from different specialization areas, i.e three colleges from each Geopolitical zone, only 12 responded with usable answers. The response rate was 67%, which is an expected rate for such surveys. Awareness of web-based college management system among the colleges in Nigeria is very high but investment and commitment to develop a web-based college application is very poor and below expectation according to the study. Most of the staff and students in the colleges only use Internet related college information site just for the sake of finding related information for their researches, since their libraries cannot afford to provide them with adequate and current materials, but not for the sake of real online college management system. The study also found out that some of the colleges have web pages and others are in the trend of creating a web page, which is usually for advertisement of the colleges but not for the entire web-based college management system activities. Furthermore, the findings also reveal that staff and the students have also been using e-mail and Internet in addition to developing web pages for transaction of students. Web-based college management system comprises all forms of electronically supported college system and information. The information and communication systems, whether networked college system or not, serve as specific media to implement the college information process. The term will still most likely be utilized to reference out-of-classroom and in-classroom educational experiences via technology, even as advances continue in regard to devices and curriculum.

III. METHODOLOGY

In achieving our proposed system, we made use of the internationally accepted software engineering model, the Structured System Analysis and Design Methodology (SSADM). Structured System Analysis and Design Methodology (SSADM) is a systematic approach to the analysis and design of information systems. SSADM method involves the application of a sequence of analysis, documentation and design concerned with analysis of the current system, the logical data design, logical process design etc. The steps involved are; the use of the Use Case Diagrams, UML Activity Diagram, Sequence Diagrams and Class Diagrams which makes the presentation of data logical and easily understandable by even novice to get the desirable message. Based on the above reasons, Structured System Analysis and Design Methodology was adopted for this project work.

Method of Data Collection

Data collection is the process whereby the researcher gathers information related to his problem from different sources. In any research work, the method of data collection should be in conformity with the nature of the research work itself. The two types of data being carried out in this project are as follows:
i. Primary method of collection
ii. Secondary method of collection

i. Primary Method of Collection: these consist of data that were collected through observation and research (Old Departmental portal) with the help of some administrative staffs in the department.
ii. Secondary Method of Collection: These constitute the use of the library and internet to check for new and improved system for departmental management. All these, form the bedrock for the view of related literature of the research within the era of Information Technology age.

Description and Analysis of the Existing System

The Existing system is a manual process that has all its processes revolving round the departmental office. The departmental officer stands as the middle man between the students, lecturers and the archives. All information pass through the departmental officer and he is responsible for the safe keeping of the information in the department.

Components of the Existing System

The manual system has three components:
1. The student/lecturer takes his/her records and details and submits to the administration office that verifies the details.
2. The administration Officer collects details form the students/lecturers and keeps the collected information in their corresponding files.
3. Archive is where all the information at the end of an academic year is kept for the purpose of record keeping. The information are not kept in the same file, thus making it very hard and nearly impossible to retrieve necessary information from.

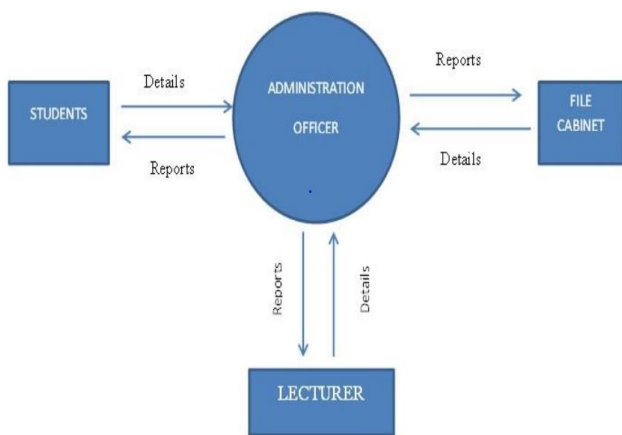## Analysis of the Existing System

How the Existing System Works

The manual system of departmental management is mainly overseen by the administration office of the department. The departmental administration office is in-charge of the registration, result printing, news, events and course registration of the students amongst others.

Once a new student has been admitted into the department by the Registry department, she/he is expected to register with the department or be ready to forfeit the admission. She/he is expected to approach the departmentaladministration office with copies of her/his credentials alongside a registration offee which varies in amount. The credentials to be submitted includes: Birth Certificate, Certificate of Origin, Hardcopy of O'level Results Printouts, Copy of School Fees Teller, Testimonial/First School Leaving Certificate anddepartmental registration form. After their credentials have been verified by the department, their details are now been entered manually into a list that contains the name of all the students admitted in that academic year that belongs to the same level. After which it is moved to an archive file that contains information of previous years. Hence, there is no database for all the record as they are all kept in different files.

Overall data flow diagram of the proposed system

Data Flow Diagram of the Existing System

The data flow of the existing system refers to movement on information and howthe information relates within the student, lecturer, administration officer andthe information bank (usually the file cabinet).

