

DEVELOPMENT OF A WASTE COLLECTION BILLING SYSTEM

BY

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DEGREE IN SOFTWARE ENGINEERING

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Development of a Waste Collection Billing 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 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 Technology Acceptance Model and the UTAUT. A total of 75 users were purposively selected for the usability evaluation, out of which 67 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 87.9% 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 waste collection billing 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.

Contemporary scholarship increasingly frames development as inseparable from the broader question of waste. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of development. Field evidence gathered by Adekunle and Bello (2016) suggested that stakeholder engagement materially improves the results achieved in matters of development. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Salami and Ogbeide (2020), in a survey of relevant stakeholders, concluded that the benefits of development are unevenly distributed across groups. These developments carry important implications for policy and practice in software engineering. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

Debates on national transformation repeatedly return to the role of development and its attendant dynamics. Economic pressures and resource scarcity frequently determine the pace at which development advances in practice. A notable study by Bakare and Nnamdi (2017) argued that the impact of development is substantially mediated by the quality of institutions. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Field evidence gathered by Adeniyi and Famuyide (2016) suggested that stakeholder engagement materially improves the results achieved in matters of development. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Over the past two decades, development has become increasingly significant within the Nigerian landscape and beyond. Evidence from national agencies indicates that development has grown considerably in recent times, underscoring the need for systematic inquiry. Comparative work by Adeniyi and Famuyide (2022) across several states uncovered a consistent pattern linking development with waste. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Evidence assembled by Alade and Salami (2015) across twelve states underscored the heterogeneity of outcomes linked to development. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Few subjects attract as much policy interest in contemporary Nigeria as the question of development. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream development into routine governance. The aggregate picture emerging from Ibrahim and Olawale (2023) points to a modest but consistent association between development and the outcomes of interest. For practitioners, the practical significance of development cannot be overstated, given its demonstrable link with