# Design and Development of a Database Driven Result Processing System (A case study of Isah Mustapha Agwai Polytechnic, Lafia)

## Garba Mohammed Rabiu[1]
*Department of Computer Science,*
*School of Science and Technology,*
*Isah Mustapha Agwai Polytechnic, Lafia*

## Anafa David Mudi[2]
*Department of Computer Science,*
*School of Science and Technology,*
*Isah Mustapha Agwai Polytechnic, Lafia*

***Abstract***
*This study covers the design and development of a Database Driven Result Processing System for Isah Mustapha Agwai Polytechnic, Lafia. Several efforts made towards lessening the burden of result processing of the Polytechnic on the examination officer kept on failing with the constant use of a flat file system. Popular observation of the current flat file based system supports room for improvement. Hence, the introduction of a robust database driven result processing to the Polytechnic optimized the process. To accomplish this, preliminary investigations were carried to ascertain the functionality of the existing system. This process was carried out in selected Departments. The strengths and weaknesses of the current result processing system were identified. The new result system was designed to correct all the identified lapses in the existing system. Data were gathered from the respondents through face to face interview and personal observation. The new system was developed using PHP (Hypertext processor) programming language and MYSQL (My Structural Query Language according to the principle of the Structured System Analysis and Design methodology (SSADM).*
***Keywords:*** *Driven, Result, Academic Board (AB), System, GPA*

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## I.  Introduction

Examination result is one of the most imperative aspects of education. It is a way through which the teachers, parents and the society measure the learning ability and general performance of every student [4]. Student's' examination result is an official record of student's work that shows the courses they have offered and the marks earned [4][5].  It determines the level of progress a student has made in a course. Students are usually keen to knowing their performances in various courses they have taken. This substantiates the need to process students' result and return accurate scores, grades and cumulative grade points; as this enable the students to know the courses they have passed and those they have failed[9][4].Processing and publishing of students' results is naturally time consuming since lecturers are burdened with a lot of other academic works like lecturing, research, marking of the exams scripts and attending to other duties which tend to affect the timely, efficient and accurate recording of students' results. The effort expended in computation of the students' examination results is awesome and quite worrisome is the fact that, this process is carried out every semester, putting the operators in a continuous and ever demanding loop [11][2].

### 1.1    STATEMENT OF THE PROBLEM

Result is one of the major determinants of students' academic prowess therefore, it is crucial to ensure that the students' results are computed accurately and on time. Currently, the processing of students' results in Nasarawa State Polytechnic, Lafia is spreadsheet based with its attendant lapses. The examination officers go through strenuous manual entering of students' scores and this is highly energy sapping and error bound. Apart from this, spreadsheet system is very slow in processing students' result partly because the spreadsheet platform acts as the processor and the database engine simultaneously. Students only have access to their result when it is placed on notice board and this makes it impossible for the students to view their results individually and at their

convenient. Corrupt and wayward examination officers most times alter students' scores in exchange for money and consequently, weak students having better grade point average (GPA) than good students. And this is because the spreadsheet permits submission of mark sheets to the examination officers, who then enter the scores into the spreadsheet system.

Moreover, there were several cases of wrong transfer of scores and grades involving spill-over students. Courses were listed as carry over for undeserving students and most times the solution comes by manually going through previous printed copies of the students result to correct the irregularity.

## 1.2 AIMS AND OBJECTIVES

This study aimed to suggest the design and develop a database driven result processing system for Nasarawa State Polytechnic, Lafia. Accordingly, the following specific objectives were set:

I.   To develop a system that guarantees automatic processing of result and devoid of manual entering of scores by examination officers.
II.  To develop a system that is fast, reliable and scalable.
III. To develop a system that stores students' result record in a relational database system.
IV.  To develop a system that publishes students' result individually and collectively.

## 1.3 METHOD OF ACHIEVING THE OBJECTIVE OF THE STUDY

This study adopts realistic algorithm steps as follows:
1. Uploading of the student score sheet into the database,
2. Running of process code to compute the total, GPA and CGPA respectively.
3. Generate the output for all the students.

The prototype method is adopted and used in the software development cycle to interact with the feedback gotten at each phase of development as well as updating the process to fulfill requirement of the exam officers. The final result processing software developed is evaluated with the documented records (printed files) for accuracy and consistency. When the requirements are not met, the software is updated and iterated to meet the requirement.

## 1.4 JUSTIFICATION OF THE STUDY

Based on these problems listed in section 1.1, there is need to develop a system that takes care of all the lapses and irregularities associated with the present result system. The proposed system will tap from the processing power of the computer's central processor and will be composed of three layers namely:

• the Graphical Users' Interface (GUI)
• the Logic/Instruction, and
• the Database

Each of these layers will execute certain levels of functions thoroughly and collaboratively. The graphical users' interface (GUI) provides the enabling user environment to input, output results as well as online conversation; the logic, function or instruction layer handles all forms of logical computation, algorithm execution, implementation and interpretation whereas the database engine handles different kinds of data input made into the system as well as data storage functions.

Furthermore, computation of result is an object oriented activity, where the student is the dominant object. Hence, the need to proffer, not just a computerized process, but an object-oriented software design that will effectively and efficiently capture all the important objects associated with result processing within the institution. Hence, the Design and Development of a Database Driven Result Processing System for the case study.

## 1.5 LIMITATION OF STUDY

This study covers the computation of students course work and examination scores in the results processing exercise and is limited to two semesters with the information of students of 2014/2015 session in consideration and in particular, this study is limited to result processing of Computer Science department, Nasarawa State Polytechnic with strict compliance to polytechnic academic grading system.

## II.  Review Of Related Literature

The delay in the release of students result largely developed due to the disharmony existing between the ICT department and the Directorate of Student Affairs of their case study. This disharmony has led to ineffective result processing experience, inefficiency in result processing procedure as well as impact negatively in students' academic progression [6]. In addition other school and students management based systems were associated with the result processing system enumerated the associated management based systems to include: Student Information Systems (SIS), Student Management Information Systems (SMIS), Student data Systems (SDS), Student Data Warehouse (SDW), Student Academic Information Systems (SAIS), or Student Information Management Systems (SIMS) [6]. The study recommended a method of gathering examination scores and course work into a mark sheet before uploading at once into the result processing system for processing. A system consists of various parts that are organized to work as a whole to achieve a stated goal. Similarly, an examination result processing consists of various sub systems that needs to operate synergistically as a unit to achieve the accurate processing and representation of students' performance following every prescribe rule and grading system [6][10].

Sokoto Polytechnic processes students' result using the Microsoft Office Excel – a spreadsheet programme categorize into the family of Lotus-123. This chosen system was then analyzed and compared with a British SITS Vision system for result processing. The result of analysis in comparison of the two system sampled through a questionnaire administered by the researchers revealed that the British SITS Vision result processing system exceeds in performance possessing the ability to analyze student information and highlighting the best students [10]. The study recommended the British SITS Vision as a standardized result processing system for universities, polytechnics, colleges and other institute of higher learning.

Many researchers have faulted a flat-file based system for result processing, their stand referred to this practice as semi-manual mode of result processing contesting that this mode of result processing allows students' examination scores and course work grading to be kept in a common cell. Their posture stressed upon the inconsistent relationship and dependability that exist with the flat-file or cell-to-cell dependencies and references. Furthermore, incorrect result of the student might be displayed because of an unopened excel file in which a cell or cells are depended upon. In conclusion, academia and researchers recommends that it is imperative to develop an automated result processing system that will have the program different from the database to produce an accurate and efficient student result.

