

**DESIGN AND IMPLEMENTATION OF AN AUTOMATED ONLINE CLEARANCE**

**(A CASE STUDY OF AUCHI POLYTECHNIC, AUCHI)**

**BY**

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**A PROJECT WORK SUBMITTED TO THE DEPARTMENT OF COMPUTER  
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NATIONAL DIPLOMA (HND) IN COMPUTER SCIENCE**

**SUPERVISED BY  
MR. AYEGBO E.O**

**NOVEMBER, 2022  
CERTIFICATION**

We the undersigned certify that this project work was carried out by **NWOFILI C. MICHEAL, ICT/2252040323**, of the department of computer science.

We also certify that the work is adequate in scope and quality in partial fulfilment of the requirements for the award of Higher National Diploma (HND) in computer science.

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MR AYEGBO .O.J  
Project Supervisor

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DATE

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MR. AKHETUAMEN  
Head of Department Computer Science

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DATE

### **DEDICATION**

This project work is dedicated to the Almighty God, whose grace, mercy and unending love have immensely sustained me throughout this academic session and for which I call him the giver of My life and the lamp unto my feet.

It is also dedicated to my sweetest father here in Auchu (MR. AYEGBO) I pray you eat the fruit of your labor

### **ACKNOWLEDGEMENT**

My gratitude goes to the Almighty God for his mercy and loving kindness throughout this project work.

I also take this opportunity to express my profound gratitude and sincere appreciation to my supervisor **MR. AYEGBO** for his exemplary guidance, patience, advice and his understanding throughout the course of this project, in fact he is an epitome of wisdom and virtue. May God reward you abundantly.

Not exempted is the Head of Department of computer science (H.O.D) **MR. AKHETUAMEN S.O**, whose supportive position has helped the student in computer science department.

My unalloyed and unadulterated thanks goes to my parent, MR & MRS Nwofili, who am I without them, my prayer is that you live to eat the fruit of your labor [AMEN]. Also my siblings and also to my mother Mrs. Sadetu God will continually to bless and uplift you (Amen). I wouldn't have achieved all this without you all. Thanks for standing by me.

God bless you all.

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### **ABSTRACT**

*Online clearance system is an internet-based research work that will help to ease the queuing system in the polytechnic clearance process. Online clearance system will build an effective information management that is very convenient to use for the schools since it is internet based and can be accessed from anywhere. It is aimed at developing a computer software system that replaces the manual method of clearance for graduating students and that also help students to carry out their clearance without coming to the various offices for clearance. The designed software will serve as a more reliable and effective means of undertaking students' clearance for removing all forms of delay and stress as well as enable you to understand the procedure involved, as well as how to do your clearance. This project makes use of data collection from the polytechnic library and journals online from various authors and the software was developed to effectively achieve the aim of the project. In this project, the implementation of the computerbased system was carried out using PHP, HTML, JAVASCRIPT and XAMPP for the database with MYSQL.*

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background Of the Study

Improvement in information and communication technology has made time and space less complex and could be seen that this modern age of information boom in which an average individual wants to explore the information system. Thus, the capability for timely acquisition, utilization, communication and retrieval of relevant and accurate information has become an important attribute for better teaching and learning processes (Adebayo, 2015). The use of ICT in educational arena is not limited to teaching and learning situations alone, but also extend to the administrative assignments. One of such administrative tasks is the development of a web based clearance system called online clearance. By definition clearance is status granted to individuals, typically members of military, university graduates and employees of government and their contractors allowing them access to a classified information. The term “Clearance” is also used in private organization that have a formal method to vet employees for access to sensitive information. Clearance can refer to authorization or permission from an authority (Anigbogu, 2012; Chimezie, 2018; Wikipedia 2013). The act of clearing an individual involves granting individual a permission to have access to sensitive or secret documents or other information. (The Oxford dictionary defines “online” as controlled by or connected to a computer and as an activity or service which is available or performed using the internet or other computer network dictionary of British and World English, 2015). As people of this generation become more dependent on the internet for information, the need for automated clearance becomes more apparent.

Online clearance is now used in various academics institute both locally and internationally for various clearance exercise, online admission exercise, online graduating clearance exercise and National Youth Service Corps online mobilization registration exercise to mention but a few.

