RUGIPO Research & Technical Journal; Vol. 3, Issue 1: Issues in Science & Agricultural Technology; Sept, 2024 Edition
https://elearning.rugipo.edu.ng/Rugipo_Tetfund_Journal_Research_Portal/
ISSN: 2714-3643 E-mail: rugipotechjournal@rugipo.edu.ng, or rugiporetechjournal@gmail.com.
Proudly Sponsored by: tetfund TERTIARY EDUCATION TRUST FUND
TETFund/ESS/POLY/OWO/ARJ/1

DESIGN AND IMPLEMENTATION OF STUDENTS' PERSONAL INFORMATION SYSTEM (SPIS)

***Oladimeji, B. J. and Olojido, J. B.**
Department of Computer Science, Rufus Giwa Polytechnic, Owo, Ondo State, Nigeria
*Corresponding author: oladimeji93@gmail.com

Abstract
The Department of Computer Science at Rufus Giwa Polytechnic, Owo must implement the students' personal information system (SPIS) to carry out the office and departmental target responsibility system. This system includes statistical processing of student data, which is a crucial component of the student performance review process. This study uses relational database management system software to develop the student information management database application system based on the analysis of the student evaluation. The functional requirements, general structure, data sheets and fields, data sheet association, and software codes are all meticulously constructed to carry out the function of student information management. The new system has to be designed to correct shortcomings. The demonstration was presented in a single form in such a way that it would generate the expected output (Students' Registration). It is recommended that the users of this program both academic and non-academic should undergo proper training and there should be a budget for the maintenance and services of the program for its effectiveness.

Keywords: Students', Personal, Information, Computer, System, Demonstration

Introduction

The contents of a student's record, such as their complete name, matriculation number, gender, local government, and state of origin, can be characterized. The courses the student has registered for, their grade point average, and their overall academic performance history are the next items on the performance references list. The amount of data about students has doubled and tripled as a result of the ongoing expansion of schools, colleges, and universities around the world. The amount of information that colleges and universities must handle is vast, and managing it by hand has grown tiresome (Tang Yu-fang, 2019). In Salem University, Lokoja, information used for capturing student details is recorded every semester, and a summary of this information is carried out at the end of the session. This recording is carried out by the Registrar's office. In work, Eludire (2015) designed and implemented a Microsoft Access 2003 student registration and course management database application. This addressed the issue of having a lot of redundant data and the potential for inaccurate data in files due to non-updation. Ngawang et al. (2016) used the MySQL database and PHP Laravel framework to redevelop a "student information system" created by Dechen Wangmo (2015). It can manage student-related data, including registration, information management and updating, course subscriptions, fees, and private notes. With the use of MySQL database and PHP Laravel framework, Ngawang et al. (2016) rebuilt the "student information system" created by Dechen Wangmo (2015). The system can manage and update student records, and handle registration, course subscriptions, payments, and private notes, among other student-related data. It becomes challenging to manage this information using the paper-based approach since it could be redundant, erroneous, inefficient,

inconsistent, hard to obtain, and unsafe. Thus, a student information management system is created to manage this data effectively and error-free.

The database model idea was implemented to improve the effective and structured record-keeping of student data in universities. Nonetheless, the database's content will have several innovations, such as decreased data redundancy and updating faults (inaccuracies), increased.
Education institutions use software called a student information system (SIS) to manage student data. Additionally referred to as the school management system (SMS), campus management system (CMS), student information management system (SIMS), student records system (SRS), and student management system (SMS). For a cooperating customer, the SIS is the equivalent of an enterprise resource planning, or ERP, system. Therefore, many of the issues on the methodology, selection, implementation, and operation of ERP systems also apply. Management information systems, or MIS, are computer-based systems that gather, process, store, and disseminate data as information (George, 2017).

This research work aims to design and implement a student information system (SPIS) using Microsoft Visual Basic and MySQL for the Department of Computer Science, Rufus Giwa Polytechnics Owo, Ondo State, that can help to eradicate the problem associated with the manual method of handling personal information matters.

