

DEVELOPMENT OF A CONCRETE CUBE TEST RECORDS SYSTEM

BY

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[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Development of a Concrete Cube Test 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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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 Civil Engineering, 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 Structural Load Theory and the Soil Mechanics Theory. A total of 62 users were purposively selected for the usability evaluation, out of which 52 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 86.8% 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 concrete cube test 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.

Few subjects attract as much policy interest in contemporary Nigeria as the question of development. Evidence from national agencies indicates that development has grown considerably in recent times, underscoring the need for systematic inquiry. Evidence assembled by Oyelaran and Alade (2015) across twelve states underscored the heterogeneity of outcomes linked to development. These observations collectively invite a reconsideration of standard assumptions regarding concrete. The aggregate picture emerging from Olawale and Olawale (2023) points to a modest but consistent association between development and the outcomes of interest. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. 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 concrete. Auxiliary variables, including education, income, and location, further condition how development is experienced across communities. Research by Adebayo and Ogunlana (2021) using mixed methods provided particularly rich insight into the mechanisms connecting development and concrete. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Studies conducted within the West African subregion by Obiora and Okonkwo (2018) reached conclusions broadly consistent with the Nigerian evidence. For practitioners, the practical significance of development cannot be overstated, given its demonstrable link with concrete. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

In both global and African literatures, development is now regarded as a key index of institutional performance. Within Lagos State, the country's most populous commercial hub, the dynamics of development are observed in their starkest form. Comparative work by Obiora and Okonkwo (2022) across several states uncovered a consistent pattern linking development with concrete. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. The work of Famuyide and Bello (2023) extended earlier analyses by demonstrating that concrete reinforces the effects of development. Such findings reinforce the argument that development deserves a place of priority on the development agenda. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

Few subjects attract as much policy interest in contemporary Nigeria as the question of development. Rapid urbanisation and demographic expansion across Nigerian cities have heightened the salience of development in everyday life. Studies conducted within the West African subregion by Nwosu and Nwosu (2018) reached