In polytechnics like Auchi Polytechnic, there is need for automated method of data keeping, so a greater need for an automated online clearance system. This will go a long way in alleviating the various problems and stress involved in the manual method of clearance. Also, the issue of delay in youth service as a result of inability to complete the tedious manual processing of clearance will be curtailed. The focus of this research therefor is to provide a reliable and

transparent system devoid of personal inclinations and interests, to eliminate travelling and queuing of students during clearance in the study university and to serve as reference material to other researcher.

The internet has changed the face of the world and make receiving and sending of information spread widely and easily, this can be done at the tips of peoples hand and without wasting anytime, compared to when the internet has not evolved, before information could be received in another end, it takes time depending on the distance of the journey. According to (Adesanya, 2016). The internet is a collection of many types of computers and computer networks that are linked together. It is increasingly becoming the solution to many information, problems, information exchange, and marketing. According to Awuzie(2013) Clearance is the process of determining and negotiating any permission that are needed to include the use of someone else's intellectual property in creative project. Clearnce systems for graduating students are vital incessant procedures and process in every polytechnic that is inevitable. The clearance must be carried out so as to check if the student is eligible to go for NYSC service and not owing the school anything. It is the polytechnic practice to carry out these processes at the completion of the last exam in school, where the student do not have any carryover left. Online clearance system is a web based system which makes use of the internet. Federal Polytechnic Auchi, current method of clearance is not internet based which increases the stress of student going from school to school to sign the forms. The forms given to student must be signed by the following; Head of department (HOD), Polytechnic Liberian, Sport official, Dean of student affair, bursary, Thus, the need of a web based clearance system for graduating student is inevitable to save the time and the cost of transportation from one location to another.

## **1.2 Statement of the problem**

When a student is about to graduate in Auchi polytechnic, he/she will take his/her exam after which he/she obtains a clearance form from head of his/her departments office after the payment of all necessary dues. This form will have to be certified at various departments and units including bursary, library, candidate's departments and the student affairs division. The bursary department certifies that the student has completed all payments while library will have to certify that the student does not owe any textbook and library materials, and so. In summary, the current final clearance system of the university is a manual one. This makes the system so tedious and time-consuming. In this case, students will have to visit all the clearance offices with a form for them to sign. Once the form is fully signed, it proves that the student has been cleared.

In the manual system, the clearance forms are documented in a file cabinet. Each time the clearance form is needed, a search operation is conducted on the file cabinets to locate a particular student's form.

### **1.3 Aims and Objectives of the study**

The aims and objectives of the study are:

1. To develop an online clearance system that will electively and efficiently process students' final clearance.
2. To provide a reliable and transparent system for the students' final clearance devoid of personal inclinations and interests
3. To alleviate the problems and stress encountered by students during final clearance, most prominent one being the queuing up of students at various clearance spot.

### **1.4 Significance of the study**

The significant of this project work is to design a system that will eliminate the stress in the manual clearance system. The system will help in a good number of ways to ease the queuing system in the polytechnic as the online clearance system will help students to achieve whatever they want to achieve without coming to various offices for clearance. Clear advantages of internet information processing over those traditional manual system are higher yields. Online clearance system allows the users to check their clearance status as weather they are in any way indebted to the school, fill and submit their clearance form, and obtain their clearance letter. There are many other advantages of online clearance system and so of them are listed below.

- ❖ It saves a lot of time
- ❖ It is very convenient to use it right from the bedroom, office or anywhere in the world
- ❖ Information processing are very fast and delays can be avoided.
- ❖ It is inexpensive to students and school management
- ❖ Help the school in reducing costs such as labor and stationary.

## 1.5 Scope of the Study

This research work limited to clearance system for graduating students from Auchi Polytechnic. The software developed will be carried out using PHP, Visual Basic and Ms Access to manage both the database and at the same time make the software online.

## 1.6 Limitation of the Study

This project covers all aspect of online clearance system using Auchi polytechnic as a case study. Due to time constraint, the webpage developed covers clearance from various departments by departments by graduating students. Whatever is left is as a result of time and finance as it cost a lot to develop a full web-based clearance system.

## 1.7 Definition of Terms

**Computer Network:** Computer network is a system that connects two or more computers together using a communication link.

**World Wide Web:** World wide web simply called www is the most important tool of the internet. It was created in the late 1980s in Europe and was limitedly in academic cycle.

**Clearance:** Is an official certification blamelessness, trustworthiness or suitability for graduation and issues of certificate in degree course.

**Database:** A systematically arranged collection of computer data, structured so that it can be automatically retrieved or manipulated. It is also called databank.

