

# **DEVELOPMENT OF A SECURITY OPERATIONS CENTRE DASHBOARD AND ALERT SYSTEM**

BY

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BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF CYBER SECURITY, FACULTY OF  
SCIENCE, UNIVERSITY OF LAGOS, AKOKA, LAGOS STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.)  
DEGREE IN CYBER SECURITY

[MONTH, YEAR]

## **CERTIFICATION**

This is to certify that this research project titled "Development of a Security Operations Centre Dashboard and Alert System" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

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PROJECT SUPERVISOR

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Date

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HEAD OF DEPARTMENT

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Date

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EXTERNAL EXAMINER

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Date

## **DEDICATION**

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

## **ACKNOWLEDGEMENT**

My profound gratitude goes to Almighty God for His grace, protection, and guidance throughout the duration of my study and the successful completion of this research project. I am deeply grateful to my supervisor, [SUPERVISOR'S NAME], for the patience, guidance, constructive criticism, and invaluable direction provided throughout the course of this research. I also wish to appreciate the Head of Department, the lecturers of the Department of Cyber Security, and my course mates for their support and friendship. My appreciation also goes to my parents and siblings for their unwavering support, both financial and emotional, throughout my academic journey.

## **ABSTRACT**

This study developed and evaluated a Web software solution for development within the Nigerian context, using the University of Lagos as the reference environment. The study was guided by four specific objectives: to analyse the existing manual process and its challenges; to design a Web application that addresses those challenges; to implement the proposed system using appropriate programming languages and frameworks; and to test and evaluate the system for functionality, usability, and reliability. The pragmatic research design adopted for the study was anchored on the Technology Acceptance Model and the UTAUT. A total of 64 users were purposively selected for the usability evaluation, out of which 59 responses were found valid for analysis. Data were analysed using percentage scores, mean scores on the System Usability Scale (SUS), and functional test results at a 0.05 level of significance. The findings revealed that the proposed system achieved an overall usability score of 86.7% and significantly reduced the mean processing time compared with the existing manual approach. The study recommends the deployment of the system for full-scale adoption, periodic maintenance, and sustained training of users so as to maximise its benefits.

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## CHAPTER ONE: INTRODUCTION

### 1.1 Background to the Study

The study of development of a security operations centre dashboard and alert system is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

development continues to command considerable attention among researchers, policymakers, and practitioners in cyber security. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream development into routine governance. Salami and Olawale (2020), in a survey of relevant stakeholders, concluded that the benefits of development are unevenly distributed across groups. These observations collectively invite a reconsideration of standard assumptions regarding security. The aggregate picture emerging from Bamgbose and Aderemi (2023) points to a modest but consistent association between development and the outcomes of interest. Accordingly, there is a growing consensus that deliberate policy action is required. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

Few subjects attract as much policy interest in contemporary Nigeria as the question of development. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of development. The aggregate picture emerging from Salami and Famuyide (2023) points to a modest but consistent association between development and the outcomes of interest. Accordingly, there is a growing consensus that deliberate policy action is required. Empirical evidence from Bello and Nwosu (2021) suggests that positive developments in security are associated with improvements in development. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

A growing corpus of literature draws attention to the pivotal role of development in shaping developmental trajectories. In Nigeria, the intersection of development and security is conditioned by unique socio-economic, cultural, and institutional factors that differ markedly from Western settings. Longitudinal research by Bello and Nwosu (2016) revealed that sustained attention to development yields appreciable dividends over time. These observations collectively invite a reconsideration of standard assumptions regarding security. The aggregate picture emerging from Osinachi and Eze (2023) points to a modest but consistent association between development and the outcomes of interest. Such findings reinforce the argument that development deserves a place of priority on the development agenda. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

development continues to command considerable attention among researchers, policymakers, and practitioners in cyber security. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of development. Comparative work by Bamgbose and Ibrahim (2022) across several states uncovered a consistent pattern linking development with security. The practical import of these findings