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Implementation of ICT As a Change Agent in Computing Students Result in ChukwuemekaOdumegwuOjukwu University (COOU), in Anambra State, Nigeria.

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ABSTRACT
Manual method of sorting out for result and computing it has posed a big problem to exams unit in ChukwuemekaOdumegwuOjukwu University (COOU), In Anambra State, Nigeria. During computation of results, the exam officers collect paper results from the department and either calculate them on papers or enter them on a computer for computation. Either of them is hard work and time wasting. Hence we propose a change and retrieval agent in computing results in ChukwuemekaOdumegwuOjukwu University, Uli. Since the University already has an existing website, we require a new format for uploading results to the website using Microsoft excel witheight (8) specific columns namely: names of students, registration numbers, continuous assignment, examination score, total score, grade and remarks done by course lecturers.To compute the results of a particular student, the exam officer opens the application; enters the required detail and the application will fetch and populate the grade fields automatically from the results already uploaded on the university website by the course lecturers. The application needs internet connection in order to do this. Thereafter the results are computed by the application. The methodology used is Object Oriented Analysis and Design Methods. The application is a windows application written with Microsoft visual basic.net. The database used in saving login information and computed CGPAs is a free distributed database MySQL. The result of this researchis a functional result retrieval and computation application used only by the authorized personnel for computation of degree results.

Keywords:ICT**,** Result, Management Information System, Transcript, Result Retrieval and Result Computing

I. INTRODUCTION

Information is a processed data. It is also a stimulus that has meaning in some context for its receiver. When information is entered into and stored in a computer, it is generally referred to as data. After processing (such as formatting and printing), output data can again be perceived as information. Communication is the act or process of using words, sounds, signs, or behaviors to express your ideas, thoughts, feelings, etc., to someone else (Merriam Webster, 1828).Information and Communication Technology (ICT) is an umbrella term that includes any communication device or application encompassing: radio, television, cellular phone, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them (Zuppo, Colrain,M, 2016). The broadness of ICT covers any product that will store, retrieve, manipulate transmit or receive information electronically in a digital form (Zuppo, Colrain,M, 2016). A system is a collection of inter-related and inter-connected components that work together to perform or carryout a specific task in order to accomplish a particular goal. For every system, security is a paramount issue. Due to multiple security incidents around the world and the loss of sensitive data, it has become necessary to put in place a mechanism to prevent unauthorized access into the server housing a sensitive system such as the Student Result Processing System through scripts run on the website. This paper is therefore concerned with applying a Php/MySQL to serve as the security mechanism between the front-end and back-end of the already existing Student Result Processing System. The Student Result Processing System automatically handle students' activities in the School ranging from student registration, keeping of students' files for decision making, computation and generation of students' grade points and transcripts respectively. The manual method of gathering results before computation will be a thing of the past since results will be uploaded electronically and be seen at any time at the departmental level and exams and records office too, any mutilation in the results the system sends messages across different course lectures through SMS alert.

1.1 Problem statement

The problem is the inability to use ICT as a change agent in computing students result in

ChukwuemekaOdumegwuOjukwu University, Anambra State, Nigeria. This research solves the problem by introducing ICT as a change agent in students' results processing and transcript collection. We noted clustering in front of exams and record office by the students waiting or looking for the exam officer in charge of their department which is a problem encountered in manual processing

1.2 Aims and Objectives

The aim of this study is to implement ICT as a change agent in computing students result in COOU. The major objectives are:

1. Toapply a secure database system to record and manage student information and their result from year one to final year and give them their transcript online whenever the need arises in Chukwuemeka Odumegwu Ojukwu University Uli Anambra state, Nigeria.
2. To ensure high level quality service development of the management which will ensure that students are not subjected to undue suffering in collection of their transcript or clearance prior to the deployment for youth service. The separation of the front end and the back end to ensure data stored on the server is secure. The system is secure from unauthorized access that can effect changes in grades of students and generation of accurate and error free student results information is assured.
3. To ensure that students' results are processed as at the time the students are due. It also saves students the time, clustering in front of exams and record office waiting or looking for the exam officer in charge of their department which is a problem encountered in manual processing. Also it gives students the opportunity to apply for their transcript online.
4. To ensure reliability and transparency in the creation and computation of results
5. To provides security mechanism to check student or staff mischievous act of changing marks or grades on the result sheet.
6. To ensure high level quality service development of the management which will ensure that students are not subjected to undue suffering in collection of their transcript or clearance prior to the deployment for youth service.