**Hyperlinks:** Hyperlinks are highlighted words and phrase you find on web documents that you can click on as to get to some other documents or internet services.

**Online:** Connected via a computer attached to or available via a central computer network.

**Offline:** Disconnected from a computer network.

**File Transfer:** Any kind of computer file can be sent via the internet from one internet user to the other. Table of accounts on spreadsheets, design by a graphic artist, music sound files etc. can all be exchanged in this way.

**Web Browser:** This is a special kind of software that processes hypertext make-up language (HTML) document. In other words, a web browser is a computer program that interprets HTML command to collect, arranged and display the parts of a web page.

**Web Site:** A website is a collection of many interconnected web pages organized by a specific college, organization company etc., containing webpages (goods and commodities) on the internet. Websites are stored on web servers. There are many websites and thousands of I-ITML pages on each web sites. A website is a treasure of information and entertainment.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Review of Current Literature

Improvement in information and communication technology has made time and space less complex and could be seen that this age of information boom in which an average individual wants to explore the information system. Thus, the capability for timely acquisition, utilization, communication and retrieval of relevant and accurate information has become an important attribute for better teaching and learning process (Adebayo, 2012). The use of ICT in educational arena is not limited to teaching and learning situations alone, but also extend to administrative assignments. One of such administrative tasks is the development of a web-based clearance system called online clearance, Therefore, one can be prompted to ask aloud “what is a computer”. Funk, (1980) defined a computer as an electronic device that can perform automatically and at high speed sequence of logical operations according to instructions given to it inform of a pre-arranged program. Computer is seen as a machine that is capable of accepting input data, store and process thee based on instructions given by the computer user and in tis way produce expected results, generally called output (Obilikwu, 2007). World Net describes an information system (I.S) as “a system consisting of the network of all communication channels used within an organization, and includes software and hardware”. It may also be defined as “a system that collects and processes data (Information) and provides it to managers at all levels that use it for decision making, planning, program implementation and control. The aim of information system to admission, registration, result processing and clearance in universities is improving the quality and accuracy of information provided to all involved as well as assisting universities in compiling and reporting information. Information technology has been an integral part of academic system since almost four decades. According to Hewlett (1993), the world is entering “an era in which technology will literally transform every aspect of business, every aspect of life and every aspect of society.

Clearnce is a certificate giving permission for something to be done. In higher institution of learning, final year students have satisfied the academic requirements, to graduate you must undergo a clearance process before they disengage from the institution. The above fact prompted

the development of a web-based database-driven students clearance system by Agbo-Ajala and Makinde (2018).

As many institutions have chosen to pursue the dynamic educational options available on webpages (online), the advantages of e-learning cannot be estimated. According to Cox (2018), online system is presented as an efficient means of conveying instruction to an extensive learning community any place at any time. Indicating that the adequate attention he designated to online learning as it serves as the driving force and model for transformation of teaching, learning and formal schooling, environmental education and training partnership (2006) posits that, online course has the potential to provide learner individualized attention by the instructor. This is otherwise impossible in a large classroom environment.

With the continued development of online system applications, many colleges and universities have begun to offer online courses as an alternative to traditional face-to-face instructions.

Hillstock (2015) reports that 67% of colleges and universities agreed that online education are the most logical long-term strategies for their institutions. However, there are considerable hesitations rising predominantly related quality and student respectively to online system, (Yong & Conellus, 2004). Just as their advantages there are also disadvantages to the online system of instruction delivery method. There is evidence through previous research that students feel isolated or disconnected when not engaged in traditional face-to-face instruction (Guhu 2001; Graham, 2001), while other reports indicate large success (Hoffman, 2002; Kaczynski and Kelly, 2004; Meyer, 2006). There remains a lack of clarity whether online courses are as affective as traditional courses (Peirier and Feldman, 2018).

While there has been vast number of studies conducted on the merits and demerits of online system institution, little is known on how assessment is used in online classroom to monitor performance and progress (hang and Creasy, 2004). I-lew, Liu, Martinez, Bonk, and Lee (2004) in Agbo-Ajala and Makinde (2015) describe the evaluation of current online education system at three levels; the macro level, the mesolevel and micro level. The macro level is an online evaluation that access an entire

online program, the meso level evaluation access individual online courses, and the micro level access the learning of the online student.