Network designed system would make an efficient result processing system [3]. In their illustration, the trio implemented a result processing using PHP as the backend scripting language and MySQL for the database or data set management system. The developed system consisted of various subprograms which worked as a unit. The system was designed to generate a report sheet which displayed courses and their corresponding students' scores. It was reported after implementation and testing phase that the system passed a benchmark of 99.5% accuracy, thus making room for improvement [3][6][10].

## III.  Methodology

This study adopts the Structured System Analysis and Design Methodology (SSADM) was adopted for the development of the proposed system. SSADM is an internationally accepted software engineering model mainly used in most result oriented analysis. To gather relevant data that was processed and turn relevant information during the system design, development and implementation phases of this high-level solution for the case study organization, several visits were made to the case study. The activities carried out during those visits are computed below:

- Inspection and examination of the existing system used by the case study organization.
- Logical Interviews that help evaluate the techniques and procedures undertaken by the existing system for result processing.
- Technical investigation about the operations, objectives, advantages/benefits, limitations and preferable possible ways to advancing the current system.

### 3.1  Method of Data Collection/Gathering
Students' data consisting of course work, assessments, examinations and others required for the processing of student results are compiled and submitted by different lecturers to the examination officer. The officer creates an MS Excel score sheets for the data.

### 3.2  Data/File Processing Method
The Polytechnic uses Microsoft Office Excel for the result processing. The examination officer inputs the student scores recorded on the score sheets into the MS Excel Cells for processing. The computation of Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA) is based on the inter-relationship between

MS Excel Cells and the formulated formula for the computation of the various MS Excel cells upon which the students' scores are inputted into.

### 3.3 System Flow
The File Based System (Microsoft Office Excel) adopted allow only the examination offer to access the system. Everything is manage by the examination officer.

## IV. System Design And Development
The system constrained in a manner that allows only accurate input and output requirement of the system project. It cites the sources of the input data, method of processing and output of the stem. This system is more efficient, effective and accurate in processing the inputs of the polytechnic result processing system, with the input supplied at the point of execution (that is by uploading score sheet). The output is the comprehensive listing of all the students' result sheet (Name, registration number, attendance, course work, examination score, total and the grade) and the summary sheet which displays the CGPA for two semesters.

### 4.1 OBJECTIVE OF THE DESIGN
The design objective is to develop a system that shall produce accurate, efficient and effective performance assessment of each student by gathering useful data, analyze the data and proffer a long term solution to the challenges face with the use of the existing traditional method of processing students result by the case study organization. This primary objective leads to the evolution of the new design of a Database Driven Polytechnic Result Processing System, which allow the following:
- Accuracy in student results record keeping
- An error –free result processing system
- A secured storage for school data for both the students and school management.

### 4.2 ARCHITECTURE OF THE PROPOSED SYSTEM
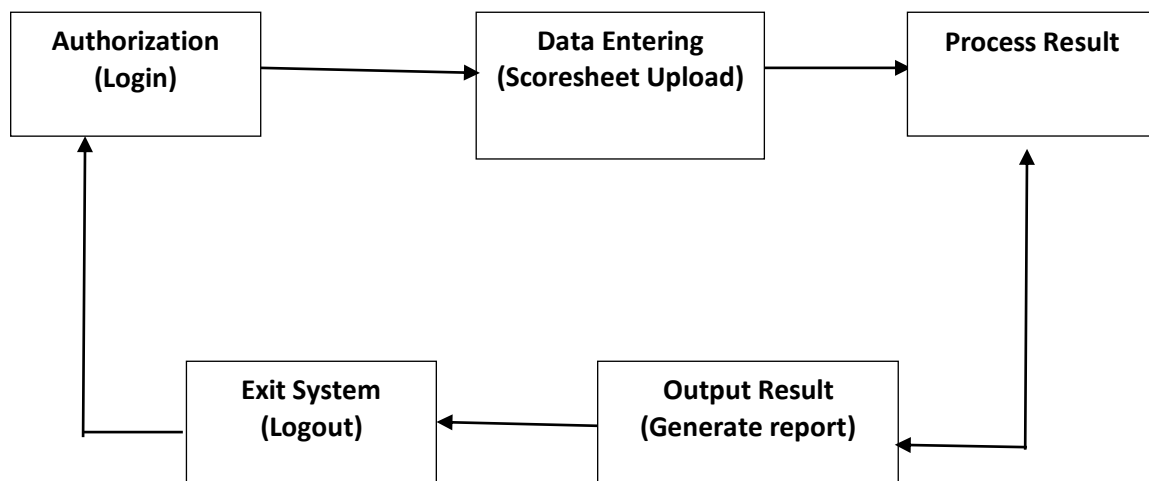


**Figure 1: Overall System Architecture Diagram**

### 4.2.1 Data Flow Diagram
The Data Flow Diagram of this database driven result processing system describes the flow of data and the processes that change or transform data throughout the system. This structured analysis and design tool provide illustrative analysis for flowcharting in place of, or in association with, information-oriented and process-oriented system flowcharts. The chart is as follows:
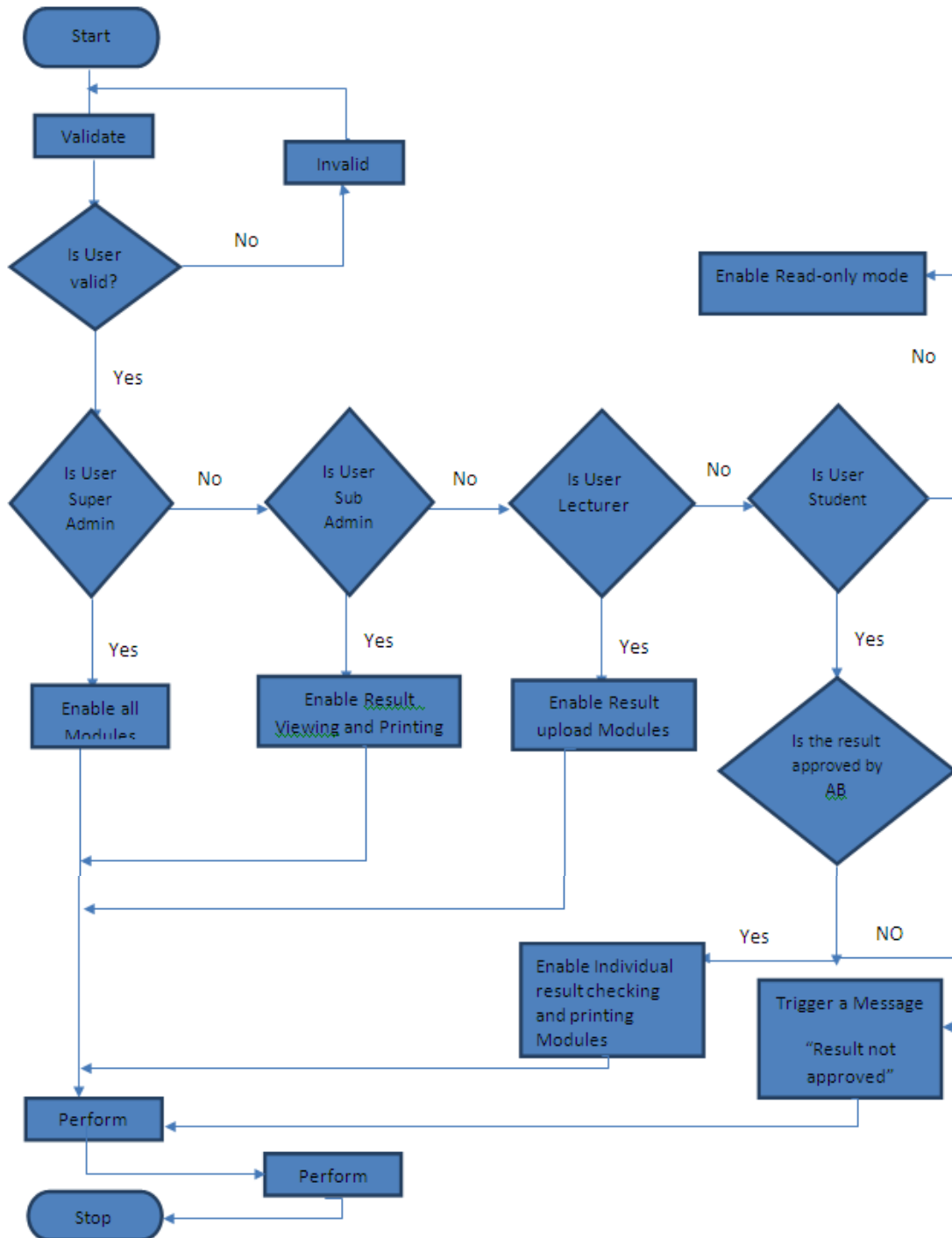
**Figure 2: Data Flow Diagram**