This paper work covers the entire back-end protection of the Student Result Processing System in the faculty of Physical Sciences; which include these departments listed below: Computer Science, Geology, Pure and Industrial Chemistry, Industrial Physics, Mathematics and Statistics, compute students result for National Youth Service Core (NYSC) and print student transcript whenever the need arises.

Information and Communication Technology

Information and Communication Technology (ICT) is an umbrella term that includes any communication device or application encompassing: radio, television, cellular phone, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care or libraries. It is also an extended term for Information Technology (IT) which stresses the role of unified (James, 2011) and the integration of telecommunication (telephone lines and wireless signals.), computers as well as necessary enterprise software, middleware, storage and audio-visual systems, which enable users to access, store, transmit, and manipulate information (information and communication technology from FOLDOC, 2008). However, ICT has no universal definition, as the concepts, methods and applications involved in ICT are constantly evolving on an almost daily basis (www.tutor2u.net,2015). The broadness of ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. Importance of ICT is so vast; it is one of the economic development pillars to gain national competitive advantage. It can improve the quality of human life in all rounds.

Management Information System (MIS)

Management information system is a computer based system that provides managers with the tools to organize evaluate and efficiently manage departments within an organization (Laudon,K& Laudon P, 2010). Management information system can include software that helps in decision making, data resources such as databases, the hardware resources of a system, decision support systems, people management and project management applications, and any computerized processes that enable the department to run efficiently. The role of management information system (MIS) manager is to focus on the organization's information and technology systems (Joshi 2013). The MIS managers analyses the business problem, designs it and maintains computer applications to solve the organizationsproblem.MIS focuses on the management of information systems to provide efficiency and effective management (Joshi 2013).

Analysis of the Present System

In ChukwuemekaOdumegwuOjukwu University in Anambra state, Nigeria all results and transcript processing are done manually; Results get lost, mutilated and results officer does the collection using paper. Students find it difficult to get their results computed as at when due and collectionof their results before National Youth Service Core (NYSC)becomes a problem because the exam officer does the computation based on sentiments not doing the right thing accordingly. Lecturers do not know what happen to the results submitted by them afterwards due to the manual method also. Transcript takes time because of the manual method and students who are no longer close find it practically impossible to collect their transcript when the need arises.

Analysis of the Proposed System

The new system or the proposed system is a windows application that works with internet connection. This system is written with Microsoft visual basic.net. the system run on a Microsft.net framework 4.0 or later. The system is secured, fast and reliable. Mutilation and other dangers in the present system will no longer be there. A web based results uploaded using Microsoft excel format witheight (8) specific columns consisting of names of students, registration numbers, continuous assignment, examination score, total score, grade and remarks done by course lecturers is required. The name of the file will be save with the code of the course and the session written as on word e.g. CIS1011516. CIS 101 is the course code and the session 2015/2016 is written as 1516. During computation of results, the exam officer uses the proposed application to retrieve each student's uploaded results instead of going through manual departmental files to collect results. The exam officer can do this by entering the registration number of the particular student he wants to compute. Next he selects the level and the session of the results he wants. Next, the application goes to the university website and retrieve the already uploaded results wherever the registration number supplied exists on those excel worksheet $sheet1 [column 2] and places the grades on the respective fields of the course grades on the graphical user interface of the proposed application. Students results are sent out on line, manual method of picking results for computation is a thing of the past since results are retrieved from the university website by the proposed application. Students information will already be in the department, Course lecturers, departmental exam officer and the Head of the Department have access to the web based platform and get notification through instant message alert or through their electronic mail address that a result score and grade have been tampered with after a submission has been done. This method helps to check mate results effectively. Transcript can be collected anywhere a student is, it saves time and risk of travelling since he/ she can pay on-line and collect immediately.

II. METHODOLOGY AND DATABASE USED

The methodology used is Object Oriented Analysis and Design Methods (OOADM). This methodology involves requirements, design, implementation, verification and maintenance. The database used in this research is MySQL because it serves as the security mechanism between the front-end and back-end of the already existing Student Result processing. Additionally, the database is free, hence it will enable us to deploy the application at the minimum cost possible.

Input Design

This section includes the various input design interfaces in the system.

