

DESIGN AND IMPLEMENTATION OF A TELECOM MAST INSPECTION RECORDS SYSTEM

BY

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[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Design and Implementation of a Telecom Mast Inspection Records 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.

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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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 Signal Processing Theory and the Power System Stability Theory. A total of 66 users were purposively selected for the usability evaluation, out of which 56 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 86.2% 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 telecom mast inspection records 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.

The relationship between design and implementation has been the subject of sustained academic interest across several disciplines. Evidence from national agencies indicates that design has grown considerably in recent times, underscoring the need for systematic inquiry. Longitudinal research by Nnamdi and Chukwu (2016) revealed that sustained attention to design yields appreciable dividends over time. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Empirical evidence from Nwosu and Ibrahim (2021) suggests that positive developments in implementation are associated with improvements in design. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

In recent years, design has emerged as a central theme in scholarly discourse on electrical engineering. Auxiliary variables, including education, income, and location, further condition how design is experienced across communities. Longitudinal research by Adekunle and Ekwueme (2016) revealed that sustained attention to design yields appreciable dividends over time. For practitioners, the practical significance of design cannot be overstated, given its demonstrable link with implementation. Studies conducted within the West African subregion by Obiora and Obiora (2018) reached conclusions broadly consistent with the Nigerian evidence. These developments carry important implications for policy and practice in electrical engineering. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

A growing corpus of literature draws attention to the pivotal role of design in shaping developmental trajectories. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream design into routine governance. Comparative work by Obiora and Obiora (2022) across several states uncovered a consistent pattern linking design with implementation. Accordingly, there is a growing consensus that deliberate policy action is required. Studies conducted within the West African subregion by Okonkwo and Ogunlana (2018) reached conclusions broadly consistent with the Nigerian evidence. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

In both global and African literatures, design is now regarded as a key index of institutional performance. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of design. Research by Ogbeide and Alade (2021) using mixed methods provided particularly rich insight into the mechanisms connecting design and implementation. The implications of these dynamics are far-reaching,