

# TACKLING THE MENACE OF THEFT OF COMPUTING DEVICES IN INSTITUTIONS OF HIGHER LEARNING IN NIGERIA

By

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## Abstract

*Nigerian institutions of higher learning are post-secondary schools whether online or within the four walls of a building. More often than not, they are run with students needing to complete assignments or making researches that require laptops and other computing devices usage which are not easy to come by. Students then get into theft of these computing devices and still use same in the same institution which may not necessarily be in the same department. Tracking a stolen computing device has become a major problem that the security outfit cannot effectively handle by manual search which necessitate a robust but simple solution proposed by this research.*

**Keywords:** Laptop, Personal Digital Assistants, MAC address and Higher Institutions

## 1.0 Introduction

Information Communication and Technology (ICT) has become an indispensable tool in all spheres of life. Business world, Government agencies and Hospitals (and list grows as one thinks) make use of computers. Educational sector is not left out. As technology improves, various sizes of devices hit the computing realm giving rise to desktops, laptops, tablets, smartphones and other personal digital assistants (PDAs). Necessary tradeoffs come into play depending on users' preference. Higher institutions can hardly do without laptops due to their

relative small sizes, high speed and screen sizes. However, a major shortfall is a considerable high rate of theft. The spate of missing laptops is increasing by the day among students. This is not so with other PDAs since they are not encouraged on the campus. The work presents a solution to tackle the problem of laptop theft on campus.

## **2.0 Justification for the Proposed Solution**

Nigeria ranks high among the poorest nations of the world. Dasgupta (2014) explained being rich or poor nations should stem from the net worth of the total stock of capital assets. Wherever it swings determines whether or not a nation is poor or otherwise. World Poverty Clock defined Nigeria as the second poorest nation in the world. However, it ranks 13<sup>th</sup> as one of the heaviest user-nation of the internet (Meeker, 2019). Nigerians are users of internet enabled devices even when it is extremely difficult to come by. Hence, a major reason for high tendency for theft of computing devices. This paper is set to reduce this menace by proposing an EMR solution.

## **3.0 Description of the Solution**

The proposed solution has three modules namely the Enrolment, Matching and Reporting (EMR). These form the basic stages involved in the process of preventing theft of the laptops – an indispensable tool and partner for students of higher institutions as described below:

### **3.1 Enrolment**

This is the most critical aspect of the solution. Other stages depends on this. Enrolment stage allows for capturing of details involving the owner's names, ID, device's serial number and MAC address. The MAC address offers a unique identification for each laptop. It should be noted that any wrong (inadvertent or deliberate) capturing of MAC address makes a nonsense of the

exercise. So, trusted and trained hands will be used for this stage. For the initial capturing, a register can be made available at the faculty or departmental level to facilitate capturing. This method will prevent unnecessary delay in capturing. Since this will be a continuous process as new laptops will keep coming in howbeit in trickles. Subsequently, the task will be performed as a self-service at the gate but monitored by security personnel. Proper awareness needs to be done to ensure that no laptop goes in without registration. The process may meet with some initial resistance especially because it may not have been seen elsewhere. Over time, the situation normalizes.

