DEVELOPMENT OF A FLEET MAINTENANCE SYSTEM FOR INTER-STATE TRANSPORT COMPANIES

BY

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BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF MECHANICAL ENGINEERING, FACULTY OF ENGINEERING, UNIVERSITY OF LAGOS, AKOKA, LAGOS STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN MECHANICAL ENGINEERING

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Development of a Fleet Maintenance System for Inter-State Transport Companies" 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
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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.

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 Mechanical 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 Thermodynamics Laws and the Tribology Theory. A total of 71 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 84.5% 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 fleet maintenance system for inter-state transport companies 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.

A growing corpus of literature draws attention to the pivotal role of development in shaping developmental trajectories. Globalisation and technological change have intensified both the opportunities and the challenges associated with development. Studies by Ibrahim and Okonkwo (2019) largely support the view that development exerts a measurable influence on outcomes of interest. For practitioners, the practical significance of development cannot be overstated, given its demonstrable link with fleet. A notable study by Obiora and Nwosu (2017) argued that the impact of development is substantially mediated by the quality of institutions. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

Contemporary scholarship increasingly frames development as inseparable from the broader question of fleet. The socio-cultural diversity of Nigeria implies that responses to development must be differentiated rather than uniform. Comparative work by Oyelaran and Kalu (2022) across several states uncovered a consistent pattern linking development with fleet. For practitioners, the practical significance of development cannot be overstated, given its demonstrable link with fleet. Bello and Umeh (2020), in a survey of relevant stakeholders, concluded that the benefits of development are unevenly distributed across groups. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

In recent years, development has emerged as a central theme in scholarly discourse on mechanical engineering. Economic pressures and resource scarcity frequently determine the pace at which development advances in practice. Findings reported by Bello and Umeh (2018) observed that respondents with greater exposure to development recorded markedly different results. For practitioners, the practical significance of development cannot be overstated, given its demonstrable link with fleet. The work of Ogbeide and Kalu (2023) extended earlier analyses by demonstrating that fleet reinforces the effects of development. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

development occupies a prominent position in contemporary debates about fleet and national development. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which development unfolds. Studies by Adigun and Osinachi (2019) largely support the view that development exerts a measurable influence on outcomes of interest. Accordingly, there is a growing consensus that deliberate policy action is required. An examination by Okonkwo and