Fig 1: DFD of the Existing System

Advantages of the Existing System
i. It gives room for students with special cases (i.e: handicapped)
ii. It creates a student-administration relationship.
iii. It makes sure that the right information is submitted.
iv. It gives the administrator a chance to help the student with informationthey are not cleared with.

v. Students can make change to their information at any time.

Disadvantages of the Existing System
i. It is very slow and tends to take long time for processing.
ii. It gives room for manipulation of student information.
iii. Students can influence the administrator.
iv. It gives room for continuous error.

### Description and Analysis of the Proposed System

The proposed system is intended to provide the facility of automating the administrative tasks such as student grade and information management, creating a general database for the safe keeping of the departmental information amongst others. This system will be a web server system, meaning that all the transactionswould be carried out through the help of the internet the entire database used would be an online database. People who would access the system would include the administrator who is in charge of maintaining the system, the lecturers or staffs and most importantly the students at all levels. The administrative office of the department is responsible for managing details on the system including course,lecturers and student's information.

Data Flow Diagram of the Proposed System

This refers to pattern at which informationare been related within the student, lecturer and the proposed system (departmental system).
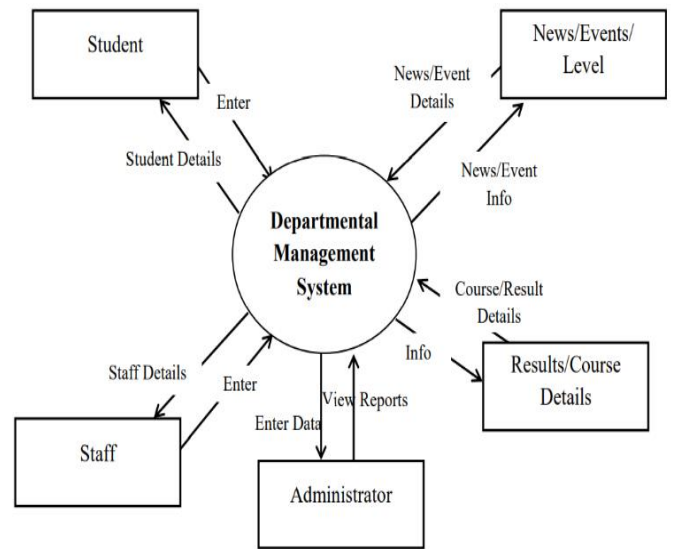

Figure 2: Level 0 DFD of the proposed System
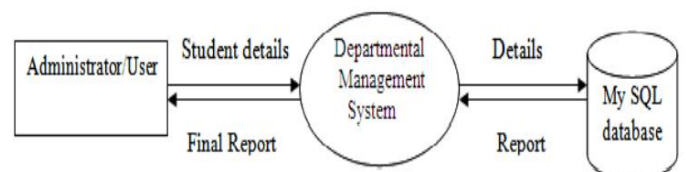
**Figure 3: Level 1 DFD of the Existing System**

IV. IMPLEMENTATION

Program Main Menu

The Main Menu is a page through which all other page can be accessed from, it contains all the navigation links that would enable the user to navigate to any page of his/her choice. This system has two main menus: the student main menu and the administrator main menu from which the student and administrator can access the content of the system respectively.
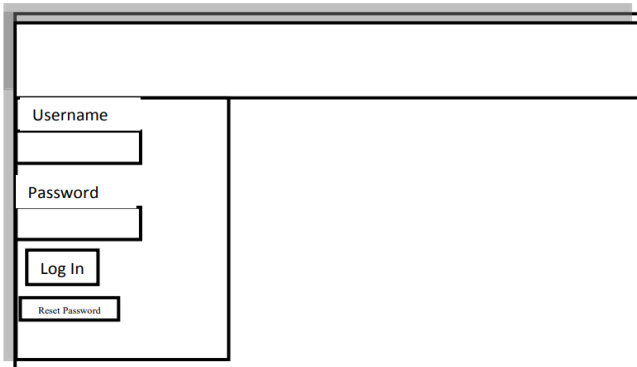

