CERTIFICATION

This is to certify that this research project research project was written in the department of computer science, and information technology, faculty of natural sciences, Caritas University. I claim the exclusive right and sole authorship of this project work.

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Onyeguli Gabriel Emeka **Date**

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Mrs. Chizoba **Date**
(Project Supervisor)

APPROVAL PAGE

Design and Implementation of Online Examination of Unified Tertiary Matriculation Examination was approved and carried and carried out by whom?

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Mrs. Chizoba Emeze Date

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Dr. Arinze Nwaeze (H.OD) Date

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Dr. B.O. Ekechukwu
Sign/Date
(External Examiner)

DEDICATION

This work is dedicated to the Almighty God for giving me the inspiration and grace to carry out this project successfully. And also to my profound parents for their support both spiritually and financially before and during this research work.

ACKNOWLEDGMENT

My profound gratitude goes to Almighty God for his favour, love, kindness, mercies, provision and sustenance throughout this project research.

I am greatly indebted to my supervisor, Mrs. Chizoba Emeze for creating time for me out of her tight schedule.

Respectfully appreciate the efforts of my parents Mr. and Mrs. Onyeguli who made my education a priority among multiple issues. I pray God preserves them to eat the fruits of their labour.

I wish to express my sincere gratitude to the numerous people who have provided assistance and encouragement to even in my lowest of states.

Abstract

Registration for the Unified Tertiary Matriculation Examination, UTME, is organised by the Joint Admission and Matriculation Board, JAMB, for admission into tertiary institutions in Nigeria. This registration is conducted in all the states in Nigeria in a given period of the year. Many a times, the process is cumbersome, not organized and posses a lot of stress to students. So, the goal of this project is to provide a readily accessible and user-friendly system for students to register for UTME online and also to access the result of the examination online. This would be similar to other online registration forms, but it will also feature the following advantages; as a web-based system, students will be able to have access from any computer that has a web browser and is connected to the Internet to register for UTME, with a graphical interface, this system will be more user-friendly and intuitive to use. The introduction of on-line registration was an enormous improvement over the old, cumbersome paper-based method. In the course of implementing the software, HTML and Visual Basic 6.0 was used to design an online examination registration and result checking form for UTME.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

It is obvious globally that most candidates seeking admission to higher education prefer universities. The Unified Tertiary Matriculation Examination (UTME), however, will help recruit students to other kinds of institutions such as the Polytechnic and the College of Education.

Emodi (2010) observed that our higher educational institutions are confronted with the pressure of an increasing number of students demanding for access. She stressed that students compete for the limited places in our universities and that in all countries, admission into the top institutions have become more difficult to achieve. Emodi therefore noted that competition has always been a force in institutions of higher education and that in many ways, it can help to produce excellence and best performance.

Adedoyin (2009) however canvassed for the approval of more private tertiary institutions in Nigeria, adding that the number of Universities in the country was inadequate and cannot satisfy the educational needs of the Nigeria youths. This assertion is also true and applicable to both State and Federal Universities in Nigeria, bearing in mind the number of candidates seeking admission yearly.

The Joint Admission and Matriculation Board (JAMB) was established in Nigeria in 1978. Prior to this, each University was responsible for the conduct of its own concessional examination and admitted its students. In 1987, JAMB performed the exemplary feat of printing examination

materials in Nigeria. Since then, the Board's question papers have always been produced and answer scripts processed in Nigeria-Idoko (2008). JAMB, which is now (1978-2010) 32years old, celebrated its 30th anniversary of success (1978-2008) at the Headquarters office, Bwari, Abuja. A review of JAMB activities after more than thirty years of existence, with the introduction of UTME is seen as imperative and justifiable.

1.2 Statement of the Problem

Manual registration and examination processing system in any process or institution or exam body is always affected by delay, misplacement, erroneous entries, etc. Examination registration is highly a critical issue as students affected by these lapses may loose one year before they can register for another exam. This leads to lost of resources, time, discouragement, and defeat in academic pursuit. Going by this, it is evident that for an effective administration of Unified Tertiary Matriculation Examination, the registration and examination result process has to be online.

1.3 Objectives of the Study

The objective of this project is to examine how unified tertiary and matriculation examination system can be computerised, with the main objective being to:

1. Develop a website that can enable the JAMB administration to process student's registration form.
2. Design an online examination processing system for UTME
3. Design a system that will allow students to check their results online.

1.4 Purpose of the Project

The purpose of this study is to design an online database for unified tertiary and matriculation examination for the purpose of online registration form for student's examination registration and checking of result online.

1.5 Significance of the Study

Clear advantages of Internet information processing over those of traditional manual system are higher yields. Online system allows the users to process information online. There are many other advantages of online registration for unified tertiary and matriculation examination system and some of them are listed below.

- It saves a lot of time.
- Students registration data are secured
- Accuracy of bio data is guaranteed
- It is very convenient to use.
- Information processing are very fast.

1.6 Scope of the Study

This research work covers student's examination registration and printing of registered candidates list online. It also covers post and checking students result online.

1.7 Limitations

As a result of time constraints, the researcher was unable to visit JAMB Headquarter Abuja to gather information on how they operate the unified tertiary and matriculation examination registration. So, most of the information were sourced from JAMB website and their state office in Enugu.

1.8 Definition of Terms

UTME: unified tertiary and matriculation examination

C**ompetitive examination** is an examination where candidates are ranked according to their grades

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

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

Web Site: A website is a collection of many interconnected web pages organized by a specific college, organization company etc, containing web pages (good and commodities) on the Internet.

Examination: is a set of questions or exercises evaluating skill or knowledge; "when the test was stolen the professor had to make a new set of questions"

CHAPTER TWO

LITERATURE REVIEW

2.1 History of Examination

Tertiary education entrance examinations started in the early years when modern universities emerged in China, and continued after the foundation of the People's Republic of China in 1949 until the Cultural Revolution began in 1966 when the normal pace of the education system and other sectors of life were disrupted.

Deng Xiaoping late (1977) he was Chinese pre eminent leader, late Deng who in the last three years, stated talking about its core interest, and a year long preparatory school was established in chong qing, & Xiaoping took the entrance examination, passed, & spent the 1919-1920 school year for the next academic generation.

In the early 1970s, Mao Zedong realized that internal political struggle had taken too big a toll on him as well as the nation, and decided to resume the operation of universities. But the students were selected based on political and family backgrounds rather than academic achievements. This practice continued until the death of Mao in September, 1976. In late 1977, Deng Xiaoping, then under Hua Guofeng, the heir apparent of Mao, officially resumed the traditional examination based on academics, the National Higher Education Entrance Examination, which has continued to the present day.

Hua guo feg- (16 February 1921-20 August 2008) later known by the non de guerre Hua Guo feg who was Mao Zedong’s designated successor as the paramount premier of the academic section of people’s premier republic

examination of china from 1976-1980 & chairman of the communist

official educational background of examinees, and consequently, most of the hopefuls accumulated during the ten years of the Cultural Revolution and many others who simply wanted to try their luck emerged from society for the examination. The youngest were in their early teens, and the oldest were in their late thirties. The questions in the examinations were designed by the individual provinces. Eventually, only about one percent of the examinees nationwide were admitted to universities.