REVIEW OF RELATED RESEARCH WORK

Evaluation is more complex than test and measurement as it plays a vital role in the teaching and learning process.
Priyamvada (2017) in his work defined evaluation as a means to ascertaining the growth and changes, which take place in students as a result of teaching and learning experiences. It is also the extent of determining if the goals and objectives of a subject matter have been achieved or not.
Ogunboyede and Akinnodi (2016) in their paper also added that evaluation is the process of making value judgments or decisions based on information or data obtained from measurement. Evaluation involves determining the value or worth of activity/activities. Moreover, it is also opined that determining students' information whether good, fair or poor, implies that a good measurement of some values to the students' performances have been added, hence evaluating the students' information exhibits the strengths of their effectiveness.
The various types of evaluation include the following:
(i) Formation evaluation. (ii) Summative evaluation (iii) Placement evaluation
(iv) Diagnostics and remedial evaluation
(v) Internal and external evaluation

However, Abdul (2013) in his paper identified evaluation types based on what is been evaluated and they are as follows:
(i) Student Evaluation (ii) Curriculum evaluation (iii) School evaluation (iv) Evaluation of personnel
From the foregoing, measurement from a broader perspective considers the capability/capabilities of an individual(s). In other words, it involves the qualitative description of cognitive, affective and psychomotor domains of learning with an absolute relationship with learners.

Materials and Methodology

The printout of the student data that the Department receives from the system is made available whenever needed. The application will need to be executed whenever necessary. After that, the desired interface (form) is generated and printed.

Records and Files

The Department of Computer Science's current system uses Microsoft Excel and

RUGIPO Research & Technical Journal; Vol. 3, Issue 1:
Issues in Science & Agricultural Technology; Sept, 2024 Edition
https://elearning.rugipo.edu.ng/Rugipo_Tetfund_Journal_Research_Portal/
ISSN: 2714-3643 E-mail: rugipotechjournal@rugipo.edu.ng, or rugiporetechjournal@gmail.com.
Proudly Sponsored by: tetfund TERTIARY EDUCATION TRUST FUND
TETFund/ESS/POLY/OWO/ARJ/1

Word to fill out forms in a typical manner. This suggests that various data must be altered following the set. The primary and secondary sources were the sources of the information used in this paper. This is being done to collect the relevant data and information about the current system to choose a design approach for the new system.

i. Primary source: Since this information is direct from the source, it was given precedence. Primary data are obtained by personal interviews, surveys, observations, and other means.
ii. Secondary Source: This source provides second-hand information.

Using SPIS for data collection is a simple processing technique. This is because it uses effective design concepts while creating several forms that give users places to enter. Additionally, it adheres to the interface consistency principle, which states that comparable buttons or controls on the input forms.

System metadata. i.e., the structure outlining the allowed and stored data formats in the file. The approved data are then arranged as records in the files based on these structures. The system also creates and modifies many files since it needs to coordinate the information it receives from every pupil.

