

# **DEVELOPMENT OF A CONSTRUCTION SAFETY INCIDENT LOGGING SYSTEM**

BY

[STUDENT'S FULL NAME]

[MATRIC NUMBER]

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DEGREE IN CIVIL ENGINEERING

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## CERTIFICATION

This is to certify that this research project titled "Development of a Construction Safety Incident Logging 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 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 72 users were purposively selected for the usability evaluation, out of which 68 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 81.5% 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 development of a construction safety incident logging 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 occupies a prominent position in contemporary debates about construction and national development. The socio-cultural diversity of Nigeria implies that responses to development must be differentiated rather than uniform. Research by Umeh and Umeh (2021) using mixed methods provided particularly rich insight into the mechanisms connecting development and construction. Such findings reinforce the argument that development deserves a place of priority on the development agenda. Evidence assembled by Ekwueme and Oyelaran (2015) across twelve states underscored the heterogeneity of outcomes linked to development. Accordingly, there is a growing consensus that deliberate policy action is required. 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. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which development unfolds. Studies conducted within the West African subregion by Osinachi and Adebayo (2018) reached conclusions broadly consistent with the Nigerian evidence. These developments carry important implications for policy and practice in civil engineering. Evidence assembled by Bello and Obiora (2015) across twelve states underscored the heterogeneity of outcomes linked to 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.

Scholars have long recognised development as a critical determinant of outcomes in civil engineering. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of development. A notable study by Bello and Obiora (2017) argued that the impact of development is substantially mediated by the quality of institutions. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Comparative work by Adebayo and Osinachi (2022) across several states uncovered a consistent pattern linking development with construction. 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.

development continues to command considerable attention among researchers, policymakers, and practitioners in civil engineering. Economic pressures and resource scarcity frequently determine the pace at which development advances in practice. Empirical evidence from Eze and Bamgbose (2021) suggests that positive developments in construction are associated with improvements in development. Left unaddressed, the