Starting from 1978, the examination was uniformly designed by the Ministry of Education, and all the students across the country took the exact same examination.

In recent years, however, many provinces are allowed to customize their own examinations.

Although today's admission rate is much higher than 1977, 1978 and before the 1990s, it is still fairly low compared to the availability of higher education in Western world countries. Consequently, the examination is highly competitive, and the prospective examinees and their parents experience enormous pressure. For the majority, it is a watershed that divides two dramatically different lives.

The National Higher Education Entrance Examination is not uniform across the country, but administered uniformly within each province of China or direct-controlled municipality. The National Higher Education Entrance Examination is graded variously across the country. It is arranged at the end of the spring semester and secondary school graduates across the country take the examination simultaneously, over a three day period. Prior to 2003,

the examination was held in July, but has since been moved to the month of June. This move was made in consideration of the adverse effects of hot weather on students living in southern China and possible flooding during the rainy season in July.

In different places, students list their university or college preferences prior to the exam, after the exam, or after they learnt their scores. The preferences are given in several tiers (including at least early admissions, key universities, regular universities, technical colleges), each of which can contain around 4-6 choices in institution and program. In some places, students list preferences of different tiers at different times. For example, in Shanghai, students list their preference for early admission, key universities and regular universities prior to the exam, but other colleges after they learned of their scores.

The exam is administered for 3 days. Three subjects are mandatory everywhere: Chinese, Mathematics and a foreign language -- usually English but may also be substituted by Japanese, Russian or French. The other 6 standard subjects are 3 sciences Physics, Chemistry, Biology, and 3 humanities History, Geography and Political Education[1]. Applicants to science/engineering or art/humanities programs typically take 1-3 from the respective category. Since 2000s, a integrated test, science integrated test, humanities integrated test or wider integrated test is introduced in some places. This integrated test may or may not be considered during admission. Besides, some special regional subjects are required or optional in some places. Currently, the actual requirement varies from province to province.

Applicants to some specialist programs are also screened by additional criteria: some art departments (e.g. audition), military and police schools (political screening and physical exam) and some sports programs (tryout).

Scores obtained in the examinations can be used in applying universities outside China. Among all the places, the counterpart Hong Kong is on their top list. In 2007, 7 students with overall highest score in their provinces entered Hong Kong's Universities rather than the two major Universities in China. In 2010, over 1200 students entered the 12 local institutions which provides tertiary education courses through this examination. In addition, City University of Hong Kong, Chinese University of Hong Kong, and the University of Hong Kong directly participate the application procedure like other mainland universities.

The examination is essentially the only criterion for tertiary education admissions. A poor performance on the test almost always means giving up on that goal. Students hoping to attend university will spend most of their waking moments studying prior to the exam. If they fail in their first attempt, some of them repeat the last year of high school life and make another attempt the following year. Fear of failing the exam is such an issue that students who can afford to will sometimes go abroad to attend university despite the greater expense - up to 15 - 30 times the cost of an education in China

2.2 **Review of Unified Tertiary Matriculation Examination**

The Joint Admission and Matriculation Board (JAMB) recently established the Unified Tertiary Matriculation Examination (UTME) to replace JAMB. UTME has therefore been scheduled for 17th April 2010 in place of the University Matriculation Examination.

Ogbuka (2009) who is JAMB's Spokesperson confirmed that logistics for the new examination (UTME) had been put in place. Ogbuka assured that the Board was leaving no stone unturned to update candidates on what to expect

and that the sensitization of candidates and other stakeholders would continue to ensure that the enlightenment leads to the success of the UTME. She also stated that JAMB, in conjunction with the Federal Ministry of Education, would organise a symposium with the theme "UTME : Gateway to Quality Tertiary Education in Nigeria" to create more awareness about the examination.

The Unified Tertiary Matriculation Examination (UTME) has by implication, unified both the Universities Matriculation Examination (UME) for candidates applying for admission to the Universities and the Monotechnics, Polytechnics and Colleges of Education Matriculation Examination(MPCEME) for those applying for admission to the Polytechnics and Colleges of Education. The Board intends, therefore to use the scores obtained from UTME for admission purposes into all the three branches of the tertiary level.

Awuzie as reported by Oyekanmi(2010) noted that what the UTME is all about is that candidates who fail to secure admission to the university will be considered for Polytechnics and if there is no space, then they will be considered for the Colleges of Education.

The introduction of UTME has generated comments from different quarters since the measure (policy) was announced. Oyekanmi (2010) reported that negative comments about the proposed Unified Tertiary Matriculation Examination (UTME) being organised by the Joint Admissions and Matriculation Board (JAMB), gained momentum recently, with both the President of the Academic Staff Union of Universities (ASUU), Prof. Ukachukwu Awuzie and a former Vice Chancellor describing it as both illegal and ill informed.

It was observed that a projected 1.5 million candidates are expected to sit for the maiden examination scheduled for April 17. Awuzie stressed that JAMB had been dishonest about the UTME. He noted that it was well known that most candidates preferred to attend a university and that asking candidates to make extra two choices of Polytechnics and Colleges of Education erodes the significance of those institutions.

According to Awuzie's projection, about 85 percent of those who will take the UTME will apply first to the universities. He queried why asking for five credits from everybody, yet, the Polytechnics are not awarding the Bachelor of Technology, neither are Colleges of Education awarding Bachelor of Education degree hitherto. Awuzie frowned at asking for five credits across the board, stressing that even with the UTME result, candidates attending the Polytechnics would still begin at the National Diploma level and earn the National Diploma (ND) first, while those attending the Colleges of Education will still end up with the National Certificate in Education (NCE).

Awuzie thus recommends that everybody be allowed to fit into his own space. He stressed that the idea that it is when one cannot gain admission to university that one could be considered for admission to the Polytechnics, or when one cannot make it to the Polytechnics that one would be considered for the Colleges of Education is discriminatory and erodes the position of Polytechnics and Colleges of Education. He posited that it is like saying that Polytechnics are second rate, while Colleges of Education are third rate.

Oyekanmi(2010) equally reported a former Vice Chancellor of one of the southwest universities, who also spoke under the condition of anonymity as saying that it was wrong to centralise an examination of such magnitude insisting that it would have been better to have the two separate examinations (UME and MPCEME) the way they were being done before.

The Ex-Vice Chancellor maintained that parents prefer universities to anywhere else. He said if a candidate takes the UTME this year, fails to get into a university and maybe ends up in a polytechnic, next year, he will take the examination again and get into the university.

He opined further that the scope of management of the UTME will be too complicated and therefore suggest that the two separate examinations be held as it was being done before. However, the arguments being put forward by JAMB as justification for the UTME are that it will reduce cost, time of preparation, energy and administration of the matriculation examination.