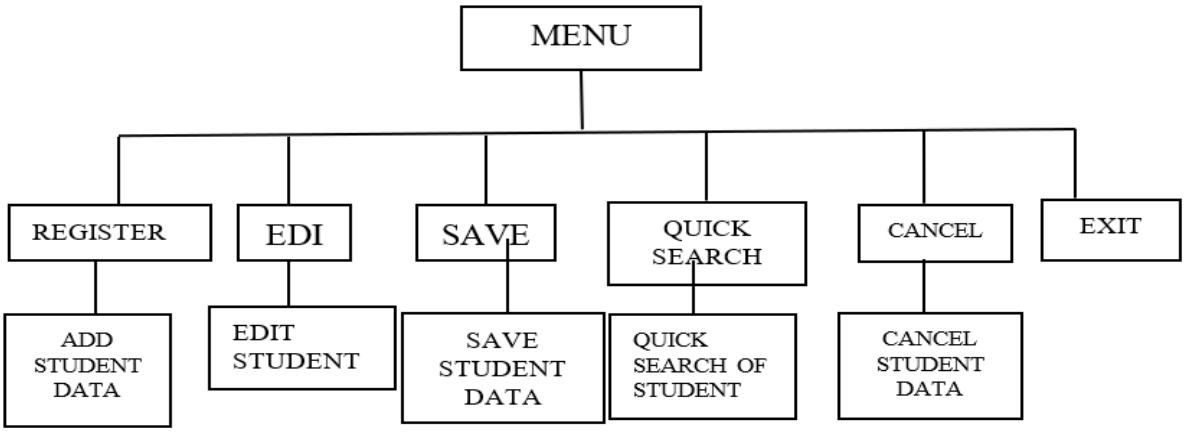

Figure 1.0: System Block Diagram

Analysis and Specification of Requirements

System design is the process of creating a suggested system based on requirements and research. This includes data structures and processing algorithms; system design and implementation are two different things. The programming language that is utilized to implement the system.

Manual input is made into the system via a variety of input forms. As a result, someone skilled in using this package must operate a computer. These forms save their contents to local system files. The forms are set up so that various forms display the most recent personal information, employment details, etc. Depending on the section of the information submitted, each field has a different format. All of the data used in this research project's input design are those stated below.

RUGIPO Research & Technical Journal; Vol. 3, Issue 1: Issues in Science & Agricultural Technology is a Bi-annual Publication Series of Rufus Giwa Polytechnic, Owo (RUGIPO), Ondo State. All correspondence or submission of articles for scholarly publication in the next edition of this Journal should be mailed to rugipotechjournal@rugipo.edu.ng, or rugiporetechjournal@gmail.com. For further enquiries, please contact +234 803 385 8795 or +234 903 405 9787.

RUGIPO Research & Technical Journal; Vol. 3, Issue 1: Issues in Science & Agricultural Technology; Sept, 2024 Edition
https://elearning.rugipo.edu.ng/Rugipo_Tetfund_Journal_Research_Portal/
ISSN: 2714-3643 E-mail: rugipotechjournal@rugipo.edu.ng, or rugiporetechjournal@gmail.com.
Proudly Sponsored by: tetfund TERTIARY EDUCATION TRUST FUND
TETFund/ESS/POLY/OWO/ARJ/1

Table 1: Login table. This table shows the administrator's (username) access to the student records.

S/N	FIELD NAME	TYPE OF DATA	FIELD SIZE IN NUM.
1.	Username	Text	12
2.	Password	Text	12

Table 2: Student Info**.** This table displays the data about the students.

S.N	FIELD NAME	DATA TYPE	FIELD SIZE
1.	Student Id	AutoNumber	Integer
2.	Matric Number	Text	60
3.	Surname	Text	35
4.	Middle Name	Text	35
5.	Last Name	Text	35
6.	Gender	Text	30
7.	Date of birth	Date	30
8	Level	Text	30
9	Nationality	Yes/No	30
10	Disability	Text	30
11	Next of kin address	Text	60
12	Name of Guardian	Text	30
13	Guardian's Address	Text	60
14	Religion	Text	60
15	Address	Text	60
16	State	Text	20
17	CGP	Number	8

.

The System Flowchart:

The System Flowchart or structure chart shows in a block diagram the various building blocks that make up the software package (system)

RUGIPO Research & Technical Journal; Vol. 3, Issue 1: Issues in Science & Agricultural Technology is a Bi-annual Publication Series of Rufus Giwa Polytechnic, Owo (RUGIPO), Ondo State. All correspondence or submission of articles for scholarly publication in the next edition of this Journal should be mailed to rugipotechjournal@rugipo.edu.ng, or rugiporetechjournal@gmail.com. For further enquiries, please contact +234 803 385 8795 or +234 903 405 9787.

