

DEVELOPMENT OF A REAL-TIME STREAMING DATA ANALYTICS PLATFORM

BY

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DEGREE IN DATA SCIENCE

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Development of a Real-Time Streaming Data Analytics Platform" 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 Data Science, 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 Technology Acceptance Model and the UTAUT. A total of 70 users were purposively selected for the usability evaluation, out of which 62 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 89.4% 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 real-time streaming data analytics platform 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 real. Within Lagos State, the country's most populous commercial hub, the dynamics of development are observed in their starkest form. Field evidence gathered by Obiora and Alade (2016) suggested that stakeholder engagement materially improves the results achieved in matters of development. For practitioners, the practical significance of development cannot be overstated, given its demonstrable link with real. The aggregate picture emerging from Adekunle and Chukwu (2023) points to a modest but consistent association between development and the outcomes of interest. Accordingly, there is a growing consensus that deliberate policy action is required. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

The relationship between development and real has been the subject of sustained academic interest across several disciplines. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of development. A notable study by Nwosu and Okonkwo (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. A notable study by Famuyide and Dauda (2017) argued that the impact of development is substantially mediated by the quality of institutions. Such findings reinforce the argument that development deserves a place of priority on the development agenda. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

The relationship between development and real has been the subject of sustained academic interest across several disciplines. Evidence from national agencies indicates that development has grown considerably in recent times, underscoring the need for systematic inquiry. Evidence assembled by Famuyide and Dauda (2015) across twelve states underscored the heterogeneity of outcomes linked to development. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. The aggregate picture emerging from Adeniyi and Dauda (2023) points to a modest but consistent association between development and the outcomes of interest. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

In recent years, development has emerged as a central theme in scholarly discourse on data science. The socio-cultural diversity of Nigeria implies that responses to development must be differentiated rather than uniform. A notable study by Bamgbose and Olawale (2017) argued that the impact of development is