The Registrar of Joint Admissions and Matriculation Board, Profesor Dibu Ojerinde, explained that the introduction of the Unified Tertiary Matriculation Examination was to solve admission problems in the nation‘s tertiary institutions. Speaking with the News Agency of Nigeria in Abuja, Ojerinde said the unification of admissions was also aimed at removing the dichotomy between the universities and polytechnics graduates. ``UTME is expected to address and balance the admission chances between the polytechnics, colleges of education and the universities,‘‘ he said. ``The Federal Government has given approval to JAMB to commence the conduct of the UTME beginning from 2010,‘‘.

The registrar said that JAMB was set up to ensure uniform standards in the conduct of matriculation examinations and the placement of qualified candidates into the nation‘s tertiary institutions.

2.3 Review of Admission System in Different Countries

University admission or college admissions is the process through which students enter tertiary education at universities and colleges. Systems vary

widely from country to country, and sometimes from institution to institution.

In many countries, prospective university students apply for admission during their last year of high school or community college. In some countries, there are independent organizations or government agencies to centralize the administration of standardized admission exams and the processing of applications.

As Australia uses a Federal system of government, responsibility for education, and admission to Technical and Further Education colleges and undergraduate degrees at universities for domestic students, are in the domain of state and territory government (see Education in Australia). All states except Tasmania have centralized processing units for admission to undergraduate degrees for citizens of Australia and New Zealand, and for Australian permanent residents; however applications for international and postgraduate students are usually accepted by individual universities. The Australian government operates the Higher Education Contribution Scheme for undergraduate students, so admission is rarely limited by prospective students' ability to pay up-front. All states use a system that awards the recipient with an Equivalent National Tertiary Entrance Rank, or ENTER, and the award of an International Baccalaureate meets the minimum requirements for admission in every state. The Special Tertiary Admissions Test is the standard test resulting in an Australian Tertiary Admission Rank with the maximum being 99.95.

Austria, Switzerland, and Belgium probably have the most liberal system of university admission anywhere in the world, since anyone who has passed the Matura may enroll in any subject field (or even several at no additional cost) at a public university. In Belgium as well, the only prerequisite for enrolling in university studies is to have obtained a high-school diploma. In

both Switzerland and Belgium, medical studies are an exception, which have a numerus clausus system due to overcrowding. This liberal admission practice led to overcrowding and high dropout rates in the more popular fields of study like psychology and journalism, as well as high failure rates on examinations which are unofficially[*clarification needed*] used to filter out the less-capable students. Following a ruling by the European Court of Justice issued on July 7, 2005, which forces Austria to accept nationals of other EU Member States under the same conditions as students who took their Matura in Austria, a law was passed on June 8 allowing universities to impose measures to select students in those fields which are subject to numerus clausus in Germany. Starting in 2006, the three medical universities (in Vienna, Innsbruck and Graz) did introduce entrance exams. There are no intentions to introduce a numerus clausus in any subject field.

In order to enter university in Brazil, candidates must undergo a public open examination called "*Vestibular*", which lasts about 1 week and takes place once a year. Some universities may run Vestibular twice a year, for two yearly intakes instead of only one. This option is popular with private universities, while public universities usually run Vestibular only once every year (in November, December or January). Universities offer a limited number of places, and the best ranked candidates according to their overall Vestibular grade are selected for admission. Although the Vestibular format changes from university to university, it typically consists of a week-long examination on compulsory high school subjects such as Mathematics, Physics, Chemistry, Biology, History, Geography, Portuguese language and literature, and a foreign language (usually English). Private universities usually "condense" this week-long examinations into a couple of days, but some public universities still require a week-long marathon.

Since public universities are completely tuition-free, competition at the Vestibular is usually fierce for a place in a public university. Due to high number of applicants, the Vestibular at some public universities may include a preliminary elimination phase (known as "*Primeira Fase*"), typically consisting of multiple-choice questions and held between one and two months before the subject exams. A minimum cutoff score is normally required at the elimination phase to advance to the second part of the Vestibular.

In recent years, university admission criteria have been considerably changed by the introduction by the federal government of a new national secondary school exam known as ENEM (*Exame Nacional do Ensino Médio*) and the creation of a unified, national university application system known as SISU (*Sistema de Seleção Unificada*). Candidates in any Brazilian state can now apply for admission into courses available in the SISU system, even if the course of interest is offered by an out-of-state university. Places in any given course within the system are then filled based on the ranking of the applicants in descending order according to their overall grade in the ENEM. The application process is divided into three stages and candidates who fail to get a place in their course/university of interest in a given stage may re-apply either to the same or to a different course/university in subsequent stages.

In theory, any Brazilian university, either public or private, is free to join the SISU system and select their incoming freshman class based on ENEM marks. As of today, most public universities have joined SISU, but a few of them, most notably some of the most prestigious federal universities (e.g. UNIFESP, UFRJ, UFMG, UFRGS) have retained their own independent Vestibular exams, on top of the national ENEM, either for admission into all or part of their undergraduate courses.

Sometimes the ENEM replaces the old elimination Part I ("*primeira fase*") of the Vestibular. Alternatively, ENEM results may be used as part of the final overall grade in the Vestibular. More rarely, a few public universities have decided not to use ENEM grades at all and continue to base their admission criteria on the Vestibular only. Notable examples in the latter group include the highly prestigious federal military schools like ITA and IME and, as of 2010, the prestigious state research universities in the state of São Paulo (USP and UNICAMP). Resistance to the ENEM among some top public universities comes mostly from the perception that the national federal exam is less selective/rigorous than the older independent Vestibular.

Another important recent development in university admissions in Brazil has been the introduction in most federal universities of a quota system where a certain number of places are reserved a priori to applicants of a certain racial/ethnic background who have completed their pre-university studies in a public (i.e. state-funded) school. Candidates who qualify may apply to a course of interest under the quota system either through the national SISU system or directly at their university of choice (in case that university uses both its independent Vestibular and the national ENEM exam to select applicants). Again as a notable exception, the selective federal military schools and the state universities in São Paulo have so far refused to use any quota system based on race or schooling background. USP and UNICAMP, however, have instituted a race-blind "social inclusion program" that gives a bonus in the final Vestibular mgrade to candidates who come from the public secondary schools, thus boosting their chances of securing a place in certain university courses of interest without necessarily using a pre-determined quota.

In Canada, students applying from high school generally hear word back from a college or university between late March and late May, though offers

of admission may be extended to high achievers (through GPA or other submissions) as early as November–January. Internationals/US applicants are likely to receive an offer or rejection by early April, depending on the original submission of documents. In some cases, an institution may offer admission in a high schoolers Grade 11 year, if monetary fees are sent in early.

Many Canadian universities offer dual admission to students upon completion of their graduation requirements.

For example, grade 11 and 12 students at Columbia International College can apply for dual admission at Canadian universities such as York University, University of Alberta, Brock University and Cape Breton University.

