**RESULT VALIDATION AND VERIFICATION SYSTEM FOR KADUNA POLYTECHNIC (KADPOLY E-VERIFY)**

**BY**

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***A PROJECT PROPOSAL SUBMITTED TO THE***

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**ABSTRACT**

*Forgery has long crept into our educational system and, counterfeit and forged certificate and document have upper hand in various certificate and degrees awarding institution. Invalid studentship has become greater than valid studentship. The need for student verification system has become necessary to check mate and expunge invalid studentship, invalid document and invalid certificate yielding to authenticity of certificate and documents. This research work implemented student verification system for Kaduna polytechnic (Kadpoly e-Verify). The proposed model is concerned with monitoring the studentship of students, keeping students basic academic record, tracking students if there is malpractice of any kind and verifying every certificate of Kaduna polytechnic, Kaduna state in the future. This research work will be a web-based application and will be implemented on a relational database system (SQLite). HTML (hypertext markup language), CSS (cascading style sheet) and Django(python) are the modern languages used in implementing this system.*

**CHAPTER ONE**

**INTRODUCTION**

* 1. **Background of the Study**

Information and Communication Technology is one of the diverse industries in the world that is increasing development in a certain country. Verification is the process of establishing the truth, accuracy, or validity of something such as the verification of official documents (Musee, 2017).

Most of the applicants falsify their educational credentials. What's more, industry experts cite academic fraud as the most common lie on resumes. This poses the greatest danger to an organization. This has been accelerated by applicants who falsify the information. The risks involved in not verifying the applicant’s certificate details include, greater recruiting and replacement costs, increased employee turnover, compromised business performance, embarrassment, and a negative impact on Kaduna polytechnic reputation.

Therefore, for this case, a computerized system to obtain graduates certificates records and verification should be introduced in the school which will enable several recruiters to verify the certificate records from the ones issued in the system and the ones that they have.

**1.2 Statement of the Problem**

Recently employers have been experiencing has high alarming rate of fake certificates (Taylor, 2017). This is due to the traditional paper-based prototype of verification. The issue of forgery of printed certificates is one that is frequently encountered. Similarly, the low skill level required to counterfeit academic certificates is a major issue. The difficulty of the traditional verification process has resulted in unnecessary delays as well as inconvenient long-distance travel for verification purposes. However, with advancements in information and computer technology, a paradigm shift from traditional based verification to real-time verification is required.

* 1. **Aim and Objectives of the Study**

The project is aimed at designing a working platform in Kaduna polytechnic which will be used nationally and perhaps internationally in verifying the records of academic certificates for all graduates from Kaduna polytechnic in Nigeria.

**Objectives**

The objectives of this research work are as follows:

1. To create a system that would verify all Kaduna polytechnic certificates records making sure that they are all valid and original.
2. System should eliminate the problem of using fake certificates which are used in different applications and registration for recruitment.
3. Reduce the cost of parsing information and efficiently manage Results information of the students.
   1. **Scope of the Study**

This project work is centered on developing a website (Kadpoly e-Verify) with the intention of eliminating the use of fake Kaduna polytechnic results in Nigeria and perhaps internationally. This result verification software reduces instances of academic fraud, also the system reduces the process of sending people to advocates to verify their certificate credentials. The people that are expected to fully utilize this portal are the Student Affairs of Kaduna polytechnic and Recruiting organization. The study will not cover the verification and validation of other school certificates

**2.2 Literature Review**

Result verification is the process of ensuring certificate presented by a prospective employee to a prospective employer is genuine and that the holder is the rightful owner. Obilikw Usman (2019)

Result verification is the also the process of determining or confirming that a certificate is original. Moreover, a graduation result has to be verified to ensure that its content is true and also to ensure that the issued certificate comes from a real source. Ghazali Os (2019).

When we talk about a verification 3system, we define it as a set of actions used to check the correctness of any element, such as a system element, a system, a document, a service, a task, a requirement, etc. (SEBoK, 2017). These types of actions are planned and carried out throughout the life cycle of the system. Verification is a generic term that needs to be instantiated within the context it occurs. As a process, verification is a transverse activity to every life cycle stage of the system. In particular, during the development cycle of the system, the verification process is performed in parallel with the system definition and system realization processes and applies to any activity and any product resulting from the activity. The activities of every life cycle process and those of the verification process can work together. For example, the integration process frequently uses the verification process. It is important to remember that verification, while separate from validation, is intended to be performed in conjunction with validation. (SEBoK, 2017)

Verification is the confirmation, through the provision of objective evidence, that specified requirements have been fulfilled. With a note added in ISO/IEC/IEEE 15288, the scope of verification includes a set of activities that compares a system or system element against the requirements, architecture and design characteristics, and other properties to be verified (ISO/IEC/IEEE, 2015). This may include, but is not limited to, specified requirements, design description, and the system itself.