### 4.2.2  System Flowchart

The system flowchart present a logical and procedural order of activities in the utilization of the operational and functional modules allowed on the development system. The overall operational activities as well as it logical order is presented and all users of the system are required by standard of operation to follow the steps as outlined in the system flowchart.
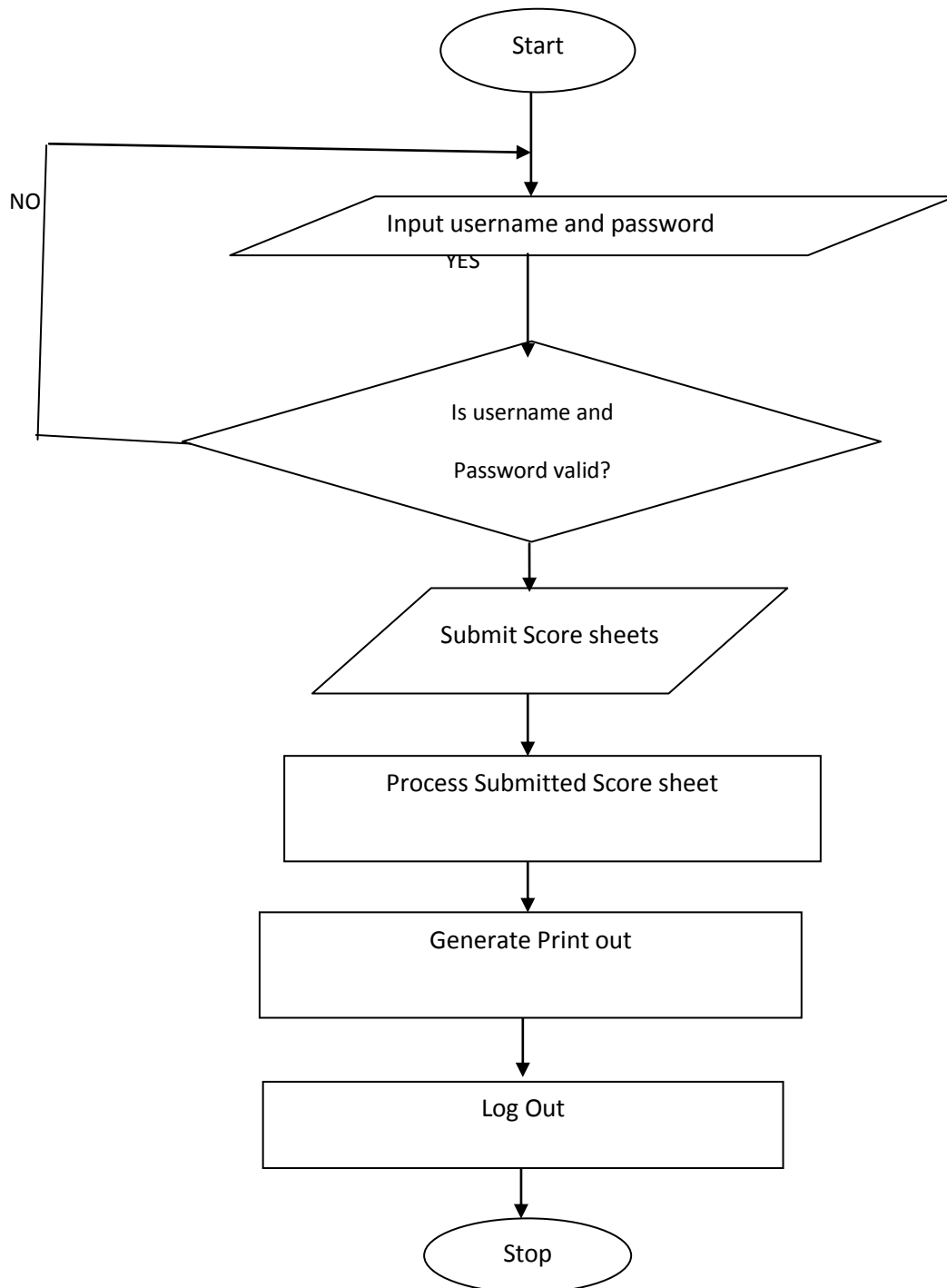
**Figure 3: System Flow Chart**

**4.3     ANALYSIS OF THE NEW SYSTEM**

The new system consists of four (4) basic operational modules, which are:

- admin (Head of Department)
- staff (lecturer)
- sub-admin (examination officers)
- students

It has a relational database engine for storing all forms of data generated. The system is secured and has a one way authentication method where auser is prompted to insert his/her login detail. If the username and password match with the ones in the database then access is granted. The supper admin creates new users and assign roles

to them as lecturers or examination officer. Students log in using their registration number as password and surname as username. The super admin oversees all the activities in the system and the examination officer as a sub admin for his Department has the privilege to send score sheets to lecturers via the lecturers registered email addresses and also prints result for Departmental consideration, School moderation and Academic Board approval. The lecturer has the privileged to upload results for the courses he handled. The entries are saved in CSV (comma separated values) format and imported into the result processor for direct computation. The lecturer also has the right to update students score based on Departmental or School or Academic Board directives. The student has the privilege to check his result and even print it out after the Academic Boards' approval.