Several communicational tools are at the disposal of students and staffs: to support their activities during the clearance. The partner universities offer two virtual communication tools with different capabilities "Marratech and Central". It is also available online as the communication management systems (CMS) and independent discussion forum.

Marratech is a virtual interactive tool that allows holding meeting and video conferencing on the web, face-to-face, whenever you want to talk, see each other and share application and document without being in the same room, the same building, or even the same country. This platform is used in several systems, like in the energy online master program for lectures, project meetings and project presentation. Central enables group to work faster and more effectively by automating critical clearance system and training initiatives online through virtual classroom, online meeting and web conferences. Central has a broad array of features that make live, group-oriented system effective on the web. Interactive white board, YES/NO feedback, hand-raising; multi-point conferencing, advanced application shearing and text and full-duplex chat examples, in the energy online master program for lectures, project meetings and project presentation. Communication management tools are available at each university and also in an online clearance system homepage.

Since the arrival of Internet technology, school system has taken a new shape and style with a blend of convenience and satisfaction. Taylor (1980), said that computer-based education includes both computer-assisted instruction programs that interact with students in a dialogue and a broader array of educational computer applications such as simulations or instruction in computer programming.

## **2.1 Data and Information**

The concepts of data and information are very important in understanding issues that go with development and implementation of an online clearance system. The term 'data' and 'information' are used interchangeably in everyday conversation as meaning the same

thing. Too many managers and information specialists, however, these terms have in distinct meanings. According to O'Leary (1996), data simply consists of raw, unprocessed facts while information is data that have been processed by the computer. Hordeski (1986) gives the following definition of data.

A graphic or textual representation of facts, concepts, numbers, letters, symbols, or instructions suitable for communication, interpretation, or processing data is the basic element of information that is used to described objects, ideas, conditions, or situations. Lucey (1991), Defines data and information as follows:

1. Data are facts, events, transactions, and so on, which have been recorded. They are the raw materials from which information is produced. Information is data that has been processed in such a way as to be useful to the recipient.
2. Data are facts obtained by observation, counting, measuring, weighing, etc., which are then recorded. Frequently, they are called raw or basic data and are often records of day-to-day transactions of the organization. For example, the date, amount, and other details of an invoice or cheque, payroll details of pay, the number of students living in a particular hostel and so on

Enwere {1992} argues that the concept of information in an organization sense is more complex and difficult than the frequent use of the common word would suggest. Okentunji [2002] emphasized that information is data that have been processed, transmitted to the recipient, interpreted and understood by the recipient. Here it should be noted that the user, not just the sender is involved in the transformation of data into information.

## **2.2 Online Clearance**

By definition, clearance is a status granted by individuals, typically members of military, university graduates and employees of government and their contractors, allowing them access to classified information. The term 'clearance' is also used in private organizations that have a formal method to vet employees for access to sensitive information. Clearance can refer to authorization or permission from an authority [Anigbo,2000; Chimezie,2000; Wikipedia 2013]. The act of clearing an

individual involves granting individual a permission to have access to sensitive or secret documents or other information. The oxford dictionary defines online as controlled by or connected to a computer and as a activity or service which is available or performed using the internet or other computer network [Dictionary of British and World English, 2015]. As people of this generation become more dependent on the internet for information, the need for automated clearance becomes more apparent. Student online clearance is a method where the student obtains his/her clearance letter without carrying files around. This is only possible with the help of information technology. This feature is safe, fast and has no hazards. Filling out the documents and comparing options and waiting for approval is a time-consuming process. Through the internet, this process is made much easier and sometimes the approval is made within minutes. This explains a efficient way of obtaining clearance and saving time and money.

Online clearance is now used in various academic institute both locally and internationally for various clearance, for instance, online hostel accommodation, UTME online clearance exercise, online admission exercise, online graduating clearance exercise, and National Youth Service Corp online mobilization exercise to mention but a few. The admission process of students is strictly done online in some polytechnics such as Auchi Polytechnic, where physical presence of admitted candidates is not required in the university premises during the clearance exercise as it is strictly online while in some polytechnics in Nigeria such as Auchi Polytechnic, the admission process are done online, and physical presence of candidate is needed for other admission clearance exercise. In Agbo Ajala and Makinde [2015] describe the evaluation of current online education system at three levels ; the macro level, the meso level, and micro level. The macro level is an online evaluation that access an entire online program, the meso level evaluation access individual online courses, and the micro level access the learning of the online student.

