6-Tier Architecture in Minimizing the Prevalent of Tertiary Examination Malpractices (SWQP-AE)

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Abstract: *Novel 6-Tier architecture has been designed in addressing examination malpractices. This model addresses examination malpractices from the perspectives of pre-examination and examination malpractices. The model component identifies Admitted Students (AS), Cleared Students (CS), Registered Students (RS), Lectured Students (LD), Mid-Session Examination (MSE) and Examination Students (ES) as tiers of the model. The integral functionalities of the model were designed using Unified modeling Language (UML) use case diagram which portray user usability for the model.*

Keywords: *Model, Malpractices, Examination, Examination Malpractice.*

1. INTRODUCTION

The education systems were created with the purpose of equipping citizen to live and enhance productivity within or outside their domain of residents. These systems provide the opportunity for gifted or talented individuals to enhance or explore their abilities. Sadly though; this structure or system has been compromised due to examination malpractices hampering productive assessment (Wilayat, 2009).

Examination malpractice is an illegal behavior by a candidate before, during or after the examination so that the student can attain success easily and cheaply which invalidate or compromise the certificate (Aisha, 2015).The major causes of examination malpractices could be traced to: laziness of students, large student population size, student desperation, inadequate preparation for examination, corrupt invigilator and supervisor, bogus syllabuses, acceptance of fraud (Aisha, 2015).

Nigerian educational system has been bedeviled with malpractice for a long time. This has in no small way affected and hamper the legality and usability of these certificates issued from these universities. (Naij, 2017). These issues of malpractices has seriously propagated secondary education, with student employed various means to achieve their said aim. Student has gone so far in drugging their invigilators using dangerous chemicals (Vanguard, 2017). This trend is even more peculiar in Nigeria; with student going to examination fully armed with guns and other weapons. Examination hall have been divided into private and public centers, with the private center been the most noticeable hub of examination malpractices, after student have subdued their invigilators or invigilators have been heavily compromised (Vanguared, 2012). Secondary student have also been known to pay money to corrupt invigilators all in the name for grade for which no know effort t has been recorded on the part of the students. The use of extraneous material among student is all too common, with student employing different types of sharp practices in achieving their set goals and objectives (Fayombo, 2004). The tertiary institution are not left in examination malpractices, infect in most tertiary institution in Nigeria, it is the order of the day, with little attention pay to course registration, class attendance, class lecture , midsession examination and even the final oral or written examination, simply because student can illegally obtains grades and overall school certificate inordinately (Fayombo, 2004). It has been noticed that in most tertiary institution student pay for grades, rent candidates to wrote examination and even use foreign materials within examination halls, a trend serious disturbing (Badejo, 2010).

Examination malpractices have prevailed in secondary and tertiary institution within the Nigeria education sectors with causes traced to different factors (Naze, 2011; Paul, 2012). Although several approaches have been implemented with the aim of curbing examination malpractices in tertiary institution, none has implemented a holistic approach. It is the intent of this research paper to proffer 6-tier architecture with the aim of curbing Examination malpractices from the onset.

2. OVERVIEW OF RESEARCH WORK ON EXAMINATION MALPRACTICES

The sections cover several research works on Examination Malpractices. This section is comprehensively discussed from Author, Goal, and Strength/Finding of research, Limitation/ Weakness / Further researches. Table 2.1 provides these literatures.