## 4.4    CHOICE AND JUSTIFICATION OF DEVELOPMENT TOOLS
The choice of the following development tools were based on the following reasons:



**Figure 4: Development Tools**

**PHP:** Hypertext Preprocessor
- No fee for commercial user license
- Compatible with most severs
- Secure database connection
- Dozens of framework
- High speed

**MYSQL:** Relational database management system (RDBMS)
- It is open source and compatible with a wide range of systems, programming language and database models
- Fast and reliable
- It is scalable
- It provides automatic data retrieval

**CSS5:  Cascading Style Sheet**
- It improves application performance
- It provides easy control over layout and presentation of other elements of the application
- It provides layout for other tools
- Helps to load application pages fast

**HTML: Hypertext Markup Language**
- It provides the application structure
- It helps to reduce server load
- It is compatible also

**XML: Extensible Markup Language**
- Helps to create flexible applications
- Has support for data structures from heterogeneous databases
- It defines the structure for a user interface

**4.5          INPUT SPECIFICATION**
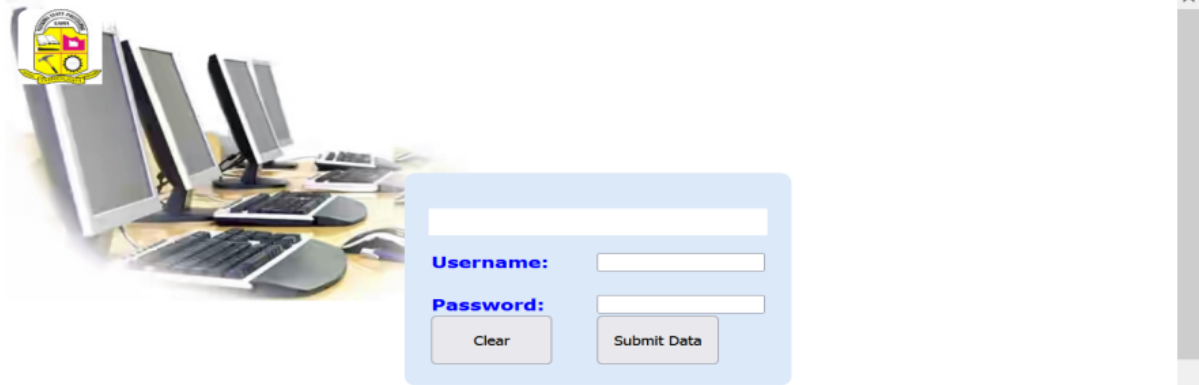


**Figure 5: Login page**



**Figure 6: Main Menu**



**Figure 7: Download Score sheet**
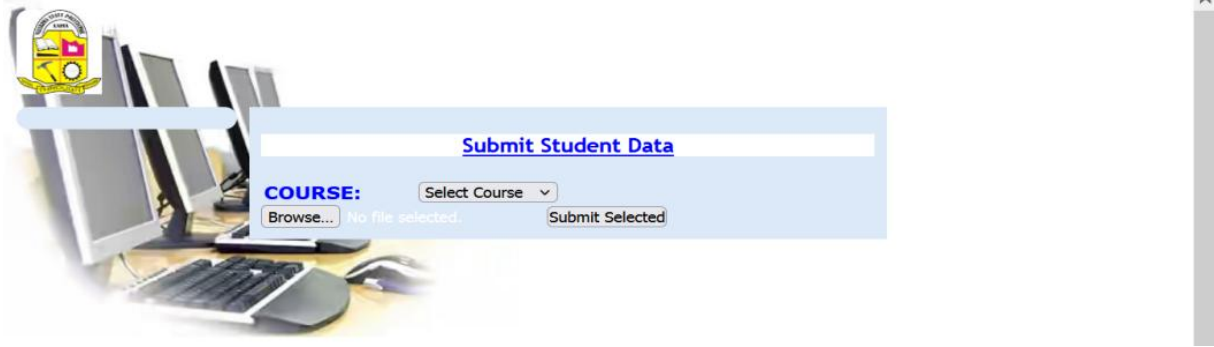
**Figure 8: Upload files**
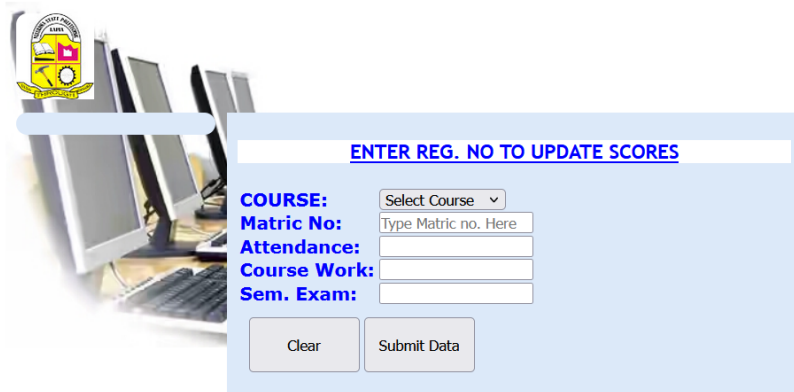


**Figure 9: Update Student Data**



**Figure 10: Print Page**

**4.6     DATABASE SPECIFICATION**

Database used for this work is the MySQL, a structural query language suitable for relational database management, data transactional operations and efficient for data mining. This database repository was chosen because it is an open source and suitable for organizing and presenting information in a logical manner as a standard for checking data redundancy, inconsistency as well as preserve data integrity amongst others. Its implementation was done using MySQLi server and InnoDB engine was adopted. The database consists of tables and are presented below:

**Table 1: Login Table Specification**

| s/n | Field Name | Data Type | length |
|-----|-----------|-----------|--------|
| 1 | Id | int | 255 |
| 2 | username | Varchar | 30 |
| 3 | Password | varchar | 50 |
| 4 | Date_log | Datetime | |
| 5 | logType | Varchar | 100 |
| 6 | session | Varchar | 100 |
| 7 | unit | Varchar | 100 |
| 8 | level | Varchar | 100 |
| 9 | Semester | Varchar | 100 |

**Table 2: Semester Table Specification**

| s/n | Field Name | Data Type | length |
|-----|-----------|-----------|--------|
| 1 | sn | int | 255 |
| 2 | regno | text | |
| 3 | fullname | varchar | 50 |
| 4 | attendance | text | |
| 5 | courseWork | Varchar | 10 |
| 6 | SessionExam | Varchar | 10 |
| 7 | Total | Varchar | 100 |
| 8 | Point1 | Double | 100 |
| 9 | Point2 | Varchar | 100 |
| 10 | remlet | Varchar | 255 |
| 11 | remark | Varchar | 100 |
| 12 | coom | Varchar | 200 |
| 13 | Sess1 | int | 6 |
| 14 | Sess2 | int | 6 |
| 15 | semrester | Varchar | 10 |
| 16 | level | Varchar | 100 |
| 17 | course | Varchar | 100 |
| 18 | title | Varchar | 250 |
| 19 | datetimeinsert | datatime | |

**Table 3: Summary Table Specification**

| s/n | Field Name | Data Type | length |
|-----|-----------|-----------|--------|
| 1 | sn | int | 255 |
| 2 | regno | varchar | 255 |
| 3 | fullname | varchar | 255 |
| 4 | firstgpa | Double | |
| 5 | scondgpa | Double | |
| 6 | thirdgpa | Double | |
| 7 | fourthgpa | Double | |
| 8 | remark | Double | |
| 9 | Totalsem | text | |
| 10 | counter | Varchar | 100 |
| 11 | refresh | Varchar | 100 |
| 12 | session | Varchar | 200 |
| 13 | semlevel | Varchar | 100 |

**Table 4: Courses Table Specification**

| s/n | Field Name | Data Type | length |
|-----|-----------|-----------|--------|
| 1 | Id | int | 10 |
| 2 | coursetitle | Varchar | 100 |
| 3 | coursecode | varchar | 10 |
| 4 | level | Datetime | |
| 5 | creditunit | int | 10 |
| 6 | Score_sys | Varchar | 10 |
| 7 | semester | Varchar | 10 |
| 8 | department | Varchar | 10 |
| 9 | Semester | Varchar | 100 |