Acceptance to any Canadian university or college requires completion of a high school diploma, such as the Ontario Secondary School Diploma (OSSD). Completion of pre-secondary education in Canada almost always means the student has:

Successfully completed (passed) a provincial or federal Literacy test,

Successfully completed (passed) a certain number of credits (30 in Ontario) in a Canadian high school curriculum.

In order to graduate, some provinces also require students to complete 40 hours of community service/volunteer work.

In Canada, the difference between college and university is significantly different than typical interpretation in the United States or even United Kingdom. A Canadian college is more similar to an American community college. In contrast, a Canadian university is comparable to an American university, and virtually all Canadian universities have endowments over $20 million, most frequently above $100 million. It should be noted that almost all Canadian post-secondary institutions are publicly funded, as in,

government subsidized. The few private institutions that are not government-supported are not widely known at all, have generally only been established since the 1980s, and are mostly located in British Columbia.

In the Canadian education system, which varies from province to province, colleges are geared for individuals seeking applied careers, such as a chef or graphic designer. Universities are geared for individuals seeking more academic careers, and a university degree is required for entrance to virtually any Canadian professional school, to become a lawyer, doctor etc. There are other systems in place for students to enter traditional trades (called "skilled" trades in Canada), and some provinces have unique preparatory systems or schools, such as Quebec's CEGEP Program.

In 2007, national headlines were made when the Obay Campaign was launched by Colleges Ontario as an effort to bring awareness to "academic snobbery" that exists in Canada, where college is typically considered a low second-choice to university. It is also incredibly rare for students leaving high school to consider both college and university, most standing firm on one choice as being their 'only option'

Admission to colleges and universities in Canada has been a straightforward process since the 1970s. Students generally rank their choice institutions in order of preference and submit their transcript to the institution or provincial application service for evaluation. In the majority of cases, acceptance is based entirely on marks, with potential for elevation depending on what province an applicant may be from. Applicants in-province typically have much less stringent grade requirements than out-of-province applicants. For instance, a student applying from an Ontario high school to a university in Alberta or Quebec is likely to require marginally elevated grades, as opposed to applying to any school in Ontario itself, where universities and

colleges have far lower requirements for their own province's high school graduates.

College requirements vary more significantly, though none have entrance requirements above 85% from a Canadian high school. In general though, more well-respected colleges (such as George Brown College, and Mohawk College) accept a very high proportion of students with averages above 70%, although they may place no limiting minimum for acceptance, and consequently take students with averages below 60%. Incidentally, even the newest, least-reputable Canadian universities have larger endowments than any Canadian college, with no Canadian college having an endowment above $10 million

In Germany prospective students who have passed the Abitur may decide freely what subjects to enroll in. Recently, however, in some of the most popular and most desired subject fields students have to pass a certain numerus clausus — that is, they cannot enroll unless they have scored a minimum grade point average on their Abitur.

One should distinguish two types of higher education institutions in Germany, the universities (including *Technische Hochschulen*) and the *Fachhochschulen* (polytechnics). A prospective students who has passed the Abitur is qualified for admission to every German university, with the exception of very few new degree programs, where additional entrance examinations were recently introduced. A Fachhochschule, in contrast, often requires from the student the completing of an internship to qualify for admission.

There is also a second German school leaving exam, which qualifies the prospective students for admission to higher education in Germany, the *Fachhochschulreife*, often called *Fachabitur* in colloquial usage. An internship is already part of the Fachhochschulreife itself, therefore a

Fachhochschule requires no additional internship from the student. However, most universities do not accept this qualification for admission. An exception are universities in the German state of Hesse, who accept this qualification since 2004 for admission to Bachelor's degree courses, but not to the traditional German Diplom degree courses. But with Fachhochschulreife (university of applied sciences entrance qualification) you can visit any Fachhochschule (university of applied sciences) in Germany. You can see the difference between a University / Technische Hochschule and a Fachoberschule very quickly: A Fachhochschule has often the words "University of Applied Science" next to its name.

In the Netherlands, prospective students have to choose, two years before graduation, for a graduation type (e.g. natural science graduation type). Subjects at Dutch universities freely accept all students who have chosen the correct graduation type (e.g. to enroll in physics, the graduation type 'natural sciences' is required). All other students have to pass an exam to be enrolled (this is the exception). Popular subjects, such as medicine or dental medicine have a numerus fixus, meaning that a limited number of students may enroll for this subject at a particular university. To decide who is allowed, a lottery is held in which ones grades influence chances of being chosen (an indirect and incomplete numerus clausus).

In Nigeria, undergraduate admissions into universities, polytechnics, monotechnics, and colleges of education and agriculture is administered by a centralized federal government agency known as the Joint Admissions and Matriculation Board, JAMB. The body conducts University Matriculation Examination for prospective university students seeking entrance into universities in Nigeria.

In Norway candidates are admitted to entry-level programs through the Norwegian Universities and Colleges Admission Service, that ranks

qualified students based on a point scheme, that is based on grades and the degree of specialization and choice of study at upper secondary school, as well as age. At Master level admission is based on the grade average at the Bachelor level.

In Portugal admission to higher education level studies requires the secondary school credential, *Diploma de Ensino Secundário*, which is achieved after completing the first twelve study years. Students must have studied the subjects for which they are entering to be prepared for the entrance exams, but they are not required to have previously specialised in any specific area at the secondary school. Students sit for one or more entrance exams, *Concurso nacional* for public institutions or *Concurso local* for private institutions. In addition to passing entrance exams, students must fulfil particular prerequisites for the chosen course. Enrollment is limited; each year the institution establishes the number of places available. For the public institutions the exam scores count for the final evaluation, which includes the secondary school average marks. Then the students have to choose six institutions/courses they prefer to attend, in preferential order. The ones, who reach the marks needed to attend the desired institution/course, given the attributed vacant, will be admitted. Some public university courses demands generally higher admission marks than most similar courses at some polytechnical institutes or private institutions

Traditionally, the universities and institutes conducted their own admissions tests regardless of the applicants' school record. There were no uniform measure of graduates' abilities; marks issued by high schools were perceived as incompatible due to grading variances between schools and regions. In 2003 the Ministry of Education launched the Unified state examination (USE) program. The set of standardized tests for high school graduates, issued uniformly throughout the country and rated independent of the

student's schoolmasters, akin to North American SAT, was supposed to replace entrance exams to state universities. Thus, the reformers reasoned, the USE will empower talented graduates from remote locations to compete for admissions at the universities of their choice,[2] at the same time eliminating admission-related bribery, then estimated at 1 billion US dollars annually. In 2003, 858 university and college workers were indicted for bribery, admission "fee" in MGIMO allegedly reached 30,000 US dollars.[3] University heads, notably Moscow State University rector Viktor Sadovnichiy, resisted the novelty, arguing that their schools cannot survive without charging the applicants with their own entrance hurdles. Nevertheless, the legislators enacted USE in February 2007. In 2008 it was mandatory for the students and optional for the universities; it is fully mandatory since 2009. A few higher education establishments are still allowed to introduce their own entrance tests in addition to USE scoring; such tests must be publicized in advance.