Table2.1. *Review of Related Work on Examination Malpractices in Tertiary*

SN	Author (Year)/Title	Goal	Strength/ Finding	Limitation/ Weakness	Further Research
1.	Akinrefon et al., (2016) On Examination Malpractice In Nigeria Universities: Factor Analysis Definition	Study seeks to assess the pattern of examination malpractice in higher institutions in Nigeria, their causes, effects and also Proffer solutions.	Analysis from factor loading 8 revealed that factor 15 (0.5154) is also a major cause of Examination malpractice.	i. Focus on causes without solution. ii. No Model Solution base model was formed. iii. Neglected post and pre examination malpractices.	Model base solution in addressing examination malpractices
2.	Alabi, (2014) Effective Invigilation as a Panacea for Examination Malpractices among Students of Tertiary Institutions in Nigeria	Invigilator the Panacea for Examination Malpractices	The powerfulness of invigilators in curbing malpractices	i. The research was solely focused on invigilator as the solution to examination malpractices. ii. Neglected post and pre examination malpractices	i. No solution beyond invigilator in curbing malpractices. ii. No feasible model developed for examination malpractices
3.	Abdulkareern and Alabi(2004) Curbing Examination Malpractice In The University System: A Management Perspective	i. concept of malpractices ii. Offences with malpractices	Broad analysis of malpractices.	i. Investigative research on malpractices	i. No feasible model developed for examination malpractices

Table 2.1 provides a tabularization of existing research works on examination malpractices. The table categorizing finding, weakness and further studies. From the table 2.1, it is was clearly highlighted that existing research works has focused on examination malpractices of

- Solution tied to tie to manpower implementation using invigilator. No existing research work proffered solution from the perspectives of presenting an implementable model. Therefore the ability to simulate, implement or validate their model was not made possible with existing researches focus on malpractices with the tertiary institution.

- Most of their approaches were not holistic in curbing examination malpractices. Most researches focused solely on examination malpractices within the examination neglecting pre and post examination malpractices.

With these limitations in focus, 6-Tier Architecture in minimizing the prevalent of tertiary examination malpractices was designed with the aim of providing a holistic approach to examination malpractices inclusive of pre examination practices.

3. 6-Tier Architecture in Minimizing the Prevalent of Tertiary Examination Malpractices

The designed 6-tier architecture extends existing approaches in curbing examination malpractice through the provision of a holistic approach addressing not only examination practices but pre examination malpractices. The architecture comprises of six tiers: Admitted Student (AS), Cleared Student (CS), Registered Student (RS), Lectured Students (LD), Mid-Session Examination (MSE) and Examination Students (ES) with an accompanying disqualified repository which houses disqualified student prior examination. Figure 3.1 provides the 6 -Tier Architecture in minimizing the prevalent of Examination Malpractices
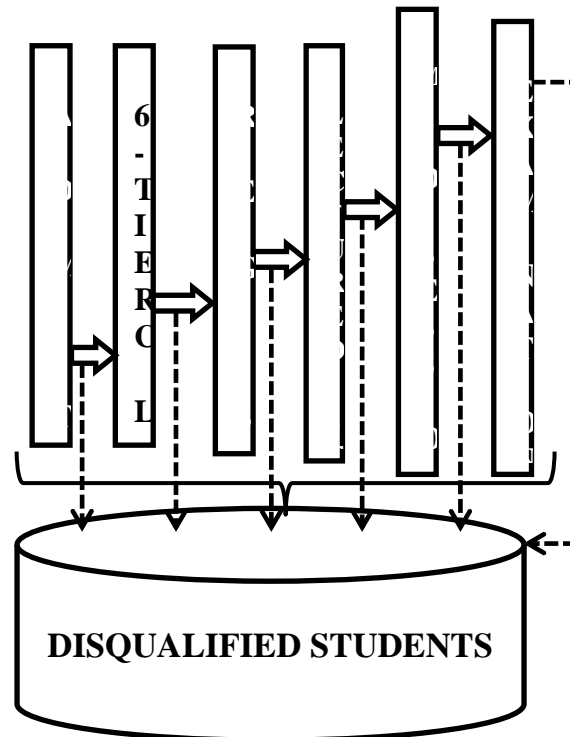

Fig3.1. *6 -Tier Architecture in minimizing the prevalent of Examination Malpractices*

Figure 3.1 provides 6-tier architecture in addressing the prevalent of examination malpractices. The architecture addresses examination malpractices holistically taking to cognizant the overlapping effect of educational processes imbedding and encouraging malpractices. The architecture was designed with the firm believe that examination practices must be addressing from the onset, pruning off factors facilitating examination malpractices. From point of student admission to the point of student engaging either in oral or written examination, students are meticulously screened and are disqualified in as much as they failure the tiers architecture requirements. The tiers architecture includes Admitted Student (AS), Cleared Student (CS), Registered Student (RS), Lectured Students (LD), Mid-Session Examination (MSE) and Examination Students (ES).

