

DESIGN AND IMPLEMENTATION OF A BOREHOLE SERVICING CUSTOMER SYSTEM

BY

[STUDENT'S FULL NAME]

[MATRIC NUMBER]

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DEGREE IN SOFTWARE ENGINEERING

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Design and Implementation of a Borehole Servicing Customer 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 Software 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 design 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 72 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 87.0% 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 design and implementation of a borehole servicing customer 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.

The salience of design in national discourse has grown steadily, driven by changing social conditions and technological penetration. Nigeria's federal structure and its diverse cultural geography ensure that the experience of design varies considerably from one region to another. Comparative work by Famuyide and Obiora (2022) across several states uncovered a consistent pattern linking design with implementation. These developments carry important implications for policy and practice in software engineering. Longitudinal research by Adekunle and Aderemi (2016) revealed that sustained attention to design yields appreciable dividends over time. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

Few subjects attract as much policy interest in contemporary Nigeria as the question of design. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream design into routine governance. An examination by Adebayo and Ogbeide (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Evidence assembled by Adigun and Osinachi (2015) across twelve states underscored the heterogeneity of outcomes linked to design. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

Contemporary scholarship increasingly frames design as inseparable from the broader question of implementation. Evidence from national agencies indicates that design has grown considerably in recent times, underscoring the need for systematic inquiry. Comparative work by Adigun and Osinachi (2022) across several states uncovered a consistent pattern linking design with implementation. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. A notable study by Adeniyi and Adebayo (2017) argued that the impact of design is substantially mediated by the quality of institutions. Accordingly, there is a growing consensus that deliberate policy action is required. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

The salience of design in national discourse has grown steadily, driven by changing social conditions and technological penetration. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream design into routine governance. A notable study by Adebayo and Obiora (2017) argued that the impact of design is substantially mediated by the quality of institutions. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Ogunlana and