With the continued development of online system applications, many tertiary have begun to offer online courses as an alternative to traditional face-to-face instructions. Hillstock (2005) reports that 67% of colleges and universities agreed that online education are the most logical long-term strategies for their

institutions. However, there are considerable hesitations rising predominantly related quality and student respectively to online system, (Yong and Conellus, 2004). Just as their advantages there are also disadvantages to the online system of instruction delivery method. There is evidence through previous research that students feel isolated or disconnected when not engaged in traditional face-to-face instruction (Guhu 2001; Graham. 2001), while other reports indicate large success (hoffman, 2002; Kaczynski and Kelly, 2004; Meyer, 2006). There remains a lack of clarity whether online courses are as affective as traditional courses (Peirier and Feldman,2004).

## **CHAPTER THREE**

### **SYSTEM ANALYSIS AND METHODOLOGY**

#### **3.1 System Analysis**

System analysis involves the collection of interrelated element and procedures that consist of all the specification to accomplish a task pertaining to the forms and structure of the system. These forms and structures of the system are combination of software, hardware and other related component combine together to attain a specific purpose that may consist of comprise of multi-input/output processing activities.

System Analysis (S.A) is the process of analyzing the role of a proposed system, identifying a set of requirements and producing a preliminary design, which will be used as a framework for the first task to be performed whenever a new computer-based system is to be developed. In other words, it is the appropriate studying and finding a justified solution to the problem.

System analysis may also determine how best to computer with other resources to Perform a given task with the information need of an organization. In the course of this project, the analysis is subject to acquire the capabilities of solving complex and sophisticated problems.

Moreover, the need for system analysis may develop from the management to make decisions on such a system for study. System analysis involves critical study review and evaluation of previous system.

In the detail study, there are two broad steps toward system design considered which includes the preliminary (logical design) and the detailed (physical design). This involves evaluating the existing system which in this case is the old system of student clearance in our various institutions.

### **3.2 System Methodology**

There are two main sources of data collection in carrying out this study:

1. Primary Source
2. Secondary Source

**Primary Source:** Primary source refers to the sources of collecting original data in which the researcher made use of empirical approach such as personal interview.

**Secondary Source:** The need for the secondary sources of data for this kind of project cannot be over emphasized. The secondary data were obtained by the researcher from magazines, Journal, Newspapers, Library source.

### **3.3 Analysis of Existing System**

The current system is being operated manually. When a student is about to graduate in Auchu Polytechnic, he/she will take his/her final exam after which he obtains a clearance form from the head of departments (HOD) office. This form will have to be certified at various departments and units including bursary, library, candidate's department, sport, and student affairs division. The bursary department certifies that the student has completed all payments, while library will have to certify that the student does not owe any textbooks and library materials, and so. In summary, the current final clearance system of the polytechnic is a manual one. This makes the system so tedious and time-consuming. In this case, students will have to visit all the clearance offices with a form for them to sign. Once the

form is fully signed, it proves that the student has been cleared, in the manual system, the clearance forms are documented in a file cabinet. Each time the clearance form is needed, a search operation is conducted on the file cabinets to locate a particular student's clearance form.

### **3.4 Problems of the Existing System**

Due to the manual means being used by the polytechnic in keeping information about student's clearance, a lot of problems are encountered which includes:

1. Delay in processing clearance form
2. Loss of vital documents as the filing system is manual
3. Damage of documents due to fire incident.
4. Illegal removal of forms by fraudulent staff leading to insecurity.
5. Takes a lot of time to retrieve a particular clearance form.
6. Unavailability of some key staff while processing clearance form, which leads to students repeatedly visiting a particular office in order to sign his/her clearance form.

### **3.5 The Proposed System**

Once a student has finished all necessary payments, the proposed system creates an avenue where the student after purchasing an access pin, can login to the school clearance portal, fill all necessary fields and upload all the proof of payment issued to him/her at various points of payment, after which he/she awaits for a confirmation of being cleared. This can be done anywhere and at any time without undergoing any form of stress.

### **3.6 Database Design**

The database is seen as the most important of any online design. It contains the information required for the correct operation of the institution or organization. Every flow of control and request for information must pass through the database for either collection, validation or authentication before a response is given.

The database contains the personal information of each individual payee. It contains a primary key which is the client ID as a unique identifier for each record in the database.

### 3.7 File Design

Access database was used in the design and implementation of the system database new system database.

