

**DATABASE MANAGEMENT MODEL FOR INTERNAL REVENUE GENERATION
(CASE STUDY OF COTTAGE, GOMBI)**

BY

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**IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF
NATIONAL DIPLOMA (ND) IN COMPUTER SCIENCE.**

SEPTEMBER, 2023

DECLARATION

I hereby declare that the work in this project titled “**Database Management Model for Internal Revenue Generation (Case Study of Cottage, Gombi)**” was performed by me under the supervision of Mr. A. A. Bazway. The information derived from literatures has been duly acknowledged in the text and a list of references provided. The work embodied in this project is original and had not been submitted in part or in full for any other diploma or certificate of this or any other institution.

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Signature

Date

CERTIFICATION

This project titled “**Database Management Model for Internal Revenue Generation (Case Study of Cottage, Gombi)**” meets the regulations governing the award of National Diploma (ND) in Computer Science, Federal Polytechnic Mubi, Adamawa State

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DEDICATION

This project is dedicated to my beloved parents for their advice, encouragement and financial support towards my academic pursuit.

ACKNOWLEDGEMENTS

I want to acknowledge Almighty God for his infinite mercy and protection throughout my academic activities. And for the understanding in achieving our academic success.

I also recognize my Supervisor Mr. A. A. Bazway who took time, despite her busy schedule to directed and guided me throughout this research work.

I also acknowledge the Head of Department Computer Science Mr. Mustapha Kassim for his moral encouragement throughout my period of study. I also acknowledge all Staff of Computer Science Department for their support and encouragement and the knowledge they've impacted on me throughout our studies.

I also want to appreciate our parents for their love and care and for giving me the opportunity to be trained and achieve our dreams.

Finally, I appreciate the efforts of my Uncles and aunties, for their encouragement and support throughout the course of our study and also our friends and relatives, course mates and all well-wishers. I love you all, may the Almighty God bless you abundantly, Amen.

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ABSTRACT

Effective internal revenue generation is a fundamental element for the sustainable growth and development of organizations, particularly in the public sector. This study presents a comprehensive Database Management Model tailored to the specific needs of Cottage, Gombi, as a case study. The model focuses on enhancing the collection, management, and utilization of internal revenue data to drive informed decision-making. The study outlines a set of user-friendly interfaces, including welcoming, login, employee management, employee list, and dashboard interfaces, integrated into a coherent database management system. These interfaces not only simplify data entry and retrieval but also provide valuable insights through data visualization and analytics. Through a rigorous examination of the model's implementation in the Cottage, Gombi context, this research offers insights into the practicality and effectiveness of such systems for revenue management. The findings underscore the importance of technology-driven solutions in optimizing revenue collection and financial performance. In conclusion, this study provides a valuable reference for organizations seeking to improve their internal revenue management practices. By adopting this Database Management Model, organizations can pave the way for more efficient and transparent revenue collection processes, ultimately contributing to their financial sustainability and growth.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In recent years, effective revenue generation has become a critical concern for local governments and municipalities around the world. The ability to efficiently collect and manage revenue directly impacts the provision of essential public services, infrastructure development, and overall community well-being. One key area of focus for revenue generation is the management of internal revenue, which encompasses the collection of various fees, taxes, and charges from within a specific jurisdiction. The efficient management of revenue plays a pivotal role in the sustainable development and effective governance of local municipalities. Revenue generated through various sources, such as taxes, fees, licenses, and fines, constitutes the financial backbone that supports the provision of essential public services, infrastructure projects, and community welfare programs. However, the complexities inherent in revenue collection and management pose significant challenges for many local governments, often leading to suboptimal outcomes and missed opportunities.

Traditionally, revenue collection and management in many local municipalities, including Cottage Gombi, have relied on manual, paper-based processes. These conventional methods often result in errors, data inconsistencies, delays in processing, and revenue leakages. Additionally, the lack of an integrated and centralized database system further compounds these challenges, making it difficult for local authorities to gain real-time insights into revenue trends, allocate resources effectively, and make informed decisions for sustainable development. In an increasingly digital and interconnected world, the modernization of revenue collection and management processes has become imperative. Advances in technology offer unprecedented opportunities to streamline processes, enhance data accuracy, and facilitate better decision-making. As local municipalities grapple with the complexities of revenue generation, they must embrace innovative solutions that align with best practices and harness the power of data-driven insights.