Login Window

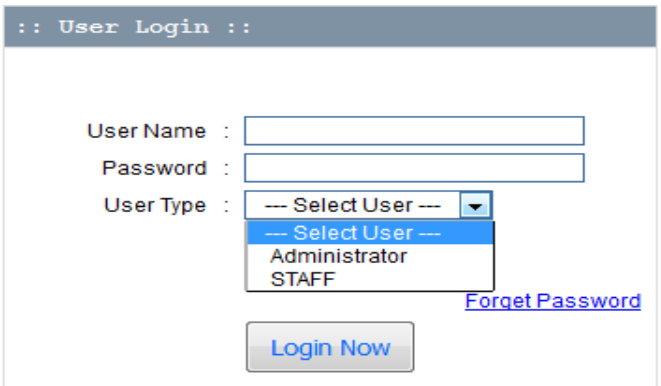

Fig 1.1 Login window

Student Registration

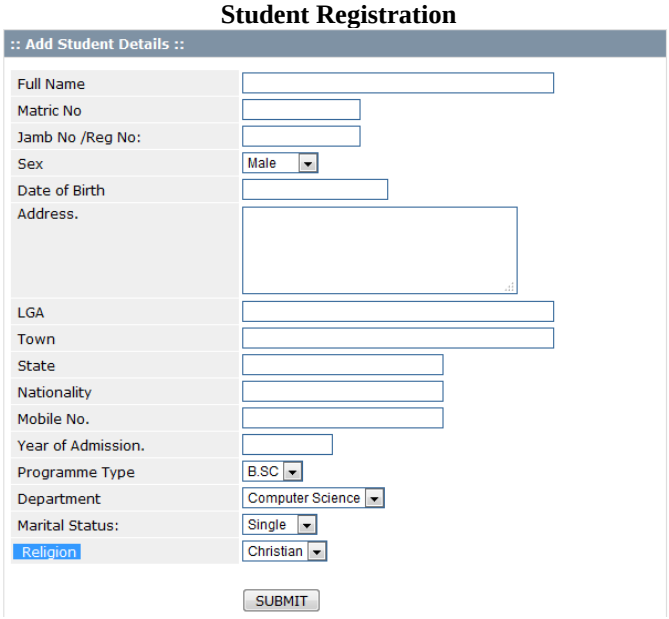

Fig 1.2 Student registration window

Add New Staff Details – Admin View

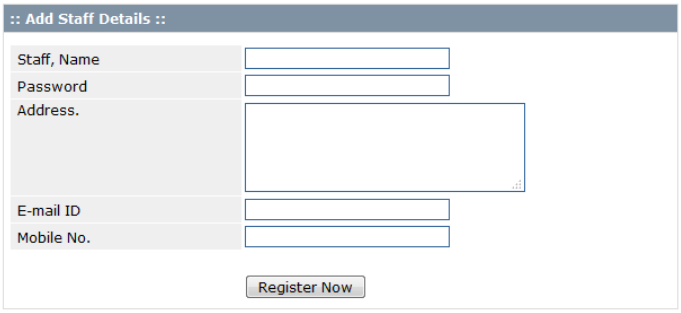

Fig 1.3 Add Staff window

Result computation

To compute result, the user will need to enter the names and registration number of the student. The registration number is the key information as it is the primary key. Additionally, the user need to select the result session from the list.

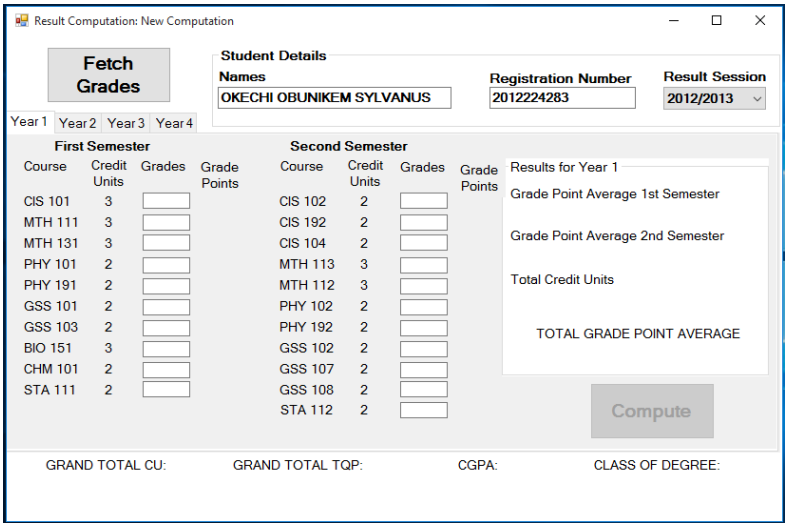

Fig 1.4 Student result entry format

Expected Output/Result

Then the user will then click on fetch grade.