#### Student Register File

Surname	Text	30
First name	Text	20
Mat number	Text	20
Department	Text	15
Level	Text	30
State	Text	10
Session	Text	20
LGA	Text	20
Status	Text	8

#### Student Clearance File

Name	Data Type	Field Size
Name	Text	20
Mat Number	Text	20
Department	Text	50
Level	Text	30
Session	Text	4
Pin	Text	4

### 3.8 Input Design

The input to the system is the proof of payment (receipt) for paying or levies paid which include:

- School fees receipt
- Computer levy receipt
- Departmental due receipt
- School due receipt
- LGA due receipt

### **3.9 Output Design**

The output from the system is the certificate of clearance issued to the student stating that the student have fulfilled all financial obligation and is now free to pass out from the school.

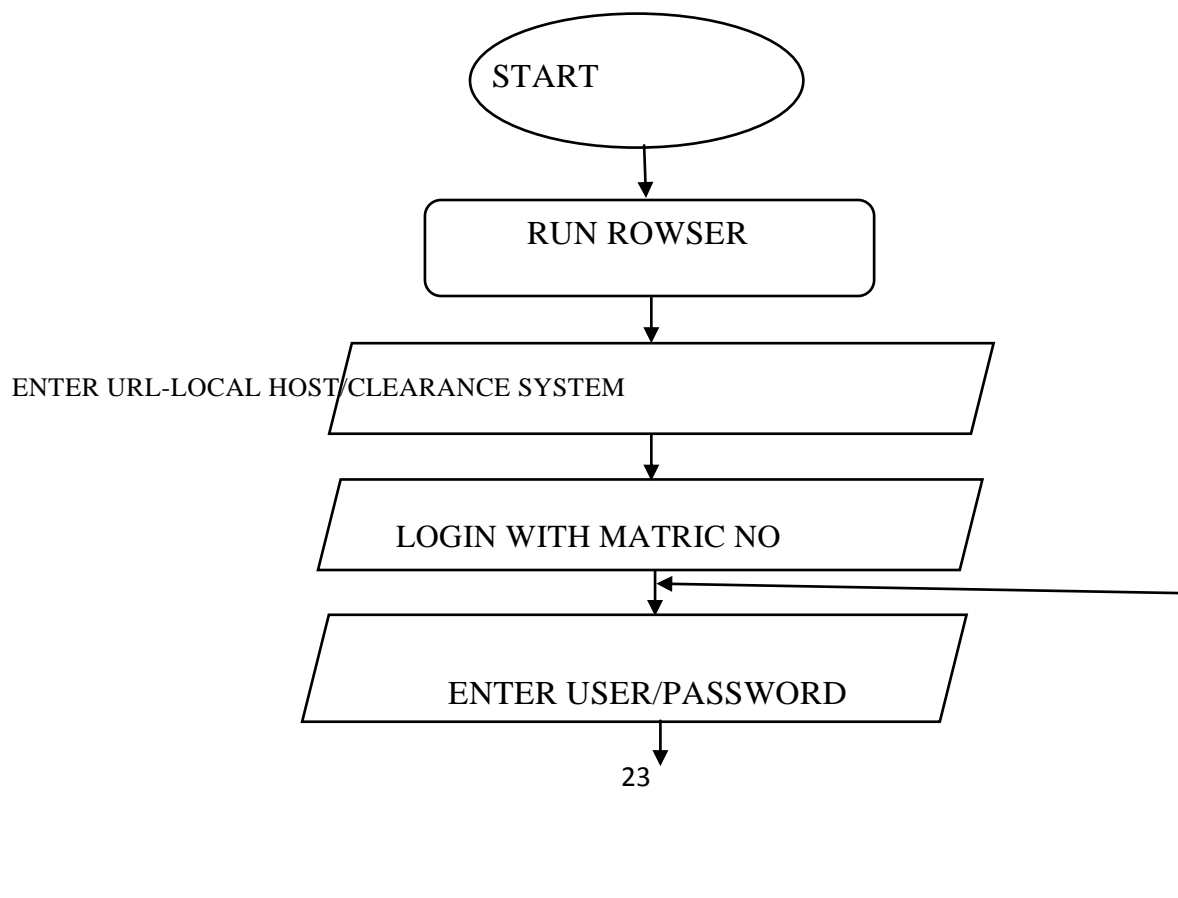
### **3.10 Justification for the New System**

