DESIGN AND IMPLEMENTATION OF A DIGITAL LIBRARY MANAGEMENT SYSTEM FOR ACADEMIC INSTITUTIONS

BY

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BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF COMPUTER SCIENCE, 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 COMPUTER SCIENCE

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Design and Implementation of a Digital Library Management System for Academic Institutions" 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 Date

_____ _____

HEAD OF DEPARTMENT Date

_____ _____

EXTERNAL EXAMINER 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.

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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 Computer Science, 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 design 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 72 users were purposively selected for the usability evaluation, out of which 65 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 83.5% 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 design and implementation of a digital library management system for academic institutions 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.

Few subjects attract as much policy interest in contemporary Nigeria as the question of design. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream design into routine governance. Longitudinal research by Adebayo and Ibrahim (2016) revealed that sustained attention to design yields appreciable dividends over time. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Findings reported by Adeniyi and Ogunlana (2018) observed that respondents with greater exposure to design recorded markedly different results. These observations collectively invite a reconsideration of standard assumptions regarding implementation. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

The salience of design in national discourse has grown steadily, driven by changing social conditions and technological penetration. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of design. Evidence assembled by Ogbeide and Eze (2015) across twelve states underscored the heterogeneity of outcomes linked to design. Accordingly, there is a growing consensus that deliberate policy action is required. Evidence assembled by Adeniyi and Olawale (2015) across twelve states underscored the heterogeneity of outcomes linked to design. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

In both global and African literatures, design is now regarded as a key index of institutional performance. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which design unfolds. The aggregate picture emerging from Adeniyi and Olawale (2023) points to a modest but consistent association between design and the outcomes of interest. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. An examination by Adeniyi and Ibrahim (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. For practitioners, the practical significance of design cannot be overstated, given its demonstrable link with implementation. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

design continues to command considerable attention among researchers, policymakers, and practitioners in computer science. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of design. Longitudinal research by Bakare and Nwosu (2016) revealed that sustained attention to design yields appreciable dividends over time. These developments carry