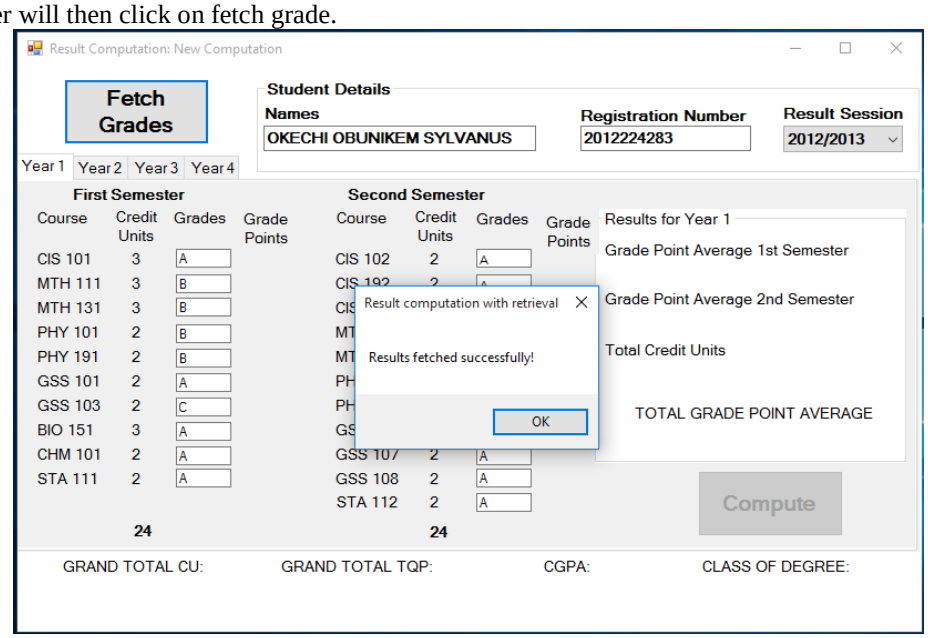

Fig 1.5 result fetched successfully

Computation done

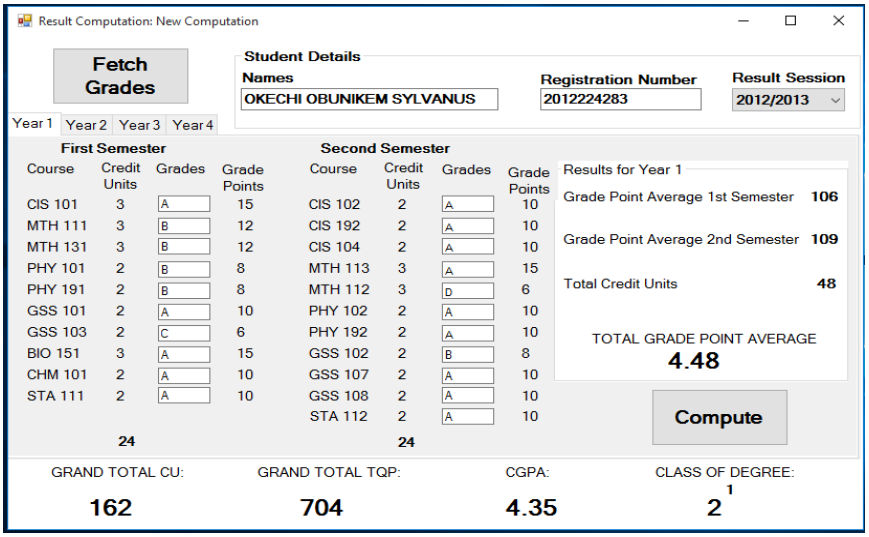

Fig 1.6 end result after compilation

III. CONCLUSION

The Computer-Based Result Management Information Systems (CBRMIS) is important. They underpin all the activities of a result management system by providing the basic storage and retrieval technology. The result application and transcript software send data to and receive data from the DBMS to the appropriate places. Students will no longer be stressed, to get their result computed and lecturers and head of department will no longer be receiving calls at random to produce or re-submit the results they had already done. In order to provide a security mechanism for the Students' Result Processing System's database, a study of the database was necessary. This paper has produced a Php/MySQL to keep the system's database in a secure condition. The System was designed to receive PHP requests, query the database and return the response back to Frontend, thus preventing unauthorized access into the database through PHP scripts and other methods used by hackers. The package is flexible and dynamic, making future enhancements possible as the database grows and evolves.

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