

Application of Management Information System in Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria.

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Abstract: Students' management information in Chukwuemeka Odumegwu Ojukwu University (COOU), Anambra State, Nigeria is carried out manually. Students are restricted to so many online educational activities because of the current procedure of information management. Students do not have educational interactive platforms where they interact with their lecturers pertaining to a course; lecturers cannot give assignments online and get feedback unless it is done through a social network or private electronic mail. Students' parents or guardians find it difficult to interact with their ward's lecturers because of the manual method. This necessitated an urgent need to develop a system that manages student information online. It is then the objectives of this paper: to develop a centralized students document repository, to create a well-designed assignment submission system, and to develop a system that will help students interact with their lecturers on educational level to know when an assignment is given or when exam time table is posted. However, to execute these objectives, Object Oriented Analysis and Design Methodology (OOADM) was used. The new system was implemented with Hypertext Preprocessor a web programming language and it was supported with MySQL database engine.

Keywords: Management information system, Students, Lecturers, Assignment

I. Background of Study

An Information System is a system that gathers data and disseminates information with the sole purpose of providing information to its users (Jawadekar 2012). The main object of an information system is to provide information to its users. Information systems vary according to the type of users who use the system. A Management Information System is an information system that evaluates, analyzes, and processes an organization's data to produce meaningful and useful information based on which the management can take right decisions to ensure future growth of the organization (Kenneth, 2014). Management information helps in operational planning, decision making and control (Kenneth, 2014). Students' information in Chukwuemeka Odumegwu Ojukwu University are managed manually. Students miss important information that will help them in their academic pursuit because the way it is managed. It is a good practice to have an interactive platform where students in various departments of Chukwuemeka Odumegwu Ojukwu University (COOU) meet and interact with their lecturers, know when assignments are given and still give immediate feedback to the course lecturer in-charge not through social network or electronic mail but through a web based enabled platform. Non department courses pose a big problem with students especially the first years. They do not know their directions on how and where those lectures are carried out and time. Most time their departmental course representatives find it difficult to locate lecture venue because of the novel nature of the environment. The new method of handling information goes a long way to alleviate manual methods of getting, processing and storing information in the university. It helps students to know the names of their lecturers and courses assigned to them, when assignments are given and when to submit without pursuing course representative in their various departments. Students' and lecturers' information in COOU are stored in a MySQL database.

II. Statement of the Problem

1. The existing system offers no platform for online assignment submission.
2. The existing system offers no platform where student can view timetable for different session.
3. Students cannot view their assignment correction after submission.
4. There is no interactive place for parents or guardians to discuss with lecturers about their wards

III. Aim and Objectives of the Study

The main aim of this paper is to apply management information system in Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria.

The objectives are as follows:

1. To develop a student management system.
2. To develop a centralized students' document repository.
3. To develop a well-designed assignment submission system.
4. To develop a system that will help students interact with their lecturer on academic levels.

Importance of the Study

This paper helps in strategic planning, in resource allocation, in cost effectiveness analysis and in planning personnel requirements.

Review of Related Literatures

This chapter reviews the existing literature pertaining management information system in an organizational set up. Pettigrew (2012) undertook a major series of early studies into industrial change. His studies focused upon aspects of change within large multinational organizations, which mirror educational systems in some respects. He identified at an early stage how existing attitudes could shape internal change, and how interest groups needed to be managed. Above all, perhaps, his concept of 'the mobilization of support' was central, and is as pertinent now as it was then. In 2009, Peters looked at implications of change for managers, and, as a consequence, the impacts that managers should consider when change is a necessity or a desirable action. He was concerned with the concept of the potential for rapid innovation within companies, and the need to consider failure as a reasonable and useful element within the entire realm of processes of change. Morgan (2006). Morgan looked at the ways in which organizations can be managed, and the implications that this has for a developing, continuing or changing practice. His work looked at the industrial and commercial fields, and showed that there was a need for those managing change to consider the overall approaches that can be undertaken at an organizational level. In 2000, Browning offered what might be considered a realistic viewpoint on commercial change. He argued that change for individuals was not easy, and that change for groups or organizations were even more difficult. However, he argued further that the need for change was certain, and that therefore the control of change must be a major consideration for all organizations. He argued that those who had some control over processes of change would be more successful than those who did not.