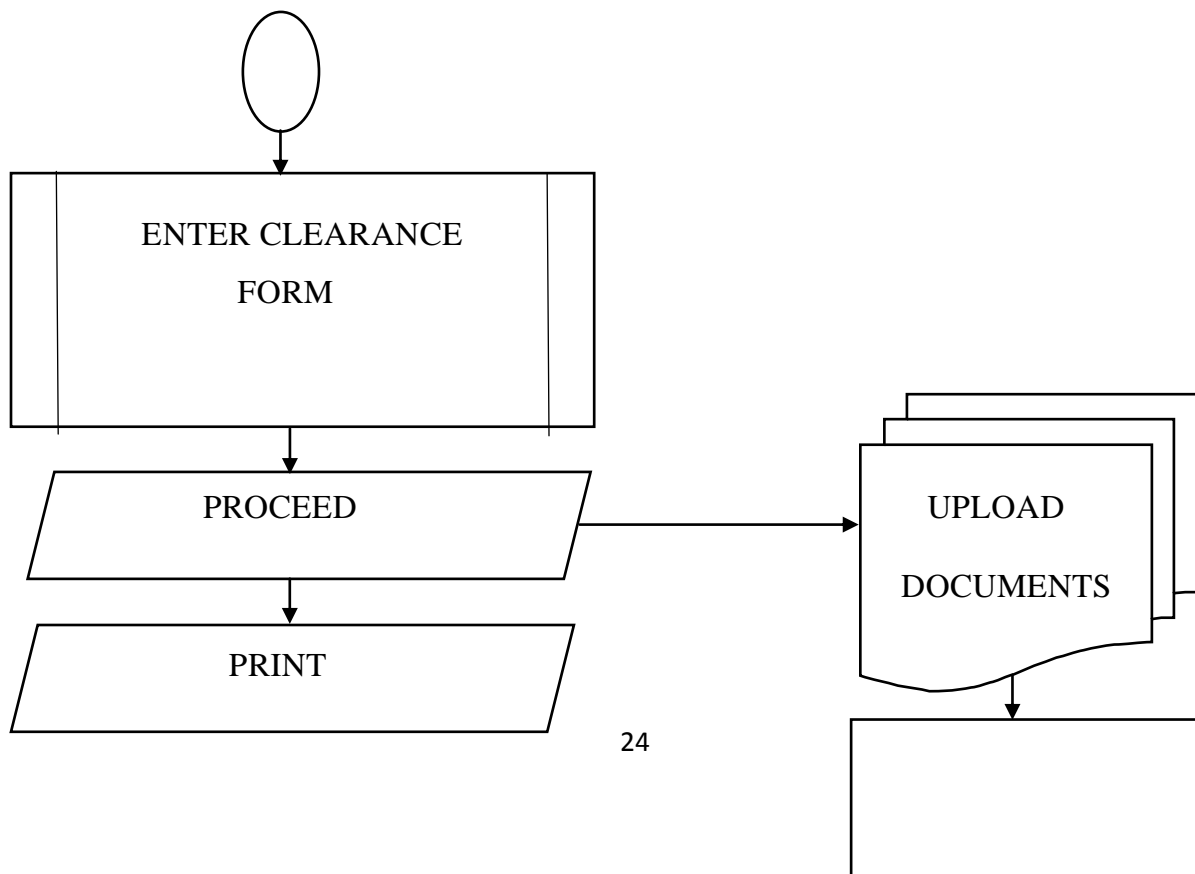
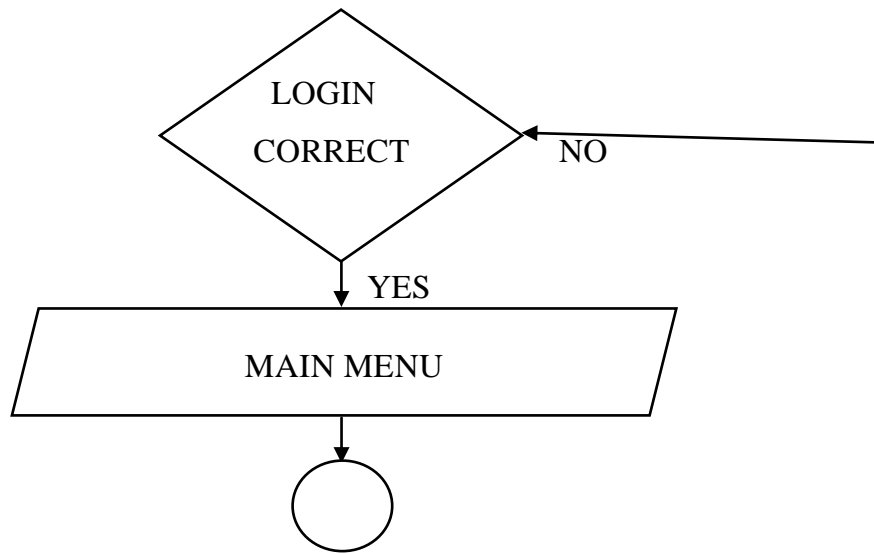
The new system is designed to solve problems affecting the manual system in use. It is designed to be used online thereby relieving to both the students and staffs for more stress as experience in the manual system.