**Table 5: Students Courses Table Specification**

| s/n | Field Name | Data Type | length |
|-----|-----------|-----------|--------|
| 1 | sn | int | 255 |
| 2 | stuid | Varchar | 100 |
| 3 | regno | varchar | 100 |
| 4 | title | varchar | 100 |
| 5 | code | Varchar | 10 |
| 6 | unit | int | 6 |
| 7 | session | Varchar | 100 |
| 8 | level | Varchar | 7 |
| 9 | Semester | Varchar | 10 |

**Table 6: Score Sheet Table Specification**

| s/n | Field Name | Data Type | length |
|-----|-----------|-----------|--------|
| 1 | sn | int | 255 |
| 2 | regno | text | |
| 3 | fullname | varchar | 50 |
| 4 | attendance | text | |
| 5 | courseWork | Varchar | 3 |
| 6 | SessionExam | Varchar | 3 |
| 7 | Total | Varchar | 100 |
| 8 | Point1 | Double | 100 |
| 9 | Point2 | Varchar | 100 |
| 10 | remark | Varchar | 100 |
| 11 | coom | Varchar | 200 |
| 12 | Sess1 | int | 6 |
| 13 | Sess2 | int | 6 |
| 14 | semrester | Varchar | 10 |
| 15 | level | Varchar | 5 |
| 16 | course | Varchar | 10 |
| 17 | datetimeinsert | datatime | |

**Table 7: Student Record Table Specification**

| s/n | Field Name | Data Type | length |
|-----|-----------|-----------|--------|
| 1 | stid | int | 255 |
| 2 | regno | varchar | 150 |
| 3 | fullname | varchar | 255 |
| 4 | highqual | varchar | 200 |
| 5 | levelndhnd | Varchar | 20 |
| 6 | Sess1 | Varchar | 15 |
| 7 | Sess2 | Varchar | 100 |
| 8 | sex | Double | 100 |
| 9 | mstatus | Varchar | 100 |
| 10 | dob | Varchar | 10 |
| 11 | nationality | Varchar | 200 |
| 12 | state | Varchar | 25 |
| 13 | lga | Varchar | 255 |
| 14 | phone | Varchar | 20 |
| 15 | email | Varchar | 255 |
| 16 | gname | Varchar | 200 |
| 17 | gadd | Varchar | 255 |
| 18 | gphone | Varchar | 20 |
| 19 | approval | Varchar | 100 |
| 20 | formx | Varchar | 200 |
| 21 | imagename | varchar | 200 |
| 22 | imagepath | varchar | 200 |

## 4.7 OUTPUT SPECIFICATION

**A1**

**ISA MUSTAPHA AGWAI I POLYTECHNIC, LAFIA**
**NATIONAL DIPLOMA PROGRAMME**

| SCHOOL | SCIENCE AND TECHNOLOGY | | DEPARTMENT: | COMPUTER SCIENCE |
|---|---|---|---|---|

| LEVEL: | ND1 | ACADEMIC YEAR: 2014/2015 | DESCRIPTION: | | SEMESTER: | FIRST |
|---|---|---|---|---|---|---|

| SN | COURSE TITLE | COURSE CODE | COURSE UNIT | COURSE SYS | ANALYSIS |
|---|---|---|---|---|---|
| 1 | INTRODUCTION TO COMPUTING | COM 101 | 5 | 16/24 | * Total no of Students,152 =100% |
| 2 | INTRODUCTION TO DIGITAL ELECTRONICS | COM 112 | 5 | 16/24 | |
| 3 | INTRODUCTION TO PROGRAMMING | COM 113 | 4 | 16/24 | |
| 4 | DESCRIPTIVE STATISTICS I | STA 111 | 2 | 20/20 | |
| 5 | ELEMENTARY PROBABILITY THEORY | STA 112 | 2 | 16/24 | |
| 6 | LOGIC AND LINEAR ALGEBRA | MTH 111 | 4 | 16/24 | |
| 7 | FUNCTIONS AND GEOMETRY | MTH 112 | 5 | 16/24 | |
| 8 | TECHNICAL ENGLISH I | OTM 112 | 4 | 16/24 | |
| 9 | CITIZENSHIP EDUCATION I | GNS 127 | 2 | 16/24 | |
| 10 | USE OF LIBRARY | GLS 101 | 2 | 16/24 | |

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**NOTE:**

| SCORE | GRADE: | POINTS |
|---|---|---|
| 75 - 100 | A | 4.00 |
| 70 - 74 | AB | 3.50 |
| 65 - 69 | B | 3.00 |
| 60 - 64 | BC | 2.50 |
| 55 - 59 | C | 2.00 |
| 50 - 54 | CD | 1.50 (FAIL) |
| 45 - 49 | D | 1.00 (FAIL) |
| 40 - 49 | E | 0.50 (FAIL) |
| 0 - 39 | F | 0.00 (FAIL) |

**HND/ND CERT. GRADING**

| SCORE (CGPA) | CLASS OF DIPLOMA |
|---|---|
| 3.50 - 4.00 | DISTINCTION |
| 3.00 - 3.49 | UPPER CREDIT |
| 2.50 - 2.99 | LOWER CREDIT |
| 2.00 - 2.49 | PASS |
| BELOW 2.00 | FAIL |

Head of Department:

Dean:

**Figure 11: Result Page 1**

**ISA MUSTAPHA AGWAI I POLYTECHNIC, LAFIA**
**RESULT SHEET**

| SCHOOL: | SCIENCE AND TECHNOLOGY | | DEPARTMENT: | COMPUTER SCIENCE |
|---|---|---|---|---|

| LEVEL: | ND1 | | SEMESTER: | FIRST | | ACADEMIC YEAR: | 2014/2015 |
|---|---|---|---|---|---|---|---|

| SN | REG NO | NAME | 1.COM 101 5( 16/24) | | | | | 2. COM 112 5( 16/24) | | | | | 3.COM 113 4( 16/24) | | | | | 4.STA 111 2( 20/20) | | | | | 5.STA 112 2( 16/24) | | | | | 6.MTH 111 4( 16/24) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ATT | CW | SE | TL | GRD & SCR | ATT | CW | SE | TL | GRD & SCR | ATT | CW | SE | TL | GRD & SCR | ATT | CW | SE | TL | GRD & SCR | ATT | CW | SE | TL | GRD & SCR | ATT | CW | SE | TL | GRD & SCR |
| 1 | 14/007 | UGOR ADAMS | 80 | 30 | 42 | 72 | AB=17.5 | 87 | 38 | 44 | 82 | A=20 | 80 | 16 | 20 | 36 | F=0 | 75 | 21 | 24 | 45 | D=4.5 | 80 | 23 | 47 | 70 | AB=7 | 86 | 29 | 32 | 61 | BC=12 |
| 2 | 14/042 | LAMINI PETER DANIEL | 79 | 30 | 40 | 70 | AB=17.5 | 78 | 20 | 15 | 35 | F=0 | 85 | 34 | 29 | 63 | BC=12 | 75 | 20 | 20 | 40 | E=4 | 80 | 16 | 26 | 42 | E=4 | 84 | 17 | 27 | 44 | E=8 |
| 3 | 14/055 | ADOGAR MATHEW ELLEH | 80 | 30 | 38 | 68 | B=16.25 | 80 | 32 | 34 | 66 | B=16.25 | 82 | 16 | 20 | 36 | F=0 | 75 | 20 | 33 | 53 | CD=5 | 80 | 22 | 41 | 63 | BC=6 | 80 | 16 | 25 | 41 | E=8 |
| 4 | 14/068 | DANIEL NAOMI | 90 | 30 | 38 | 68 | B=16.25 | 81 | 29 | 37 | 66 | B=16.25 | 85 | 32 | 24 | 56 | C=11 | 75 | 22 | 44 | 66 | B=6.5 | 80 | 16 | 48 | 64 | BC=6 | 90 | 29 | 45 | 74 | AB=14 |
| 5 | 14/069 | CHUKWUMERITE NNAEMEKA GODGIFT | 80 | 30 | 34 | 64 | BC=15 | 82 | 33 | 31 | 64 | BC=15 | 85 | 16 | 20 | 36 | F=0 | 75 | 20 | 22 | 42 | E=4 | 75 | 20 | 24 | 44 | E=4 | 88 | 19 | 29 | 48 | D=9 |
| 6 | 14/110 | ADEYEFA OLADAPO ADESOPE | 80 | 30 | 58 | 88 | A=20 | 80 | 36 | 37 | 73 | AB=17.5 | 85 | 32 | 40 | 72 | AB=14 | 75 | 19 | 16 | 35 | F=0 | 86 | 19 | 38 | 57 | C=5.5 | 86 | 28 | 39 | 67 | B=13 |
| 7 | 14/111 | KWAPLONG TASIU SA'EED | 75 | 30 | 48 | 78 | A=20 | 83 | 34 | 37 | 71 | AB=17.5 | 85 | 33 | 47 | 80 | A=16 | 75 | 21 | 33 | 54 | CD=5 | 77 | 19 | 48 | 67 | B=6.5 | 80 | 33 | 55 | 88 | A=16 |
| 8 | 14/115 | ADAMU ISMAILA ABBAS | 80 | 30 | 44 | 74 | AB=17.5 | 80 | 33 | 29 | 62 | BC=15 | 85 | 31 | 29 | 60 | BC=12 | 75 | 20 | 20 | 40 | E=4 | 77 | 18 | 41 | 59 | C=5.5 | 80 | 16 | 24 | 40 | E=8 |
| 9 | 14/118 | SAMUEL JESSICA KUWANTA | 90 | 25 | 46 | 71 | AB=17.5 | 79 | 32 | 33 | 65 | B=16.25 | 80 | 16 | 24 | 40 | E=8 | 75 | 20 | 28 | 48 | D=4.5 | 75 | 17 | 41 | 58 | C=5.5 | 82 | 16 | 24 | 40 | E=8 |
| 10 | 14/122 | HASSAN ALHERI DAVID | 90 | 25 | 38 | 63 | BC=15 | 80 | 31 | 30 | 61 | BC=15 | 85 | 32 | 30 | 62 | BC=12 | 75 | 20 | 22 | 42 | E=4 | 76 | 16 | 26 | 42 | E=4 | 86 | 22 | 25 | 47 | D=9 |
| 11 | 14/123 | MUHAMMAD ABDULLAHI | 80 | 35 | 36 | 71 | AB=17.5 | 78 | 28 | 34 | 62 | BC=15 | 80 | 32 | 26 | 58 | C=11 | 75 | 20 | 31 | 51 | CD=5 | 76 | 11 | 23 | 34 | F=0 | 86 | 20 | 27 | 47 | D=9 |
| 12 | 14/124 | SALISU HAMIDU IBRAHIM | 91 | 35 | 37 | 72 | AB=17.5 | 80 | 37 | 24 | 61 | BC=15 | 85 | 16 | 27 | 43 | E=8 | 75 | 20 | 24 | 44 | E=4 | 78 | 16 | 25 | 41 | E=4 | 80 | 18 | 26 | 44 | E=8 |
| 13 | 14/125 | JIMMY ANDREW ABOY | 75 | 30 | 36 | 66 | B=16.25 | 79 | 16 | 24 | 40 | E=4 | 82 | 32 | 16 | 48 | D=9 | 75 | 20 | 27 | 47 | D=4.5 | 77 | 19 | 30 | 47 | D=9 | | | | | |
| 14 | 14/126 | LOUIS CHRISTOPHER OGBONNAYA | 75 | 35 | 46 | 81 | A=20 | 80 | 24 | 27 | 51 | CD=12.5 | 85 | 24 | 24 | 48 | D=9 | 75 | 20 | 27 | 47 | D=4.5 | 75 | 20 | 33 | 53 | CD=5 | 80 | 28 | 40 | 68 | B=13 |
| 15 | 14/136 | MU'AZU MUKTAR USMAN | 75 | 25 | 42 | 67 | B=16.25 | 88 | 38 | 46 | 84 | A=20 | 85 | 33 | 28 | 61 | BC=12 | 75 | 21 | 41 | 62 | BC=6 | 75 | 23 | 47 | 70 | AB=7 | 84 | 29 | 36 | 65 | B=13 |
| 16 | 14/141 | OGAR LYDIA OMARI | 75 | 25 | 42 | 67 | B=16.25 | 80 | 26 | 25 | 51 | CD=12.5 | 85 | 30 | 26 | 56 | C=11 | 75 | 20 | 20 | 40 | E=4 | 75 | 16 | 31 | 47 | D=4.5 | 90 | 12 | 22 | 34 | F=0 |
| 17 | 14/148 | MODU FALMATA | 80 | 25 | 32 | 57 | C=13.75 | 84 | 22 | 25 | 47 | D=11.25 | 85 | 16 | 33 | 49 | D=9 | 75 | 17 | 16 | 33 | F=0 | 77 | 17 | 28 | 45 | D=4.5 | 84 | 22 | 25 | 47 | D=9 |
| 18 | 14/149 | NNABUIFE CHINENYE CHRISTIANA | 80 | 25 | 40 | 65 | B=16.25 | 85 | 32 | 41 | 73 | AB=17.5 | 85 | 35 | 35 | 70 | AB=14 | 75 | 20 | 41 | 61 | BC=6 | 75 | 17 | 41 | 58 | C=5.5 | 86 | 29 | 42 | 71 | AB=14 |
| 19 | 14/150 | PAUL VICTORIA OKON | 80 | 30 | 36 | 66 | B=16.25 | 88 | 37 | 44 | 81 | A=20 | 80 | 37 | 27 | 64 | BC=12 | 75 | 20 | 22 | 42 | E=4 | 80 | 18 | 38 | 56 | C=5.5 | 80 | 12 | 18 | 30 | F=0 |
| 20 | 14/152 | OMBUGADU BENJAMIN ISHAYA | 80 | 25 | 38 | 63 | BC=15 | 82 | 34 | 37 | 71 | AB=17.5 | 85 | 17 | 21 | 38 | F=0 | 75 | 20 | 29 | 49 | D=4.5 | 80 | 16 | 34 | 50 | CD=5 | 86 | 18 | 24 | 42 | E=8 |
| 21 | 14/154 | OMALUWA ABEL PETER | 80 | 25 | 52 | 77 | A=20 | 80 | 25 | 35 | 60 | BC=15 | 80 | 32 | 46 | 78 | A=16 | 75 | 20 | 32 | 52 | CD=5 | 80 | 22 | 33 | 55 | C=5.5 | 84 | 19 | 41 | 60 | BC=12 |
| 22 | 14/155 | EJIM MONICA IYIYA | 90 | 30 | 40 | 70 | AB=17.5 | 83 | 35 | 30 | 65 | B=16.25 | 85 | 26 | 24 | 50 | CD=10 | 75 | 20 | 36 | 56 | C=5.5 | 80 | 18 | 26 | 44 | E=8 | 80 | 17 | 24 | 41 | E=8 |
| 23 | 14/156 | YA'U ABUSIFIYANU | 90 | 35 | 38 | 73 | AB=17.5 | 78 | 30 | 24 | 54 | CD=12.5 | 82 | 26 | 25 | 51 | CD=10 | 75 | 20 | 20 | 40 | E=4 | 75 | 16 | 24 | 40 | E=4 | 90 | 19 | 27 | 46 | D=9 |
| 24 | 14/159 | BIKOM EMMANUEL OSOW-MUKO | 90 | 30 | 39 | 69 | B=16.25 | 81 | 21 | 32 | 53 | CD=12.5 | 85 | 21 | 29 | 50 | CD=10 | 75 | 20 | 34 | 54 | CD=5 | 75 | 16 | 29 | 45 | D=4.5 | 88 | 22 | 26 | 48 | D=9 |
| 25 | 14/164 | BAWA ISREAL TIMOTHY | 75 | 25 | 40 | 65 | B=16.25 | 80 | 23 | 31 | 54 | CD=12.5 | 85 | 38 | 24 | 62 | BC=12 | 75 | 20 | 26 | 46 | D=4.5 | 77 | 16 | 39 | 55 | C=5.5 | 86 | 29 | 30 | 59 | C=11 |
| 26 | 14/165 | AKOLO ALHERI ASHE | 75 | 25 | 40 | 65 | B=16.25 | 81 | 31 | 34 | 65 | B=16.25 | 85 | 16 | 24 | 40 | E=8 | 75 | 18 | 18 | 36 | F=0 | 77 | 16 | 26 | 42 | E=4 | 80 | 18 | 15 | 33 | F=0 |