Furthermore, Carnall in 2000, identified an important series of effects on working practices that individuals move through when they experience change. He noted that individuals go through a series of five stages – shock, denial, testing, owning, and implementing. Carnall showed that effectiveness can be affected by change, and that some lowering of effectiveness should be anticipated at the early stages before the positive outcomes of change from later stages emerge. He showed that the stages individuals work through need to be managed from both an individual and a group point of view. Mevarech (1997) also showed this effect in an educational context, and argued that the lowering of effectiveness at early stages could halt the emergence of higher level outcomes at later stages. Davies 2001, pointed to the need to consider how to manage a wide range of different attitudes in change situations. She identified the need for school managers to consider a range of attitudes - threat, anxiety, inadequacy, and antagonism as major negative effects. However, she did not from her studies look at the needs and implications for managing positive attitudes in change situations – it can be just as hard to manage enthusiasm, commitment and endeavor when resources and access to those resources are limited, for example. Rogers (2005), undertook an important early study on the effects that change has upon the time for its implementation. His work indicated a long time need of some 25 years to introduce change effectively into practice. Other later studies (Passey, et al., 2000) have pointed to the fact that ICT implementation in schools is now happening over shorter time intervals. However, the fact that technological change can happen more rapidly than an integration of ICT into practice means that the development of uses of ICT into practice need to be managed all the more.

Moreover, Information systems support not only information process but also innovations (Bellum, 2003). As being adaptable to changes, these systems are helpful to cope with the demands for change. Therefore, school management information systems improve the adaptation of the school to the environment. They enable the school to comprehend and define inner and outer information transfer. Thereby, school management both meets the demands and expectations of its inner (Lecturer, student) and outer members; and ensures that school activities are arranged accurately and on time (Pegler, 2002). Introduction of school management information systems to schools have caused significant changes in roles and working styles of managers (Telem, 2009). School management information systems have changed school management in the areas of leadership, decision making, workload, human resource management, communication, responsibility and planning (Arnold, 2008). Strategically school management information systems help the manager in

determining the aims of the school, making long term plans, distributing resources, and forming educational methods of future, determining performances of teachers and success of the school (Telem, 2009). In this way, school management information systems can also be used as a tool to initiate and use educational leadership of the manager (Telem, 2009).

Moreover, School management information systems provide information and various reports from the database in order to make decisions in line with the aims of the school and facilitate controlling of the activities to achieve the aims (Telem, 2009). Information technology helps the manager to access, manage and report the information quickly and easily. While telecommunication nets provide the manager with wide resources of information that can be used in problem solving, written communication has been grown richer by means of word processors and e-mails (Anderson, etal 2005). As we can see information systems have changed the roles of school managers (Pegler, 1992) and have changed their methods of working (Christopher, 2003). One of these is to develop a database that includes information on student registration and family, discontinuity, grades, staff and classes, and course information. These are just a step of school information systems. Other parts of information systems are management of school library, finance, fixtures, school schedule planning, standard reports sent to higher levels of school administration, etc. Researches in various countries confirm that school management information systems increase organizational and managerial effectiveness. After studies done with American school managers, Hedberg,etal (1992) stated that efficiency has increased in decision making at schools where school management information systems are used. In his study where Gurr (2000) examined effects of school management information systems on working of primary school managers in Australia, managers stated that use of school management information systems has introduced them information technologies and the facilities, lessened their workload and made management process more efficient, helped them use time more efficiently, made teachers feel themselves more important, made them and the teachers wish to improve themselves more, made important changes in education and teaching, and increased the quality of in-school communication. However in literature there are researches that show that school managers had problems in using school management information systems. For example, Visscher, etal (2009) in their study with 195 managers and teachers working in 63 high schools in Holland found out that school management information systems were mostly used in routine works and managers and lecturers did not have sufficient education on the system. Managers and lecturers indicated that while school management information systems had positive effects on evaluation of efficiency of the school, development of using sources, quality of educational programming and inschool communication, it increased their workload and caused stress. The research indicated that this stress is reduced in schools where education is sufficiently given on the system and where innovation is clearly stated as a vision. In addition, it was found that the staff that used the system had higher motivation, was keen to take more education, and adopted the vision of the school more. In the research where Warren (2008) examined the effects of information systems on educational decision making, he found out that school managers have not taken sufficient education on efficient use of the information technologies.

Analysis of the Present System

The present system carries out most of the students' information processing manually. Students get their assignments from their course lecturers and submit manually. School time table is generated in the same way. There is no interactive platform where students, parents, guardians and lecturers meet and discuss educational problems pertaining to their wards sent to school. The system does not remind student to check for their result when available. The system has no central database where the details of all the student in the school are stored and retrieved.