3.1. Admitted Students (AS)

The first tier of the Architecture ensures that students within this tier are genuinely admitted according to National Universities Commission (NUC) guidelines in close alignment with University Admission Board (UAB) requirements. It is believed that students who fail these admission criteria's, if admitted will encourage fraudulent practices directly affecting the next tier of the architecture, and subsequently to the final tier of the architecture (examination students).Therefore the strictly enforcement of lay down requirements both internal and external will go a long way in overall mitigating and minimizing the spread of examination practices through the elimination of unqualified student which could facilitate malpractice issues.

3.2. Cleared Students (AS)

The second tire of the architecture focuses on complementing the second tier. The admitted students received from the first tier, serves as input into the second tier of the architecture: cleared students. The second tier of architecture, check careful and meticulously ensure the adherence to stipulated credits requirements are met. It also check the status of all students ensuring no falsification of records pertaining to date of birth, gender, medical records, sponsor and year of study. The cleared student tier ensures that all details necessary prior to student course registration is handled. Any student not meeting the clearance requirements are disqualified even though they may have been qualified in the previous architecture.

3.3. Registered Student (RS)

The third tire of the architecture focuses on complementing the fourth tier of the architecture. The input to this tier of the architecture is the output from the cleared student tier. The registered student tier ensures the comprehensive and efficient registration of all students undertaking varied courses under their respective departments. It also ensured that students with respective carryover courses are identified and registered these courses prior to successive courses. The registered student tier is the prerogative for activating the lecture student tier of the architecture. Therefore any unregistered student is prevented from attending lectures.

3.4. Lectured Student

The fourth tier of the architecture focuses on complementing the fifth tier of the architecture. The input to this tier of the architecture is the output from the registered student tier. The lectured students are a prerequisite toward mid-session examination. At this layers student are adequately feed and taught examination dependent topics with each student accounted for through regular class attendance. This tier provide for a complementary number of class attendance before students are allowed to sit for mid-examination. The failure to meet the stipulates number of attendance, prevent a student for writing an examination

3.5. Mid-Session Examination

The fifth tier of the architecture focuses on complementing the sixth tier of the architecture. The input to this tier of the architecture is the output from the lecture student tier. The mid-session examination provides a prerequisite toward examination attainment and consideration. This session ensures that student met a certain class attendance prior to mid-session examination and subsequently final examination. At this point the number of student has been streamlined tremendously constraining the number of number urging to engage in examination malpractices. The failure of student not engaging in mid-session examination simply means the student is disqualified from the examination.

3.6. Examination Student

The sixth tier of the architecture is complemented holistically by all prior tiers. The previous tier provide for considerably reduced number of students with the likelihood for using extraneous material, impersonation, or chatting with the students. At the tier of implementation adequately qualified student are engaging in diligent exam writing.

