DEVELOPMENT OF A SOIL TEST RECORDS MANAGEMENT SYSTEM

BY

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[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Development of a Soil Test Records Management 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 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 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 Structural Load Theory and the Soil Mechanics Theory. A total of 72 users were purposively selected for the usability evaluation, out of which 66 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 87.2% 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 development of a soil test records management 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.

Few subjects attract as much policy interest in contemporary Nigeria as the question of development. Within Lagos State, the country's most populous commercial hub, the dynamics of development are observed in their starkest form. An examination by Salami and Bamgbose (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Field evidence gathered by Eze and Famuyide (2016) suggested that stakeholder engagement materially improves the results achieved in matters of development. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

In recent years, development has emerged as a central theme in scholarly discourse on civil engineering. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream development into routine governance. An examination by Adigun and Kalu (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. The aggregate picture emerging from Osinachi and Alade (2023) points to a modest but consistent association between development and the outcomes of interest. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

The phenomenon of development, while not new, has acquired fresh analytical urgency in Nigeria. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of development. Studies conducted within the West African subregion by Osinachi and Alade (2018) reached conclusions broadly consistent with the Nigerian evidence. Accordingly, there is a growing consensus that deliberate policy action is required. Empirical evidence from Dauda and Bello (2021) suggests that positive developments in soil are associated with improvements in development. For practitioners, the practical significance of development cannot be overstated, given its demonstrable link with soil. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

Contemporary scholarship increasingly frames development as inseparable from the broader question of soil. Evidence from national agencies indicates that development has grown considerably in recent times, underscoring the need for systematic inquiry. Research by Bamgbose and Adigun (2021) using mixed methods provided particularly rich insight into the mechanisms connecting development and soil. Sustained