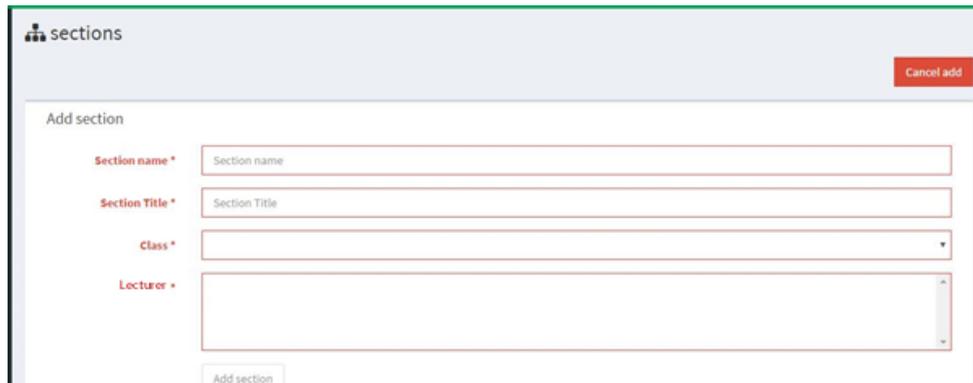
Analysis of the Proposed System

The proposed system uses a web based method to give assignments, submit assignments, obtain immediate feedback from the assignments, obtain time table needed for a particular event in the school and also has a platform where students' parents and guardians interact with lecturers to know the general academic performance and other vital information needed in their academic pursuit. The proposed has a central database where all the students and lecturers' details are stored using MySQL. Students and parents can access their students' details from anywhere through the help of internet. The proposed system has a notification capability where the students or parents receive a notification of the available message online.

Input Documents Analysis

The output of the proposed system is determined by the input to the system. The proposed system accepts information from the keyboard, scanner, process it and output the report. The input to the system is as follow: Request for Adding course, Request for registering a lecturer, Request Section Registration, Request Course registration and Request User registration.

Students and Lectures form



Output Documents Analysis

Once the inputs are collected, the obtained data are processed properly for effective use. The data/information processed is stored in the computer for subsequent use or output. These output includes the documentation generated after the processing of data/information supplied to the system. The outputs are: courses registered, Lecturers in charge of courses, Academic sessions, Students academic levels, Academic announcements, Confirmation message and Error message.