2.4 Online Database management system

A Database Management System (DBMS) is a software package with computer programs that control the creation, maintenance, and the use of a database, Codd, E.F. (1970). It allows organizations to conveniently develop databases for various applications by database administrators (DBAs) and other specialists. A database is an integrated collection of data records, files, and other database objects needed by an application. A DBMS allows different user application programs to concurrently access the same database. DBMSs may use a variety of database models, such as the relational model or object model, to conveniently describe and support applications. It typically supports query languages, which are in fact high-

level programming languages, dedicated database languages that considerably simplify writing database application programs. Database languages also simplify the database organization as well as retrieving and presenting information from it. A DBMS provides facilities for controlling data access, enforcing data integrity, managing concurrency control, recovering the database after failures and restoring it from backup files, as well as maintaining database security Codd, E.F. (1970).

A DBMS is a set of software programs that controls the organization, storage, management, and retrieval of data in a database. DBMSs are categorized according to their data structures or types. The DBMS accepts requests for data from an application program and instructs the operating system to transfer the appropriate data, Seltzer, M. (2008). The queries and responses must be submitted and received according to a format that conforms to one or more applicable protocols. When a DBMS is used, information systems can be changed more easily as the organization's information requirements change. New categories of data can be added to the database without disruption to the existing system.

Database servers are dedicated computers that hold the actual databases and run only the DBMS and related software. Database servers are usually multiprocessor computers, with generous memory and RAID disk arrays used for stable storage. Hardware database accelerators, connected to one or more servers via a high-speed channel, are also used in large volume transaction processing environments. DBMSs are found at the heart of most database applications. DBMSs may be built around a custom multitasking kernel with built-in networking support, but modern DBMSs typically rely on a standard operating system to provide these functions

In 1998, database management was in need of a new style of databases to solve current database management problems. Researchers realized that the

old trends of database management were becoming too complex and there was a need for automated configuration and management. Surajit Chaudhuri, Gerhard Weikum and Michael Stonebraker were the pioneers that dramatically affected the thought of database management systems. They believed that database management needed a more modular approach and there were too many specifications needed for users. Since this new development process of database management there are more possibilities. Database management is no longer limited to "monolithic entities". Many solutions have been developed to satisfy the individual needs of users. The development of numerous database options has created flexibility in database management.

There are several ways database management has affected the field of technology Seltzer, M. (2008). Because organizations' demand for directory services has grown as they expand in size, businesses use directory services that provide prompted searches for company information. Mobile devices are able to store more than just the contact information of users, and can cache and display a large amount of information on smaller displays. Search engine queries are able to locate data within the World Wide Web. Retailers have also benefited from the developments with data warehousing, recording customer transactions. Online transactions have become tremendously popular for e-business. Consumers and businesses are able to make payments securely through some company websites.

CHAPTER THREE

DESCRIPTIONS AND ANALYSIS OF THE EXISTING SYSTEM

3.1 General Analysis Of The Existing System

Once you buy your JAMB UTME scratch card, the next thing to do is to visit the JAMB UTME 2011 e-registration portal. The UTME 2011 registration portal is at www.jamb.org.ng/Unifiedtme/Default.aspx. If you are an absolutely new user (i.e. you have not signed up a JAMB UTME 2011 account), use the Sign Up module with the **Sign Up (New Users)** heading. Look up the serial number and PIN on your JAMB UTME 2011 scratch card and enter them in the appropriate field in the Sign Up Module. If you registered for JAMB UTME 2010 (last year), the JAMB UTME portal will automatically fetch some of your registration details for JAMB UTME 2010 if you fill-in the **UTME 2010 Reg No. (if available field)** field. If validation of your JAMB UTME scratch card PIN is successful, you will then be required to scan your left and right thumbs. Once that is complete you can then proceed to creating your UTME 2011 account. You will create a username and password for logging in to the JAMB UTME 2011 portal. These username and password will be used for subsequent visits to the portal. If your username is not unique, you will be required to choose another one. Once your JAMB UTME 2011 account is created, the registration page will load for you to commence your UTME

2011 registration. At this point, you can either logout or continue your registration. If you choose to log-out, you can continue your JAMB UTME registration by logging in with the username and password you created in the sign up process. This time you use the Log in Module. Note that subsequent visits to the JAMB UTME portal will no-longer require a fingerprint scanner, but JRE will still be required on the computer. Before registering for JAMB UTME 2011, make sure you have your information ready. It is advisable to download the JAMB UTME 2011 form template, print a hard copy and fill, then go online and fill the online UTME registration form. Make sure to go through the online brochure at the portal to be sure you enter the right UTME subjects for your chosen course. You should also have an electronic copy of your passport sized photo ready on your computer or flash drive. An electronic copy of your passport can be made through a scanner. You can also capture directly with a digital camera. After completing your UTME 2011 registration form, click on submit to complete the registration. Note that once you click submit, your data will be sent to JAMB and at this point you will no longer be able to edit it. You will then be issued a JAMB UTME registration number and examination number, make sure you memorise this number or at least write it down somewhere. You can print your UTME Slip. The UTME Slip can be printed at anytime, just login to print.

3.2 Method of Data Collection

During the research work, data needed for the project was gathered from various sources. In gathering and collecting necessary data and information needed for system analysis, two major fact-finding techniques were used in this work and they are:

(a) Primary Source

This refers to the sources of collecting original data in which the researcher made use of empirical approach such as personal interview and questionnaires.

(b) Secondary Source

The secondary data were obtained by the researcher from magazines, Journal, Newspapers, Library source and Internet downloads. The data collected from this means have been covered in literature review in the chapter two of the project.

3.3 Objectives of the existing System

The objective of the existing system is to conduct exam for entrance into the Nigerian higher institutions. This was normally conducted by JAMB. Hence the students undergo the process of registration, examination and result publication.

3.4 Input Analysis

The input to the new system is student's registration form. The personal details and academic qualifications including choice of higher institution and course are collected during the period of registration. This is documented for onward processing.

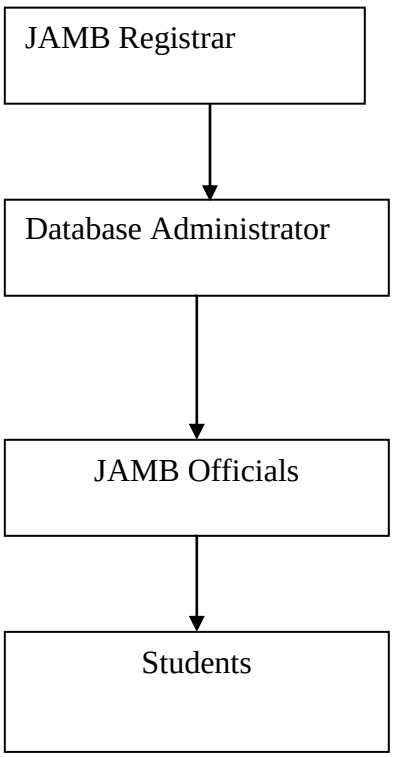
3.5 Process Analysis

After the unified tertiary matriculation registration, the registered list is collected and processed to get the total no of candidates that will sit for the examination.

