DESIGN AND IMPLEMENTATION OF A STUDENT INFORMATION SYSTEM FOR RESULT

CHECKING AND CGPA CALCULATOR

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**CHAPTER ONE**

**INTRODUCTION**

Information and Communication Technology (ICT) has become a valuable, decisive and critical resource for individuals, communities, enterprises and organizations. It has been estimated that in an organization, such as tertiary educational community, information is highly essential for correct students records and examination data.

With the use of computers for information processing, the following are possible: instant access to student personal and course information, instant student information updating, automatic computation of result, generating of the students graduation list, monitoring of failed courses, keeping and up-to-date record of the entire student body in the institution, storing course information for the purpose of result computation and producing user-friendly data entry screens for ease of use.

Some educational institute in Nigeria, such as Highland College of Technology, Ibadan still operate on the manual method of record keeping and computation of results. This method is sometimes prone to errors. Due to the increasing number of students in the institution, computation of student’s results has been a very tedious task. Therefore, because of these problems and errors arising from such a method, a computerized result processing system becomes necessary.

* BACKGROUND OF STUDY

The students grading system used in the university is the Five-point Grading System, recommended by the Nigerian Universities Commission (NUC).

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| Score (%) | LETTER GRADE | GRADE VALUE | REMARK |
| 70-100 | A | 5 | Excellent |
| 60-69 | B | 4 | Very Good |
| 50-59 | C | 3 | Good |
| 45-49 | D | 2 | Average |
| 40-44 | E | 1 | Pass |
| 00-39 | F | 0 | Fail |

The courses offered in a degree program are allocated a number of units which vary from one course to another, because the courses vary in their needs and scope hence, some are allocated greater units than others. The measure of performance of a student in any course is given by the grade points obtained in that course.

The overall Cumulative Grade Point Average (CGPA) of a student at any point is obtained by dividing the cumulative sum of the total grade points from the beginning of the course by the cumulative sum of course units. Thus,

Where,

TCP = Total Credit Unit

TNU= Total Number of Units

The CGPA is a very important measure of academic attainment as this is what determines whether a student can retain this studentship or be made to withdraw totally from the program. The final CGPA determines the class of degree awarded to the candidate on eventually completion of the program. Obviously, for the first semester, the CGPA is equal to the GPA.

Manually calculating and tracking the CGPA for each student is rather strenuous, especially with increasing number of students, and is prone to error. With an appropriate software package, the task becomes much easier, faster, and more accurate.

* EXISTING SYSTEM

The current method being employed in Highland College of Technology is the manual method of computing students result. This process makes students result computation to be time consuming and prone to errors.

* PROBLEM OF EXISTING SYSTEM
* Time wastage and efforts.
* Result computation errors.
* Privacy issues.
* Inadequacy in data entry and validation.
* Data duplication.
* PROPOSED SYSTEM

Details from the college about the student, courses and the examination scores and other relevant information will be used to create a database for the system to keep the academic records of the students.

In the proposed system, two access options will be provided, where a user either login as a Chief Examiner/Head of Department or as an Administrator. For the Administrator, one will only be able to enter scores for the course(s) which he/she takes and view the grades. As a Chief Examiner, one will be able to register students, courses and lecturers, assign courses to lecturers, enter examination scores and view the grades, view all students’ results and compute GPA and CGPA. The Administrator will have all the privileges of the other users of the system. Users of the system at the login interface will have to enter their username and password in the text fields as contained in the database. If username and password are valid for respective users as contained in the database, the system menu interface is displayed as related to individual users.

* BENEFITS OF PROPOSED SYSTEM

The website provides a simple and convenient approach for the processing of students’ results. It is reasonably secure because, due to password protection, no unauthorized person can gain access to alter the data. The information obtained from the system has a reasonably high degree of accuracy, because data are verified before being stored. Computations are carried out with a reasonable amount of speed by the system, once all raw data has been entered; the required information is available almost immediately. In addition, students’ results information is arranged in an orderly manner and readily available in a printable format.

* STATEMENTS OF PROBLEM

The current method being employed in Highland College of Technology is the manual method of computing students result. This process makes students result computation to be time consuming and prone to errors. The solution to the problem, therefore, is to find a method of processing examination results that would be sufficiently accurate and reasonably timely. The proposed system will be named **Highland College of Technology** **Examination Results Checker (HCTERC).**

* AIM AND OBJECTIVE
* AIM

The main aim is to design a student profile for result checking and CGPA calculator.

* OBJECTIVES

The main objectives of this work are to:

* Provide storage for students and course information.
* Allow easy access to stored information.
* Enhance speed of computation.
* Generation of result reports.
* Reduce errors due to the method of processing of results.
* SIGNIFICANCE OF DESIGN/STUDY

The automation of students’ academic records has been observed to provide instant access to students’ personal and course information, easy computation of students’ results, etc. The successful completion of this project work would improve the current method employed in the College for computing students’ results by enabling the Chief Examiner/Head of Department and other authorized personnel to have access to data by providing user-friendly data entry screens for ease of use.

* SCOPE OF DESIGN/STUDY

HCTERC is a web package for the capture, processing, storage and easy access of the academic records of students in Highland College of Technology.

This aspect of the work focuses on the design of a database for the system. The database will maintain information relating to students’ bio-data, courses, results and programs offered in each department in the college.

* LIMITATIONS

The limitations that were highly against this study is lack of materials and time given to accomplish the task.

* DEFINITION OF TERMS
* **Data**: Raw information in a form that is suitable for storage in or processing by a computer.
* **Information:** Information is a meaningful material derived from computer databy organizing and interpreting it in a specific way.
* **Computer:** A computer is a programmable machine, which comprises of electrical, mechanical and electronic components designed to sequentially and automatically achieve the processing, storage and manipulation of data to achieve the desired output through a sequence of arithmetic or logical operations.
* **Database:** This is a systematically arranged collection of data on computer structured so that the data can automatically be retrieved and manipulated.

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* **Software:** Software is a group of related computer programs that collaborate to accomplish a specified task.
* **Process**: It is a part of a running software program or other computing operation that performs a single task.