The purpose of verification, as a generic action, is to identify the faults/defects introduced at the time of any transformation of inputs into outputs. Verification is used to provide information and evidence that the transformation was made according to the selected and appropriate methods, techniques, standards, or rules (Musee, 2015).

Verification is based on tangible evidence; i.e., it is based on information whose truthfulness can be demonstrated by factual results obtained from techniques such as inspection, measurement, testing, analysis, calculation, etc (SEBoK, 2017). Thus, the process of verifying a system (product, service, enterprise, or system of systems (SOS) consists of comparing the realized characteristics or properties of the product, service, or enterprise against its expected data record for example E-Verify USA works by comparing the information employees provide for Employment Eligibility Verification against records available to SSA and DHS. Generally, if the information matches, the employee’s case receives an Employment Authorized result in E-Verify, if the information does not match, the case will receive a Tentative Non-confirmation (TNC) result and the employer must give the employee an opportunity to take action to resolve the mismatch (E-Verify. 2018). Therefore, the graduates and recruiters have the chance to verify certificate records in similar process as the E-Verify works.

The performance of a verification action includes the following:

* Obtaining a result by performing the verification action onto the submitted element
* Comparing the obtained result with the expected result
* Deducing the degree of correctness of the element

How verification work according to Bear (2018) in Test-Complete, you can use database checkpoints to verify data stored in a database by comparing it with baseline data stored in your project. The verification procedure works in the following way:

When you create a database checkpoint, you specify connection settings for the database and the records you want to verify. Test-Complete stores the connection information and the baseline record set retrieved from the database in the table element of the project’s or system data record store/collection. For this system case it will be the certificate data records uploaded by the student affairs Kaduna polytechnic.

When you run the test, the database checkpoint uses the connection information stored in the DB table element to connect to the database i.e. the login credentials or authenticated user details with the specified searched records to verify. If the checkpoint cannot find the needed database with the required field by the end of the specified time period, the verification fails.

Else the database checkpoint retrieves the actual data from the database for verification. If you specified the exact number of records for verification, then the checkpoint checks whether the number of records in the actual record set differs from the number of records stored in the baseline record set. If the numbers differ, the checkpoint fails the same process will be used mainly in implementing the (Kadpoly e-Verify) system.

The checkpoint checks whether the actual record set contains all fields stored in the DB table. The further operations depend on whether the baseline record set contains columns marked as key columns or not.

If a user defined key fields or required records, then the checkpoint iterates through stored records, uses the key fields to locate the appropriate record in the retrieved record set and checks the fields of the actual records against the stored records.

If a user did not define key records of the record being searched for, then the checkpoint checks the actual records against the stored records comparing them one by one. In other words, compares the first stored record with the first record retrieved from the database, then compares the second stored record with the second retrieved record and so on, this method will be used by the recruiters/organization to verify the certificate records in their unique view from other users apart from the system administrator.

And lastly if an actual field value differs from the relevant stored field value/record, the verification fails. The verification also fails if the stored and the actual record sets contain a different number of records. Therefore, this general process as described from (SmartBear Software, 2018) will be used in implementing the Kadpoly e-Verify system.

**3.2 Method of Data Collection**

In executing any system, one has to have an insight of what is happening, it is important that information and fact about the existing system is gathered. In executing this research, two methods were employed

1. Observation of the Work Environment.
2. Documentation

**3.2.1 Observation of the Work Environment**

This method was employed in gathering information/data for this research by looking at the way in which the manual system was carried out. The glaring issues with the existing system were detected by careful observation Utilizing the observational method can exert varying amounts of control over the environment in which the observation takes place.

**3.2.2** **Documentation**

The Documentation method is a secondary method of data collection. This method involves the use of journals, handbooks, past projects and newspapers. This method of data collection is used because it serves as a basis of reference to existing research work. This includes internet which is a method of data collection the web was used in sourcing for information on areas that seems difficult or confusing in order to achive an alternative, workable result verification system (Kadpoly e-Verify).