3.7 Output Analysis

The List of registered students with their university and polytechnic choices are published.

3.8 Information Flow Diagram



3.9 Problems of the Existing System

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

a. Delay in processing registration form
b. Loss of vital documents as the filing system is manual
c. Damage of documents due to fire incident.
d. Illegal removal of forms by fraudulent staff leading to insecurity.

3.10 Benefits of the Proposed System

The new system is designed to solve problems affecting the manual system in use. It is design to be computerised thereby relieving both the students and staff from much stress as experienced in the manual system.

This system will do the analysing and storing of information either automatically or interactively. It will make use of online database system.

Chapter Four

System Design

4.1 Design Standard

As the new system is focusing on how to automate the entrance processing system, effort was made to present a design that will suite the research objectives. So, the design of the software will help the user achieve the following objectives.

a. Present online forms for registration

b. Process all registration forms online

c. Create a database for storing candidates information.

d. Design of a menu driven program so that the forms will be neatly arranged and utilized.

e. Create a modular programming interface for easy debugging.

f. Design a system that will be very fast in operation.

4.2 Output Specification and Design

The output of the new system is designed to generate online reports on JAMB registration. The output design is accomplished using data grids to list the details of students who have registered for the exam. The output specification includes:

JOINT ADMISSIONS AND MATRICULATION BOARD

UTME Entry

First Name **Middle Name** **Surname**

Date of Birth:_____ **Sex** (Male or Female)**:**_____
Day/Month/Year

Marital Status (Single/Married/Divorce)**:**_____ **Disabilities** (Blind/Deaf/Physical Handicap)**:**

Postal Address:_____
Address Town/State State/Country

Note: **Address, Town and State** for Address in Nigeria while **Address, State and Country** for Address Outside Nigeria

Email Address:_____
Nationality (Nigerian/Non Nigerian)**:**_____
State of Origin:_____ **Local Govt. Area Name:**

State of Exam Town Name:_____ **Exam Town Name:**
First Choice
Institution:
Course:
Faculty:

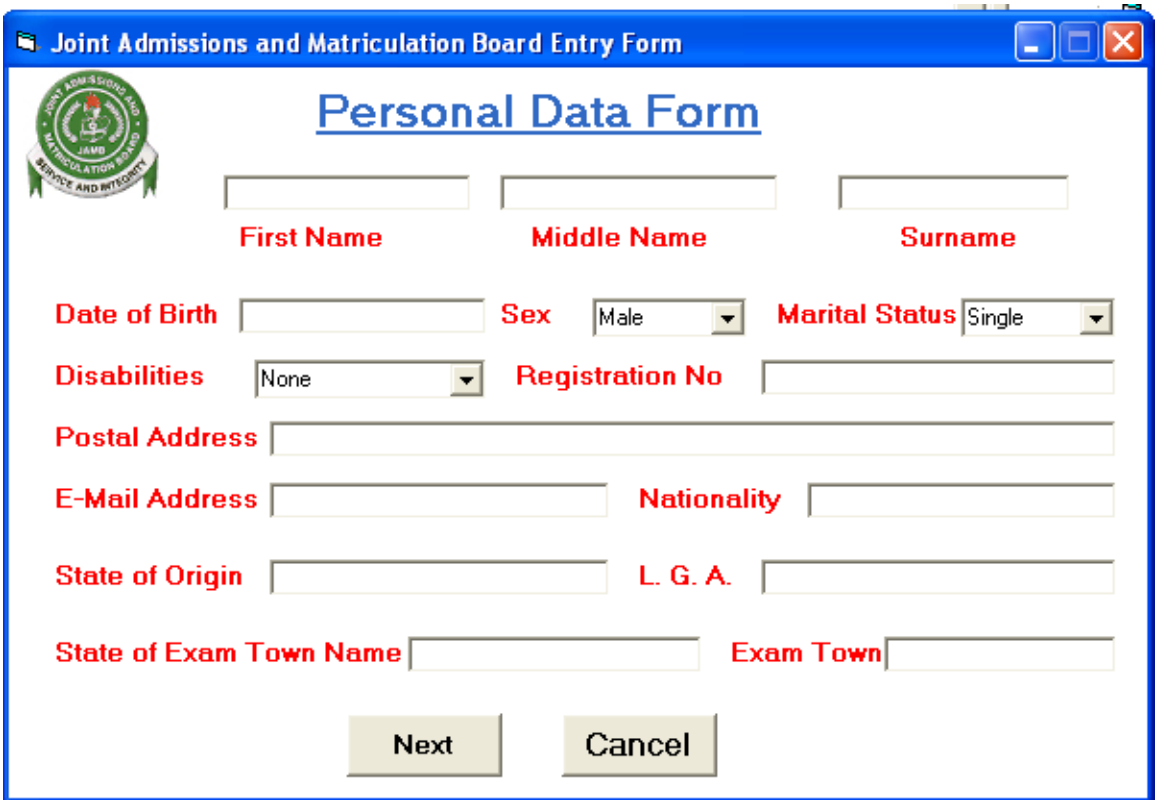
Second Choice
Institution:
Course:
Faculty:

	UME Subjects
1.	**Use of English**
2.	
3.	
4.	

	O'Level Subjects	**Grades**
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
Number of Sittings (Maximum of 2)		

4.3 Input Specification and Design

The new system is designed to capture data from the keyboard. Entry forms are filled and submitted online. The key to gaining access to the input form is the registration no. Bellow is the input design for the new system.