Information Flow Diagram of the proposed system

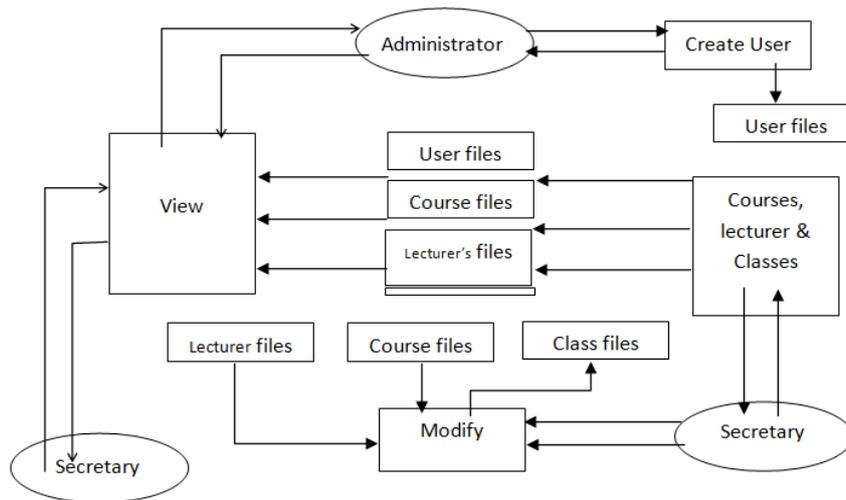


Fig 1 Information and Product Flow Diagram

High Level Model of the Proposed System

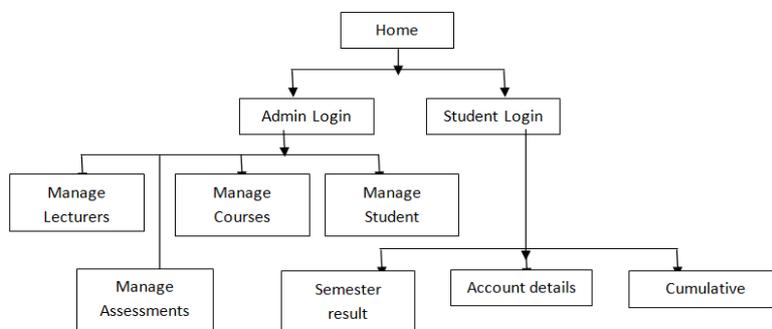
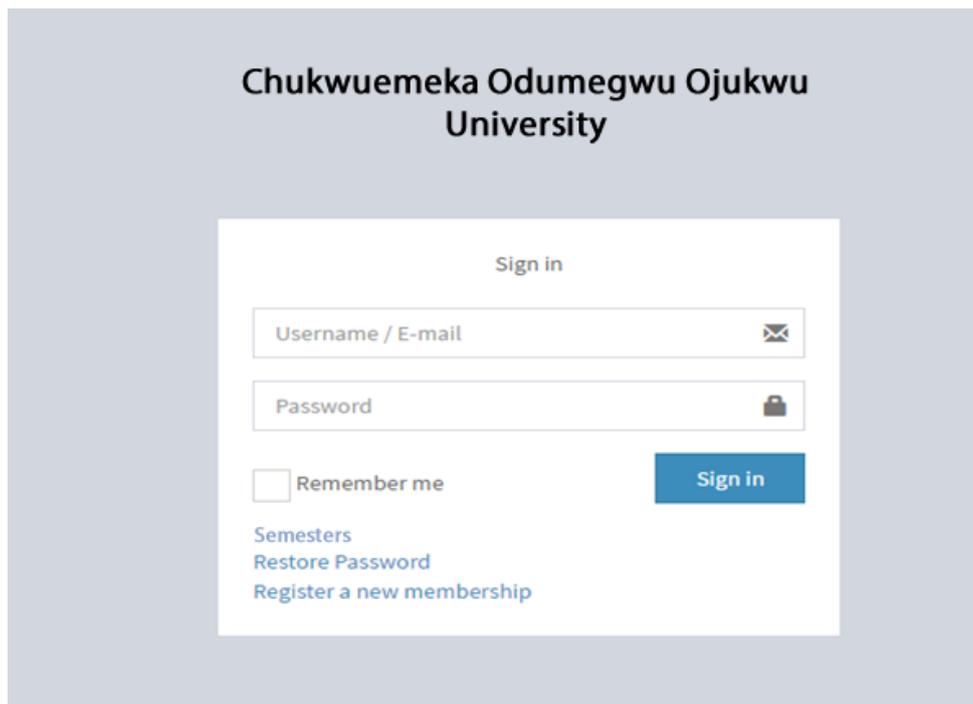
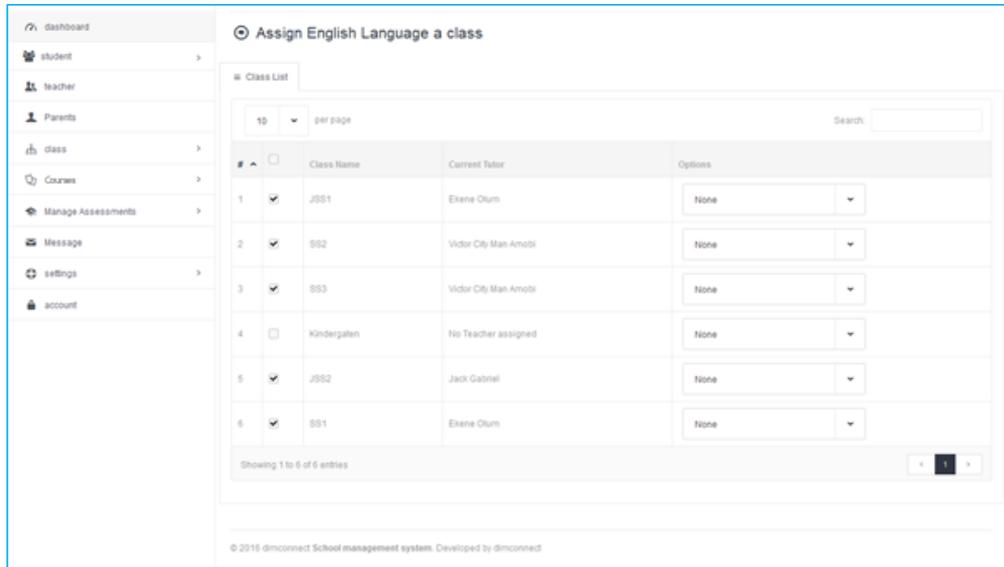
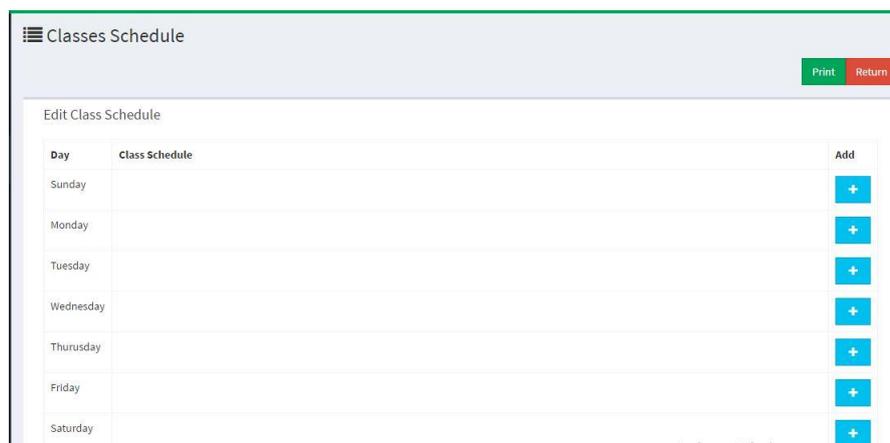
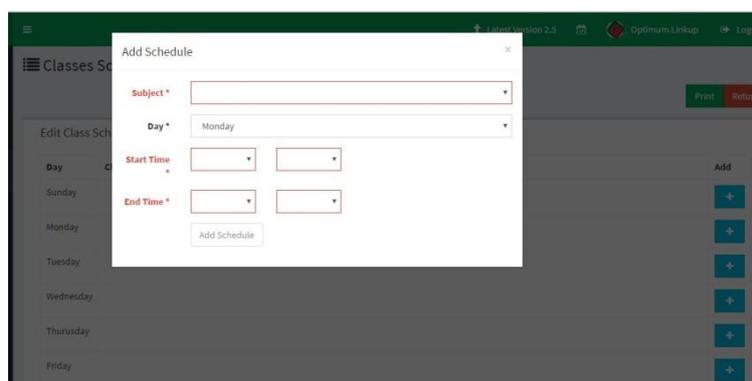
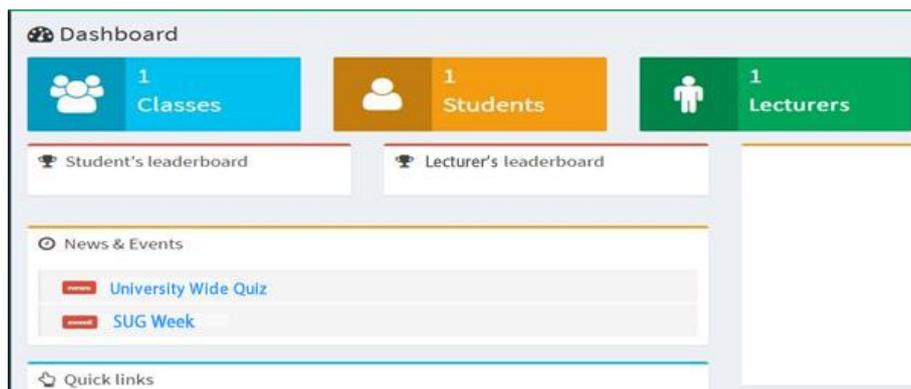


Fig 2 High Level Model of the Proposed System

IV. Results

The output of this paper is a web based system that automates students' information like assignments given, when to be submitted and immediate evaluation by the course lecture. Also an interactive platform where students' parents and guardian mix well their wards lecturer.





V. Summary

Management information system helps in analyzing, managing and making good decision in any sector. Effective organizing of students' concerned information in Chukwuemeka Odumegwu Ojukwu handle in this paper. Information were stored in a MySQL database. It was also implemented with hypertext preprocessor, a web programming language and this was supported with object oriented analysis and design methodology. Since lecturers give immediate feedback to students' assignments when submitted, it minimizes fraud. The electronic marking of student assignments will save time, efforts and energy aswell as expenses.

VI. Conclusion

Applying Students management System in COOU can reduce time and effort required in the process of management students' information, also the need for a large number of staff to carry out the functions of the system, where the management of this system needs to only one employee, furthermore it will help the administration of the university to speed decision-making, where this system has made it possible for the administration of the university to use real-time data when making decisions, which flows into the benefit of the university.

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