RUGIPO Research & Technical Journal; Vol. 3, Issue 1: Issues in Science & Agricultural Technology; Sept, 2024 Edition
https://elearning.rugipo.edu.ng/Rugipo_Tetfund_Journal_Research_Portal/
ISSN: 2714-3643 E-mail: rugipotechjournal@rugipo.edu.ng, or rugiporetechjournal@gmail.com.
Proudly Sponsored by: TETFund/ESS/POLY/OWO/ARJ/1

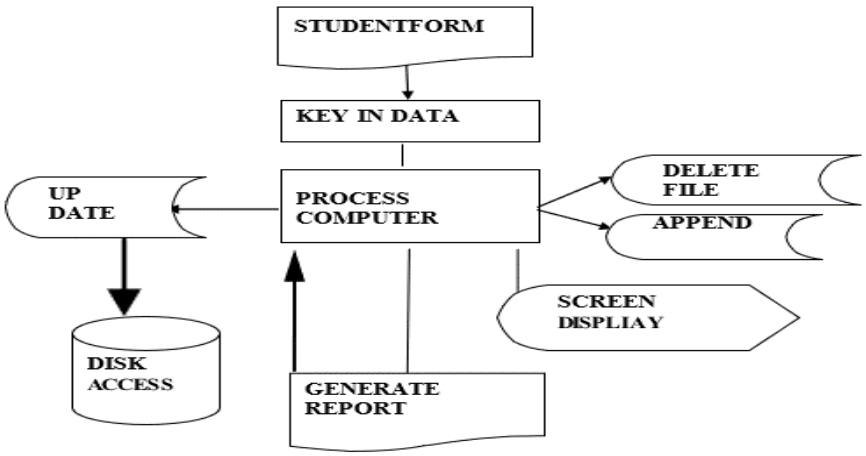

Figure 2: System Flow Chart

Program Flowchart

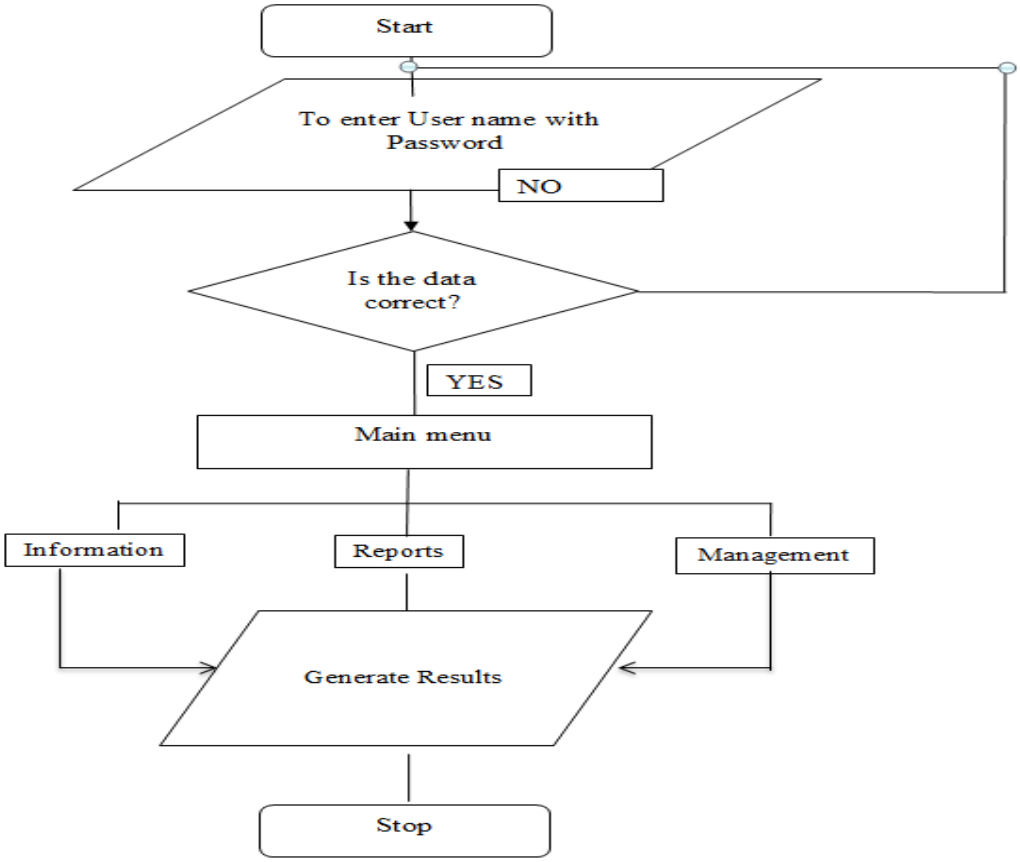

Figure 3: Program Flow Chart

Result and Findings

The proposed software for the project work would contain the following:

1. Login Page
2. Home Page
3. Student Registration Page
4. Student Record Page
5. Report Page
6. Log Out

RUGIPO Research & Technical Journal; Vol. 3, Issue 1: Issues in Science & Agricultural Technology is a Bi-annual Publication Series of Rufus Giwa Polytechnic, Owo (RUGIPO), Ondo State. All correspondence or submission of articles for scholarly publication in the next edition of this Journal should be mailed to rugipotechjournal@rugipo.edu.ng, or rugiporetechjournal@gmail.com. For further enquiries, please contact +234 803 385 8795 or +234 903 405 9787.

RUGIPO Research & Technical Journal; Vol. 3, Issue 1: Issues in Science & Agricultural Technology; Sept, 2024 Edition
https://elearning.rugipo.edu.ng/Rugipo_Tetfund_Journal_Research_Portal/
ISSN: 2714-3643 E-mail: rugipotechjournal@rugipo.edu.ng, or rugiporetechjournal@gmail.com.
Proudly Sponsored by: TETFund/ESS/POLY/OWO/ARJ/1

THE LOGIN PAGE: The login page is the page that only the authorized user can access to view the content of the program

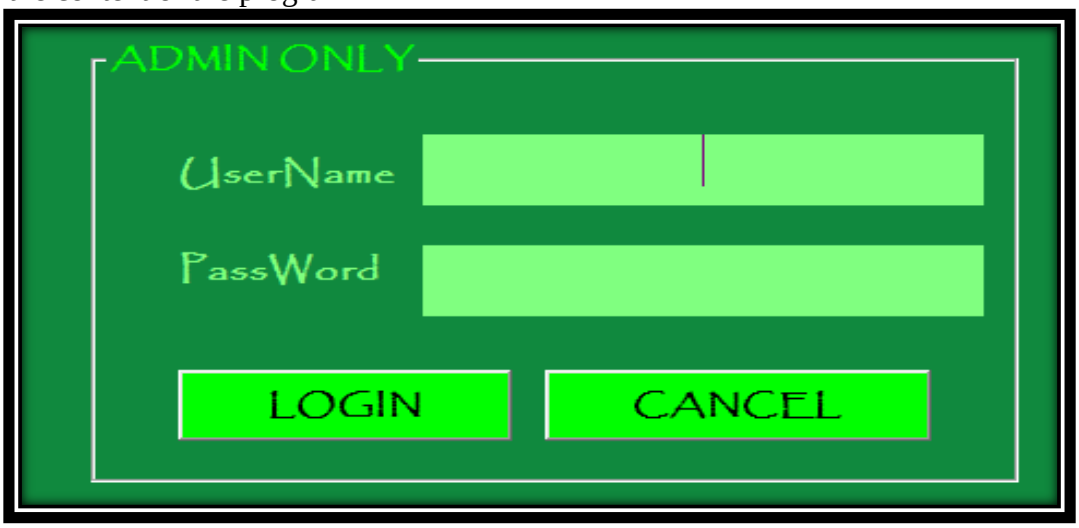

Figure 4: Admin Login

SPIS HOMEPAGE: This page displays the available Operations to be performed

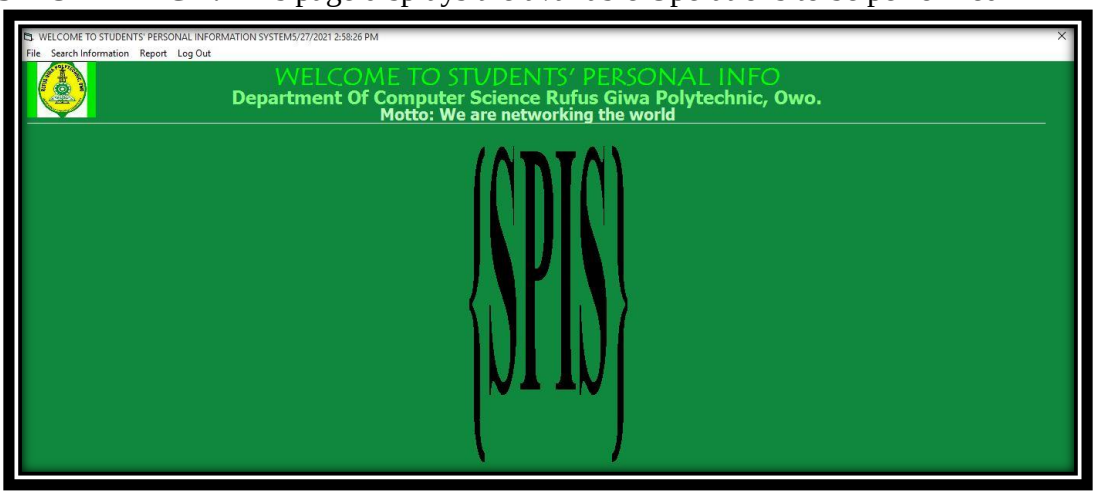

Figure 5: Home Page

STUDENTS' RECORD PAGE: The form for registering a new student is displayed on the student registration page. The form for registering a new student is displayed on the student registration page.

RUGIPO Research & Technical Journal; Vol. 3, Issue 1: Issues in Science & Agricultural Technology is a Bi-annual Publication Series of Rufus Giwa Polytechnic, Owo (RUGIPO), Ondo State. All correspondence or submission of articles for scholarly publication in the next edition of this Journal should be mailed to rugipotechjournal@rugipo.edu.ng, or rugiporetechjournal@gmail.com. For further enquiries, please contact +234 803 385 8795 or +234 903 405 9787.



Figure 6: Student Record

Conclusion