Tertiary Institution Choice

University First Choice

Institution
Course
Faculty

Second Choice

Institution
Course
Faculty

Polytechnic First Choice

Institution
Course
Faculty

Second Choice

Institution
Course
Faculty

UTME Subjects

1 Use of English
2
3
4

College of Education First Choice

Institution
Course
Faculty

Second Choice

Institution
Course
Faculty

Back Next Cancel

4.4 File Design

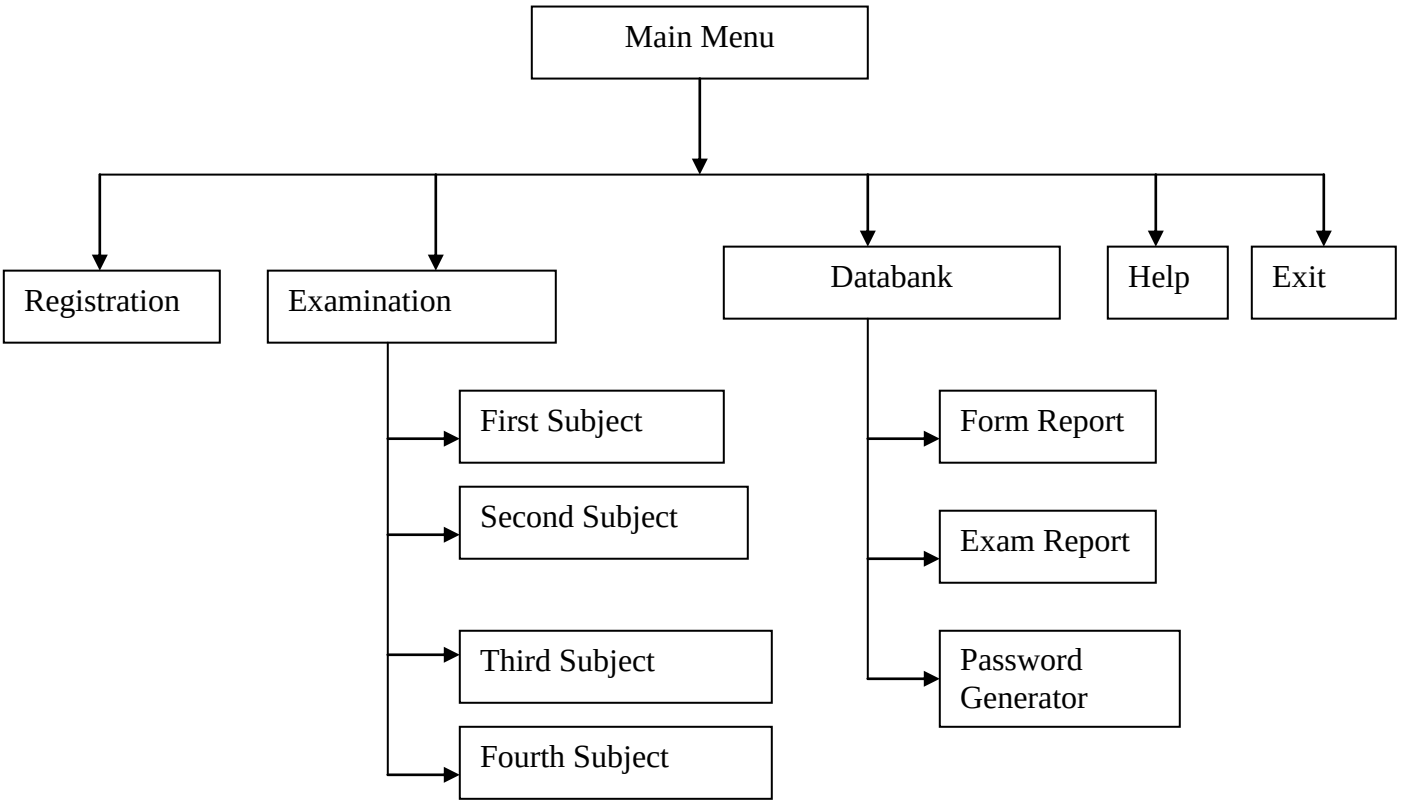
The online registration and examination system is designed using access database. The database structure for registration form is designed using a table called UTME which house all the inputs made on the form.

FIELD	FIELD TYPE	FIELD SIZE
First Name	Text	50
Middle Name	Text	50
Surname	Text	50
Date of Birth	Date / Time	8

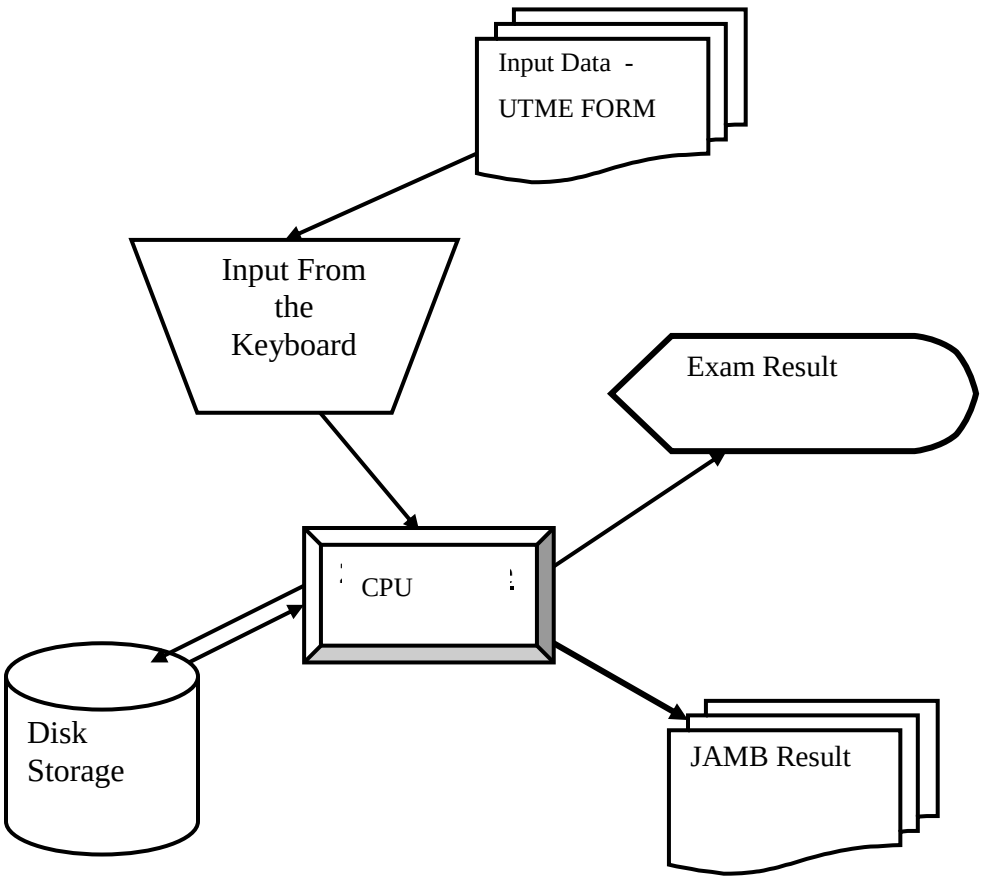
Sex	Text	7
Marital Status	Text	15
Disabilities	Text	30
Postal Address	Text	100
Email Address	Text	20
Nationality	Text	50
State of Origin	Text	50
LGA	Text	50
State of Exam Town	Text	30
Exam Town	Text	40
First Choice Institution	Text	100
First Choice Course	Text	50
First Choice Faculty	Text	50
First Choice Institution	Text	100
First Choice Course	Text	50
First Choice Faculty	Text	50
Second Choice Institution	Text	100
Second Choice Course	Text	50
Second Choice Faculty	Text	50

Subject 1	Text	50
Subject 2	Text	50
Subject 3	Text	50
Subject 4	Text	50
O Level Subject 1	Text	25
Grade 1	Text	5
O Level Subject 2	Text	25
Grade 2	Text	5
O Level Subject 3	Text	25
Grade 3	Text	5
O Level Subject 4	Text	25
Grade 4	Text	5
O Level Subject 5	Text	25
Grade 5	Text	5
O Level Subject 6	Text	25
Grade 6	Text	5
O Level Subject 7	Text	25
Grade 7	Text	5
O Level Subject 8	Text	25
Grade 8	Text	5
O Level Subject 9	Text	25
Grade 9	Text	5
No of Sitting	Integer	2
Reg No	Text	10

4.5 **Procedure Chart**



4.6 System Flowchart



4.7 System Requirement

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

Hardware Requirements

In the cost of the design, the software developed needed the following hardware for an effective and efficient operation of the new system.