Against this backdrop, this research project seeks to address the critical need for an advanced database management model tailored to the unique context of Cottage Gombi. By leveraging cutting-edge database technologies, data integration strategies, and revenue management principles, the proposed model aims to transform Cottage Gombi's revenue collection and management landscape. Through this transformation, the municipality can overcome existing

challenges, maximize revenue potential, and pave the way for sustainable development that benefits every resident and stakeholder.

Revenue generation is the nucleus and the path to modern development. This study assessed the database management model for internal revenue generation. The State as the second tier of government needs revenue to provide basic social amenities to the people. It is the responsibility of the State Government to provide public good also known as collective good and execute developmental projects that would improve the standard of living of her citizenry as well as meet its recurrent expenditure. The discharge of these duties by the government requires a lot of funds. State government get fund from two sources: Internally generated revenue and statutory allocation from Federal government. Ayegba (2023), defined revenue is as a general term for all monetary receipts accruing from both tax and non-tax sources. Olaoye *et al.* (2019), also elucidate that revenue from tax and non- tax sources as well as fees, grants and contributions constitute the live wire of the State government. Taxation is the system of imposing compulsory levy on all income, goods, services and properties of individuals, partnership, trustees, executors and company by government. State sources for fund internally by imposing various form of tax on the tax object which could be individuals or corporate entities. The increasing cost of running government revenue has left various states governments in Nigeria with formulating strategies to improve revenue base (Wisdom *et al.*, 2020).

1.2 Problem Statement

Cottage Gombi, like many other local municipalities, faces challenges in optimizing its internal revenue generation processes.

- i. **Inefficient Manual Processes:** The existing revenue collection processes in Cottage Gombi heavily rely on manual and paper-based methods, leading to errors, delays, and inefficiencies in data entry, processing, and reconciliation.
- ii. **Lack of Data Integration:** Cottage Gombi lacks a centralized and integrated database system that can consolidate revenue data from various sources, hindering the municipality's ability to track revenue streams, analyze trends, and make informed decisions.
- iii. **Revenue Leakage and Inaccuracies:** The absence of a robust system for monitoring revenue collection allows for potential leakage and inaccuracies, resulting in lost revenue opportunities and hindering the municipality's financial sustainability.
- iv. **Limited Data-Driven Insights:** The absence of data-driven insights and analytics hampers Cottage Gombi's capacity to forecast revenue, allocate resources effectively, and identify

areas for revenue enhancement, ultimately affecting its ability to provide essential public services.

- v. Technological Obsolescence: Cottage Gombi's reliance on outdated technologies and manual processes not only impedes efficient revenue management but also limits the municipality's adaptability to modern advancements in revenue collection, database management, and governance practices.

1.3 Aim and Objectives

The aim of this study is to Design and Implement a Database Management Model for Internal Revenue Generation (case study of Cottage Gombi). The specific objectives are:

- i. To identify the key challenges and inefficiencies in the current revenue management system.
- ii. To design a database management model that integrates various revenue sources, automates collection processes, and ensures data accuracy and security.
- iii. To implement the proposed model and evaluate its effectiveness in enhancing revenue generation and management.

1.4 Significance of the Study

The findings and outcomes of this research project hold significant implications for both theory and practice. From a theoretical perspective, the study contributes to the field of database management by proposing a model that addresses the specific needs of revenue generation in local municipalities. Practically, the study offers Cottage Gombi a practical solution to enhance its revenue collection and management processes, leading to improved financial sustainability and better public service delivery.

1.5 Scope of the Study

This study focuses exclusively on the internal revenue generation processes of Cottage Gombi. It does not encompass external revenue sources or broader fiscal policies. While efforts will be made to ensure the accuracy and comprehensiveness of the proposed model, certain limitations, such as technological constraints and resource availability, may impact the implementation and evaluation of the model. The study will develop a comprehensive database management model that integrates with Cottage Gombi's existing systems, automates revenue collection processes, ensures data accuracy, and enables real-time reporting and analysis.