### **3.2 Matching**

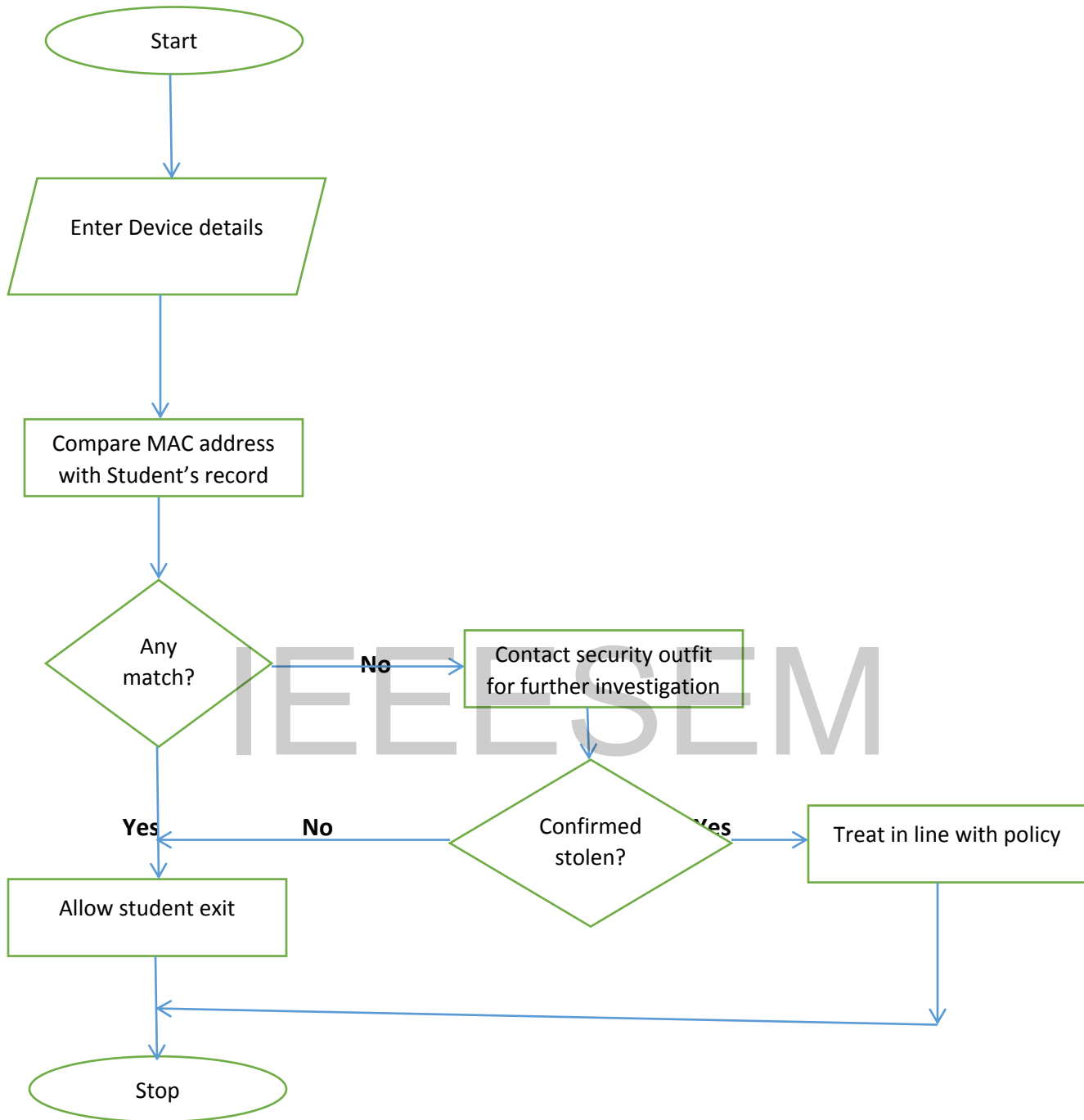
Based on details captured, matching can be done when a laptop is about to leave the campus. Facility to match will be provided online real time at both gates. Where no match exists, may be due failure to register or outright theft, it is escalated and appropriate action will be taken with the details of the acclaimed owner (see fig. 1).

### **3.3 Reporting**

A routine report can be generated in MS Excel for further processing and review. This report may include a long list of laptop brought in but not signed out. This is normal since students all reside on the campus except during vacation. Right to this report should be on a need-to-have and need-to-know basis.

### **4.0 Implementation**

ICT department will work on this using the existing students' database which is held right from the point of entry into the institution while reference field remains the students' matriculation number for uniqueness since no two students can have the same matriculation number.



**Fig. 1: Flow chart illustrating matching process**

### Security issues

Best practice should be followed in securing the details at the various levels. However, the following should be strictly complied with:

1. Proper Access Control practice should be put in place. This is to ward off unauthorized users
2. Roles should be clearly defined and segregated. This is to ensure that ownership is not in doubt especially during dispute resolution.
3. Database access should be dual-controlled and back up of this control should safety kept, possibly in different locations. These help in cases of emergency and also prevent abuse.
4. Where already captured details need to be modified, approvals should be duly sought. This will prevent unauthorized access to the database.

## Conclusion

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Necessary controls should be in place to ensure theft of important tools like laptops and other computing devices is reduced. Since it is difficult to procure due to high poverty level in the country, owners should be protected even though poor students who cannot and afford (yet needing one) will not be able to go undetected. If this is properly implemented, the solution will reduce the rate of theft of computing devices in higher institutions in Nigeria.

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