**Figure 4: Student Main Page**
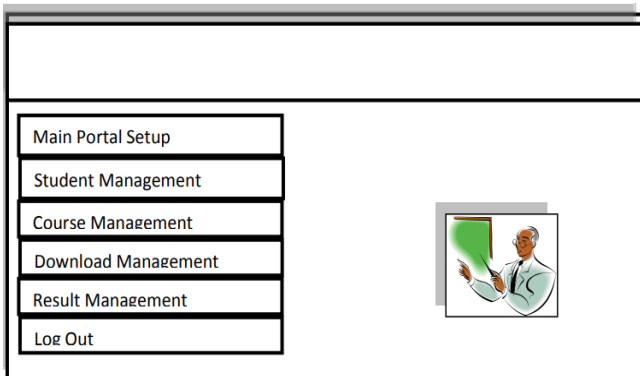
Figure 5: Admin Main Menu

System and Program Flowchart

A flowchart is a graphical or symbolic representation of a process. Each step in the process is represented by different symbol and contains a short description of the process step. The flowchart symbols are linked together with arrows showing the process flow direction. In other words, a flowchart is a diagrammatic representation of the logic flow of a program.
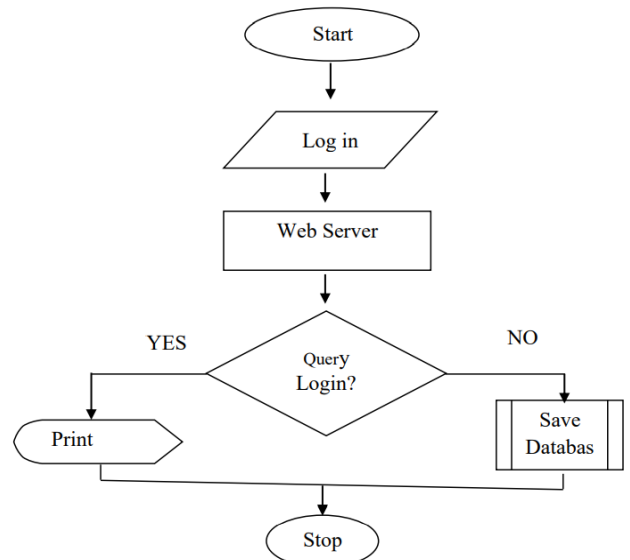
Figure 6: System Flowchart
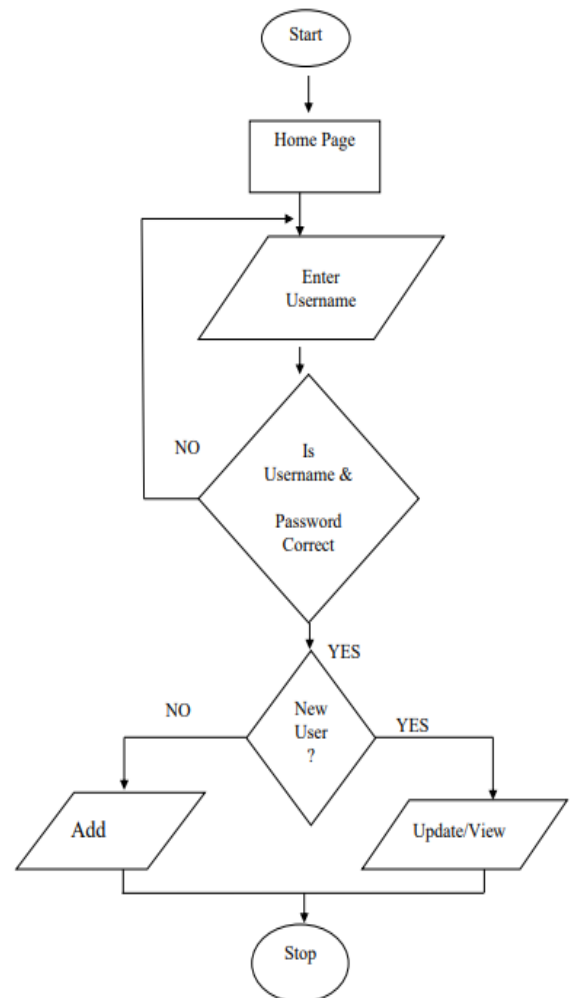
Fig 4.4 Program Flowchart

Figure 7: Program Flowchart

V. SUMMARY

This system has automated the existing manual system. It can be monitored and controlled remotely; it reduces the man power required. It provides accurate information always. Manipulations of records can be reduced. All gathered information can be saved and can be accessed at any time.

The system be can accessed by every students/staff of the department through internet connected computers with the aid of his/her login details. Every user will have a home page with his/her profile management facilities. Through links that displays in the home page the user can access different options of the website assigned to him.

System is so much flexible so in future it can be increased easily and new modules can be added easily. Addition of online student admission, online feespayment, computerized result processing, online hostel allocation and e-learning modules should be added. In future you can add new module like library management system, it can also include online accounting system.

Based on the research work carried out and on the experience gotten during this research work the following are recommended that; Existing student should visit the site for necessary information, that the department should try to implement the new system, since it has a lot of advantage than the manual system so as to promote advancement in the technology of the department, that student should look into this research work and carryout further research on it, and the system should be constantly updated.

VI. CONCLUSION

The implementation of Departmental portal has been successfully created and the web interfaces have been successfully designed. The system designer has successfully achieved all the planned objectives. The administrators are expected to maintain the reliability and accuracy of database while inserting, editing and deleting of each student'sregistration entries. The implementation of the system would help tackle some of the problems associated with manual systems for keeping of information as well as minimize processing time and accessing time of data.

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