It may be inferred from this new system that an individual will require training from the developer to fully comprehend how to apply it. During this endeavour, I discovered that a great deal of personal information systems still process student personal information manually. To facilitate the simple flow of information across the school, it is advised that efficient computerization be implemented in every classroom. Additionally, they should guarantee that the academic and non-academic personnel in the user department receive the necessary training to facilitate the seamless adoption of the new system, and they should conduct enough maintenance regularly to ensure the system operates well.

References

Abdul, K. (2013). Evaluation types based on what is being evaluated: Student, curriculum, school, and personnel evaluation. *(Cited in the section discussing different types of evaluation).*https://www.researchgate.net/publication/272237015

Eludire, D. (2015). Design and implementation of a Microsoft Access 2003 student registration and course management database application. *(Mentioned in the description of a student management system implemented with Microsoft Access)*

George, S. (2017). Management information systems (MIS): Computer-based systems for gathering, processing, and disseminating data. *(Source for MIS reference in the introduction)*

Hicks, D. and Cullet, K. (2020). *Fundamentals of Database System*. MacMillan Press Ltd.

Luke. (2022, March 29). *Student Information System*. Retrieved from techlearning.com:

https://www.techlearning.com/news/student-information-systems

Ngawang, T., et al. (2016). Redevelopment of a Student information system using MySQL and PHP Laravel framework. *(Mentioned as a student information system redevelopment example)*.http://scientec.cst.edu.bt/student-information-system

Ogunboyede M. O. and Akinnodi P. A. (2016), Tests and Measurement. *Published by Alasfas Nigeria Company*

Piccoli, *et al.*, (2018). In G. Piccoli, & F. Pigni, *Information Systems for managers: with cases* (p. 28). Prospect Press

Priyamvada, M. (2017). Evaluation as a means to ascertain student growth and changes. *(Source referenced in the review of evaluation methods)*

Tang Yu-fang (2019). The amount of student data and the difficulties in managing it manually as a result of the global expansion of schools and universities. *(Author and source cited in the introduction)*