**Figure 12: Print Page 2**

**ISA MUSTAPHA AGWAI I POLYTECHNIC, LAFIA**
**RESULT SHEET**

SCHOOL: SCIENCE AND TECHNOLOGY  DEPARTMENT: COMPUTER SCIENCE

LEVEL: ND1  SEMESTER: FIRST  ACADEMIC YEAR: 2014/2015

| SN | REG NO | NAME | 7.MTH 112 | | | | | 8.OTM 112 | | | | | 9.GNS 127 | | | | | 10.GLS 101 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SYSTEM | ATT | CW | SE | TL | GRD & SCR | ATT | CW | SE | TL | GRD & SCR | ATT | CW | SE | TL | GRD & SCR | ATT | CW | SE | TL | GRD & SCR |
| 1 | 14/007 | UGOR ADAMS | 84 | 16 | 39 | 55 | C=13.75 | 82 | 25 | 47 | 72 | AB=14 | 80 | 28 | 26 | 54 | CD=5 | 84 | 20 | 44 | 64 | BC=6 |
| 2 | 14/042 | LAMINI PETER DANIEL | 85 | 34 | 24 | 58 | C=13.75 | 80 | 20 | 24 | 44 | E=8 | 90 | 16 | 28 | 44 | E=4 | 84 | 18 | 42 | 60 | BC=6 |
| 3 | 14/055 | ADOGAR MATHEW ELLEH | 85 | 16 | 35 | 51 | CD=12.5 | 81 | 24 | 26 | 50 | CD=10 | 90 | 28 | 30 | 58 | C=5.5 | 84 | 23 | 50 | 73 | AB=7 |
| 4 | 14/068 | DANIEL NAOMI | 85 | 32 | 24 | 56 | C=13.75 | 82 | 25 | 35 | 60 | BC=12 | 90 | 24 | 26 | 50 | CD=5 | 78 | 19 | 24 | 43 | E=4 |
| 5 | 14/069 | CHUKWUMERITE NNAEMEKA GODGIFT | 85 | 16 | 28 | 44 | E=10 | 82 | 20 | 25 | 45 | D=9 | 85 | 26 | 28 | 54 | CD=5 | 80 | 17 | 33 | 50 | CD=5 |
| 6 | 14/110 | ADEYEFA OLADAPO ADESOPE | 85 | 32 | 49 | 81 | A=20 | 82 | 26 | 55 | 81 | A=16 | 85 | 22 | 28 | 50 | CD=5 | 80 | 17 | 39 | 56 | C=5.5 |
| 7 | 14/111 | KWAPLONG TASIU SA'EED | 85 | 33 | 36 | 69 | B=16.25 | 82 | 23 | 45 | 68 | B=13 | 90 | 24 | 26 | 50 | CD=5 | 82 | 21 | 46 | 67 | B=6.5 |
| 8 | 14/115 | ADAMU ISMAILA ABBAS | 86 | 31 | 07 | 38 | F=0 | 82 | 22 | 45 | 67 | B=13 | 90 | 16 | 24 | 40 | E=4 | 84 | 23 | 37 | 60 | BC=6 |
| 9 | 14/118 | SAMUEL JESSICA KUWANTA | 85 | 16 | 32 | 48 | D=11.25 | 81 | 24 | 36 | 60 | BC=12 | 85 | 26 | 38 | 64 | BC=6 | 80 | 16 | 42 | 58 | C=5.5 |
| 10 | 14/122 | HASSAN ALHERI DAVID | 88 | 32 | 29 | 61 | BC=15 | 82 | 26 | 28 | 54 | CD=10 | 90 | 20 | 12 | 32 | F=0 | 80 | 18 | 37 | 55 | C=5.5 |
| 11 | 14/123 | MUHAMMAD ABDULLAHI | 88 | 32 | 29 | 61 | BC=15 | 82 | 20 | 24 | 44 | E=8 | 85 | 22 | 28 | 50 | CD=5 | 78 | 16 | 34 | 50 | CD=5 |
| 12 | 14/124 | SALISU HAMIDU IBRAHIM | 81 | 16 | 26 | 42 | E=10 | 80 | 20 | 24 | 44 | E=8 | 85 | 16 | 24 | 40 | E=4 | 80 | 16 | 26 | 42 | E=4 |
| 13 | 14/125 | JIMMY ANDREW ABOY | 82 | 32 | 02 | 34 | F=0 | 82 | 25 | 30 | 55 | C=11 | 90 | 28 | 24 | 52 | CD=5 | 78 | 22 | 31 | 53 | CD=5 |
| 14 | 14/126 | LOUIS CHRISTOPHER OGBONNAYA | 83 | 24 | 25 | 49 | D=11.25 | 80 | 26 | 34 | 60 | BC=12 | 90 | 28 | 32 | 60 | BC=6 | 82 | 21 | 40 | 61 | BC=6 |
| 15 | 14/136 | MU'AZU MUKTAR USMAN | 84 | 33 | 29 | 62 | BC=15 | 82 | 20 | 25 | 45 | D=9 | 85 | 20 | 14 | 34 | F=0 | 84 | 20 | 40 | 60 | BC=6 |
| 16 | 14/141 | OGAR LYDIA OMARI | 85 | 30 | 05 | 35 | F=0 | 80 | 24 | 37 | 61 | BC=12 | 90 | 28 | 32 | 60 | BC=6 | 80 | 18 | 33 | 51 | CD=5 |
| 17 | 14/148 | MODU FALMATA | 85 | 16 | 28 | 44 | E=10 | 82 | 20 | 24 | 44 | E=8 | 90 | 16 | 24 | 40 | E=4 | 80 | 16 | 37 | 53 | CD=5 |
| 18 | 14/149 | NNABUIFE CHINENYE CHRISTAINA | 85 | 35 | 39 | 74 | AB=17.5 | 82 | 25 | 45 | 70 | AB=14 | 85 | 24 | 26 | 50 | CD=5 | 82 | 19 | 43 | 62 | BC=6 |
| 19 | 14/150 | PAUL VICTORIA OKON | 85 | 37 | 24 | 61 | BC=15 | 82 | 23 | 27 | 50 | CD=10 | 85 | 26 | 26 | 52 | CD=5 | 80 | 18 | 35 | 53 | CD=5 |
| 20 | 14/152 | OMBUGADU BENJAMIN ISHAYA | 85 | 17 | 28 | 45 | D=11.25 | 80 | 26 | 50 | 76 | A=16 | 90 | 20 | 28 | 48 | D=4.5 | 84 | 17 | 26 | 43 | E=4 |