1. Intel Computer System.
2. At least 252KB RAM.

3. Enhanced keyboard.
4. At least 40GB hard disk.
5. E.G.A/V.G.A, a coloured monitor.
6. An uninterruptible power supply (UPS) units
7. LaserJet or DeskJet printer.

Software Requirements

The software requirements includes:-

- A window 98 or higher version for faster processing
- Microsoft Access
- Visual Basic integrated development environment (version 6.0).
- HTML

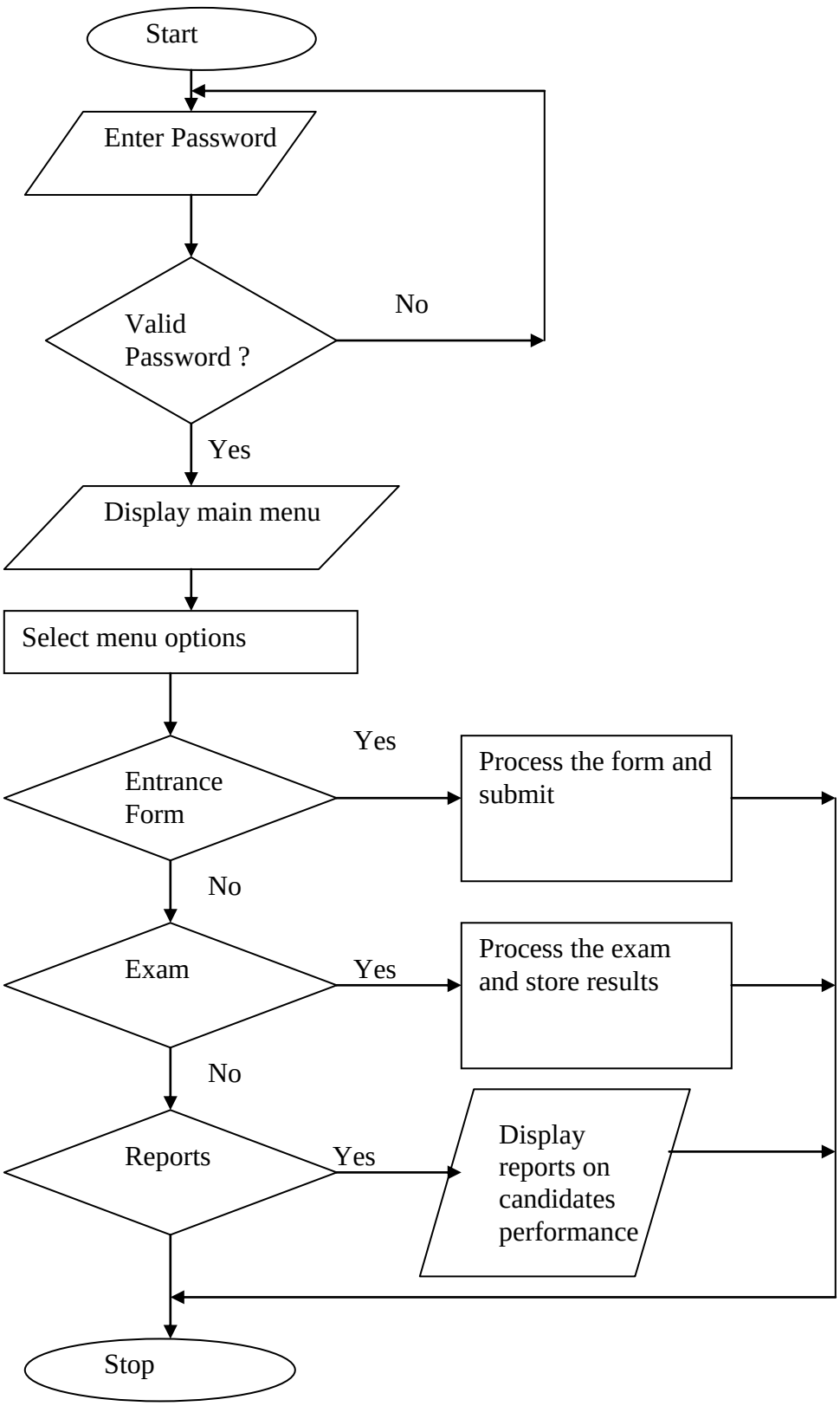
Operational Requirement

For the new system to be operational, a data center with internet facilities has to be setup and equipped with computers.

Personnel Requirement

A total of 20 computer operators are needed to manage the computer centre. They will oversee the entry of data into the system.

4.8 **Program Flowchart**



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Online registration for JAMB UTME is very simple, although this system developed a few facilities have been added. However, if you have some basic computer skills you will be able to register yourself with little difficulty. If you already know how to browse the internet using tools like Yahoo mail, Gmail, or Facebook, then registering for JAMB UTME will probably be a piece of cake for you. However, if you are not computer literate it may be quite challenging. But that does not mean you should give it out to a consultant to do for you. The fact is that you can register for JAMB UTME yourself. You can use such a cafe to signup for your UTME account. You can then logout and continue the registration yourself another time or you can complete it at the internet cafe. Note that the JAMB UTME registration portal required that the Java Runtime Environment be installed on your computer. Registering yourself for JAMB UTME may also be challenging because of slow internet connections at cyber cafes as well as the capacity of the JAMB UTME registration portal. We hope JAMB have taken care of the high level of load expected during this period. Some cyber cafes may block access to JAMB UTME e-registration portal fron their cafe so that you pay them for your UTME registration. In

such a situation, you are advised to look for a cyber cafe that does not offer JAMB UTME services. In this research, the researcher was able to replace the error prone manual system with the new online registration form for Unified Tertiary Matriculation Examination System.

5.2 **Conclusion**

It was heart warming to read very important information, particularly, the proposal to discontinue UME and replace it with UTME. To start with, the process of the UTME will be very computer sensitive. What are the provisions that the organizers have made for candidates in rural areas with little or no access to computers to ensure that they will not miss the opportunity to register for the UTME? The April 2010 is likely to be the maiden edition of the examination, what provisions have been made to make the maiden edition hitch-free, and should there be any hitch, what recovery strategies are in place? How far has the candidates been educated on those remedial procedures, if any? So, there is need for mass literacy campaign on the use of computer.

6.3 **Recommendation**

This effectiveness and efficiency of this new system provides room for further improvements. As earlier mentioned, some of the objectives of this project were not actualised due to some limitations. So these objectives could be improved upon. In addition, the areas of possible improvement includes:

1. Developing an online student entrance processing system to enable full tracking of student's records.
2. Automation of student's entrance exam questions to enable the management has access to student academic performance.
3. Maintaining a central database for accessing all information relating to students and their university entrance processing.

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