4. DESIGN OF THE 6-TIER ARCHITECTURE IN MINIMIZING THE PREVALENT OF TERTIARY EXAMINATION MALPRACTICES

The design of the6-Tier Architecture in Minimizing the Prevalent of Tertiary Examination Malpractices was handled using a standard Object Oriented design tool: Unified Modeling Language (UML). Unified modeling language (UML) is a standard modeling language used for modeling software models or systems. Although it captures various facets, this research paper focuses mainly on the user view. Figure 4.1 provide the user view depicting the facet of the 6-Tier Architecture in Minimizing the Prevalent of Tertiary Examination Malpractices. The user view provide for initiating and receiving actors which each actor (Examination officer) having the opportunity of initiating a process and receiving an appropriate response. The user view is represented by the use case diagram which portrays several processes represented as ellipse. The initiation of each ellipse by the user identifies a particular process. Therefore Admitted Student (AS), Cleared Student (CS), Registered Student (RS), Lectured Students (LD), Mid-Session Examination (MSE) and Examination Students (ES) are all represented as ellipse.
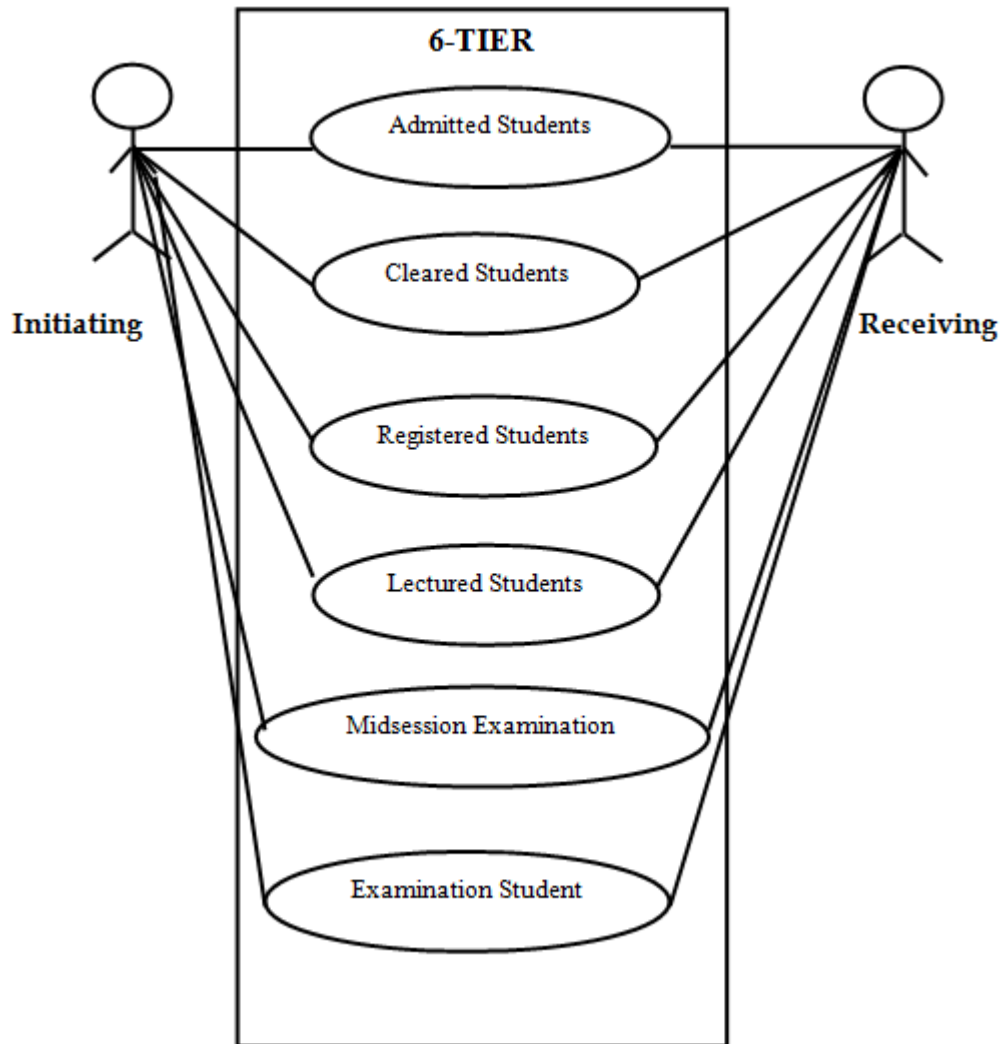
Fig4.1. *Use Case Diagram for 6-Tier*

5. DISCUSSION

6-Tier Architecture in Minimizing the Prevalent of Tertiary Examination Malpractices was designed to address pre and examination malpractices. The model on full implementation will obtains the following benefits:

- Curb pre and examination malpractices

- Enhances tertiary education credibility

- Turn out high-skilled quality graduate

6. CONCLUSIONS

This research paper has addressed examination malpractices using a 6-Tier architecture that focuses on pre and examination malpractices. The integral functionalities of the model were designed using unified modeling Languages (UML) highlighting the versatility and uniqueness of the model.

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