**Figure 13: Print Page 3**

**ISA MUSTAPHA AGWAI I POLYTECHNIC, LAFIA**
**SUMMARY SHEET**

SCHOOL: SCIENCE AND TECHNOLOGY  DEPARTMENT: COMPUTER SCIENCE

LEVEL: ND1  SEMESTER: FIRST  ACADEMIC YEAR: 2014/2015

| SN | REG NO | NAME | 1st GP | 2nd GP | 3rd GP | 4th GP | Total GP | GPA | CGPA | REMARK |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 35 | 34 | 39 | 35 | 143 | | | |
| 1 | 14/007 | UGOR ADAMS | 99.75 | | | | 99.75 | 2.85 | 2.85 | |
| 2 | 14/042 | LAMINI PETER DANIEL | 77.25 | | | | 77.25 | 2.21 | 2.21 | |
| 3 | 14/055 | ADOGAR MATHEW ELLEH | 86.5 | | | | 86.5 | 2.47 | 2.47 | |
| 4 | 14/068 | DANIEL NAOMI | 104.75 | | | | 104.75 | 2.99 | 2.99 | |
| 5 | 14/069 | CHUKWUMERITE NNAEMEKA GODGIFT | 76 | | | | 76 | 2.17 | 2.17 | |
| 6 | 14/110 | ADEYEFA OLADAPO ADESOPE | 116.5 | | | | 116.5 | 3.33 | 3.33 | |
| 7 | 14/111 | KWAPLONG TASIU SA'EED | 121.75 | | | | 121.75 | 3.48 | 3.48 | |
| 8 | 14/115 | ADAMU ISMAILA ABBAS | 85 | | | | 85 | 2.43 | 2.43 | |
| 9 | 14/118 | SAMUEL JESSICA KUWANTA | 94.5 | | | | 94.5 | 2.70 | 2.70 | |
| 10 | 14/122 | HASSAN ALHERI DAVID | 89.5 | | | | 89.5 | 2.56 | 2.56 | |
| 11 | 14/123 | MUHAMMAD ABDULLAHI | 90.5 | | | | 90.5 | 2.59 | 2.59 | |
| 12 | 14/124 | SALISU HAMIDU IBRAHIM | 82.5 | | | | 82.5 | 2.36 | 2.36 | |
| 13 | 14/125 | JIMMY ANDREW ABOY | 74.25 | | | | 74.25 | 2.12 | 2.12 | |
| 14 | 14/126 | LOUIS CHRISTOPHER OGBONNAYA | 99.25 | | | | 99.25 | 2.84 | 2.84 | |
| 15 | 14/136 | MU'AZU MUKTAR USMAN | 104.25 | | | | 104.25 | 2.98 | 2.98 | |
| 16 | 14/141 | OGAR LYDIA OMARI | 71.25 | | | | 71.25 | 2.04 | 2.04 | |
| 17 | 14/148 | MODU FALMATA | 74.5 | | | | 74.5 | 2.13 | 2.13 | |
| 18 | 14/149 | NNABUIFE CHINENYE CHRISTAINA | 116.75 | | | | 116.75 | 3.34 | 3.34 | |
| 19 | 14/150 | PAUL VICTORIA OKON | 92.75 | | | | 92.75 | 2.65 | 2.65 | |
| 20 | 14/152 | OMBUGADU BENJAMIN ISHAYA | 85.75 | | | | 85.75 | 2.45 | 2.45 | |
| 21 | 14/154 | OMALUWA ABEL PETER | 110 | | | | 110 | 3.14 | 3.14 | |
| 22 | 14/155 | EJIM MONICA IYIYA | 96.25 | | | | 96.25 | 2.75 | 2.75 | |
| 23 | 14/156 | YA'U ABUSIFIYANU | 90 | | | | 90 | 2.57 | 2.57 | |
| 24 | 14/159 | BIKOM EMMANUEL OSOW-MUKO | 74.25 | | | | 74.25 | 2.12 | 2.12 | |
| 25 | 14/164 | BAWA ISREAL TIMOTHY | 100.5 | | | | 100.5 | 2.87 | 2.87 | |
| 26 | 14/165 | AKOLO ALHERI ASHE | 77 | | | | 77 | 2.20 | 2.20 | |
| 27 | 14/166 | JEREMIAH BELIEVE NINDEM | 72.75 | | | | 72.75 | 2.08 | 2.08 | |
| 28 | 14/171 | DAVOU JOHN EMMANUEL | 81.75 | | | | 81.75 | 2.34 | 2.34 | |
| 29 | 14/178 | MOSES EMMANUEL | 93 | | | | 93 | 2.66 | 2.66 | |

**Figure 14: Result Summary Page**

## 4.8 SYSTEM REQUIREMENT AND SPECIFICATION
To achieve optimal system performance during usage, the following hardware and software requirements are specify as follows:

### 4.8.1 System Hardware Requirement
The hardware requirement for the implementation of this system is given below:
- A Core i3-i7 series Laptop of any model and above
- Hard Disk Capacity of 500GB and above
- Random Access Memory (ram) 8GB and above

### 4.8.2 System Software Requirement
- **OS:** Windows 7, 8, 9, 10, Mac OS, etc.

- **Browser:** Up-to-date Google Chrome, Mozilla Firefox, etc
- **Local Hosting:** XAMPP 3.22v

## 5.0    SUMMARY
This study articulates the possible elimination or minimization process of the problem associated with the manual processing of result using a flat file system, in order to enhance efficiency and accuracy among other things. This study prompts a structural system development analysis, which entails a meticulous examination of processes involved in the old system; information gathered was used as a basis for analysis and development of a prototype system.

## 5.1    CONCLUSION
Computers are used to automate many systems; hence, making tedious job less tiresome and providing opportunity for users to appreciate information technology. Substantially, there is a conviction that a full-scale implementation of this result processing system will go a long way in solving some of the problems associated with the manual system of processing information or result processing.  This project is also economically feasible because it reduces the cost, time of inputting student result manually. Again, this work will also promote effective and efficient information handling operation.

## 5.2    RECOMMENDATION
In reality, almost every aspect of human activity is awaiting to be automated: this account for why there is need for the application of computer to all aspect of human endeavor as possible. Due to the surprising degree of efficiency, accuracy and flexibility, it becomes obvious that computer automation is accepted in almost every essential aspect of our human lives and activities. This work is recommended for the case study in their quest to improve the current method of processing their institution students' result which shall help eliminate or minimize human lapses.

For effective implementation of the proposed system (computerized system), the following is suggested:

1.    The software technologies (programming languages) or the compiler required to run this process is PHP and others specified should be uphold.

2.    The minimum system requirements for both hardware and software should be maintained and all installations, maintenance and operation are to be carried out by trained computer scientist to avoid malfunction and frequent breakdown of the newly implemented system.

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