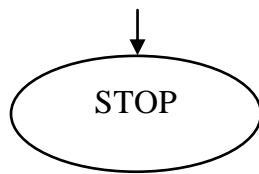
This system will do the analyzing and storing of information either automatically or interactively. It will make use of online access to internet. The proposed system will also have some other feature like:

1. Accruing in the handling of data.
2. First rate of operation and excellent response time
3. Flexibility (i.e.) It can be accessed at any time.
4. Easy way for backup or duplicating data in Diskettes in case of data loss
5. Better storage and faster than retriever system.
6. Accessibility from any part of the world.

### 3.11 System Flow Chart







SAVE

## CHAPTER FOUR

### PROGRAM IMPLEMENTATION AND TESTING

#### 4.1 Choice of Programming Language

Any programming language is considered fit if it supports symbolic computation with flexibility control and has clear and well defined semantics. It must be able to express the intent to the programmer; some of the programming languages used by the researchers are C++, PASCAL, JAVA, Visual basic, PUP, FORTRAN etc. The choice of programming language used in the design and implementation of this project work is NIP, This is because it has the features of good programming language such as:

- It is easy to use and understand due to its use of the Object Oriented Programming (OOP) concepts.
- User friendly
- It is easy to maintain
- It requires minimum storage capacity

#### 4.2 System Requirements

In order to realize this project, the following software and hardware components

were used:

#### **4.2.1 Hardware Requirement**

The hardware require for implementing of the proposed system are:

- i. Minimum of Pentium III 2.40GHz processor speed
- ii. At least 1GB of RAM
- iii. At least 150GB hard disk
- iv. External Storage support
- v. An uninterruptible power supply (UPS) unit
- vi. Printer
- vii. Display monitor

#### **4.2.2 Software Requirement**

The software requirements are:

- i. PHP
- ii. Windows Operating System
- iii. Microsoft Access
- iv. HTML '

#### **4.3 System Documentation**

To ensure continuity and availability of this system, the entire process involved in the development of the proposed system is documented and the codes provided. The software itself is able to keep adequate record of registered students in its database.

#### **4.4 System Implementation**

The system designed made use of top-down design in processing data. Access to information is made through the home page. All the sub systems in the program perform a specified task. Each module is tested before the final integration and testing of the whole system.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Summary**

Online clearance system will build an effective information management that is very convenient to use for schools since it is internet based and can be accessed from anywhere. It is aimed at developing a computer software system that replaces the manual method of clearance for graduating students and that also help students to carry out their clearance without coming to the various offices for clearance. The designed software will serve as a more reliable and effective means of undertaking students' clearance, remove all forms of delay and stress as well as enable you to understand the procedure involved, as well as how to do your clearance online.

#### **5.2 Conclusion**

The research work centers on the design and implementation of a software application, meant to ease the process and activities of graduating student, during final clearance. The application was successfully developed, tested, and found to be working as expected. However, beta and acceptance testing are expected to be carried out by the users to discover and correct more bugs. The developed system is capable of storing and processing graduating student clearance with high speed and accuracy, and presenting

output in certain required format. Other qualities of this system include reduction in cost of travelling, elimination of stress for both students and administrative staff, reduction of paper works and reliability.

### **5.3 Recommendations**

The research work carried out is limited to online clearance only. It will be better if a full portal is developed for an effective and wholesome, implementation of information management technology in our institutions. When this is done the following modules are recommended to be included in the portal.

1. Developing an online student admission system to enable full tracking of student's records.
2. Automation of student's academic record to enable the management has access to student academic performance.
3. Maintaining a central database for accessing all information relating to students.