1.6 Definition of Some Operational Terms

Automation: Automation is the use of various control systems for operating equipment or applications with minimal or reduced human intervention (Wisdom *et al.*, 2020).

Data Integration: The process of combining data from various sources and formats into a unified and consistent format, enabling seamless data exchange and analysis (Inmon, 2022).

Database Management Model: A structured framework that defines the organization, storage, retrieval, and manipulation of data to support efficient and accurate revenue collection, processing, and reporting (He, 2016).

Data-Driven Insights: Actionable information derived from the analysis of data, enabling evidence-based decision-making for improved revenue forecasting, resource allocation, and performance assessment (Eckerson, 2020).

Financial Management: The process of effectively managing the financial aspects of rental property ownership, including income tracking, expense management, and financial reporting (Olaoye *et al.*, 2019).

Internal Revenue Generation: The process of collecting funds from various sources within a local municipality, including taxes, fees, licenses, fines, and other charges, to finance public services and community development (Adams, 2018).

Revenue Leakage: Unintended loss of potential revenue due to errors, inaccuracies, or inefficiencies in the revenue collection and management processes (PwC, 2016).

System: A system is a set of interacting or interdependent components forming an integrated whole (Ayegba, 2023).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a comprehensive review of relevant literature pertaining to revenue generation, database management, and best practices in local government revenue collection. The literature review aims to establish a theoretical framework and contextual understanding that underpins the design and implementation of the database management model for internal revenue generation in Cottage Gombi.

2.2 Revenue Generation Systems

Effective revenue generation and management are essential components of local government operations. Diverse revenue sources, technological advancements, transparency, and accountability collectively contribute to sustainable revenue practices. By addressing challenges, embracing innovations, and leveraging data-driven insights, local governments can optimize revenue collection and allocation, ultimately benefiting their communities. Advances in technology have reshaped revenue management practices in local governments. Integrated software solutions, data analytics, and online platforms have streamlined revenue collection, enhanced data accuracy, and facilitated citizen engagement. These technological advancements enable local governments to automate billing processes, track payments in real time, and analyze revenue trends to make informed decisions (Ouda *et al.*, 2018).

Transparency and accountability are crucial in revenue management to foster public trust and ensure efficient use of funds. Local governments that implement transparent revenue collection processes and provide accessible information to citizens create a culture of accountability. Transparent revenue practices enhance citizen participation, reduce corruption, and promote effective resource allocation (Bahl *et al.*, 2017). Several local governments have successfully implemented innovative revenue management strategies. For instance, the Municipal Corporation of Greater Mumbai introduced an Integrated Property Tax System (IPTS) to streamline property tax assessment and collection (Sen & Sen, 2022). This case exemplifies how technology-driven solutions can enhance revenue generation and improve administrative efficiency.

2.3 Automation in Revenue Generation

Automation, driven by technological innovation, has emerged as a transformative force in revenue management for local governments. By leveraging advanced technologies, local governments can streamline processes, enhance accuracy, and improve overall efficiency in revenue generation and collection. Automation not only reduces manual effort but also facilitates real-time data processing, seamless integration, and data-driven decision-making. Automation has emerged as a cornerstone of modern revenue management for local governments. By embracing automated systems, local governments can streamline processes, improve data accuracy, and enhance transparency in revenue collection and management. The case studies and lessons learned underscore the tangible benefits of automation, emphasizing its potential to revolutionize revenue-related operations and contribute to more efficient and effective governance (Ouda *et al.*, 2018).

Automation involves the use of technology to perform tasks and processes with minimal human intervention. In revenue management, automation plays a crucial role in optimizing operational workflows and enhancing the entire revenue cycle. By automating routine and repetitive tasks, local governments can free up staff time, reduce errors, and ensure consistent adherence to established procedures (Chen *et al.*, 2019).

Automated revenue collection systems offer a range of benefits that contribute to efficient revenue management. These systems enable seamless and secure online payment options, reducing the need for manual payment processing. Citizens and businesses can conveniently make payments, leading to higher compliance rates and timely revenue collection. Automation also enhances transparency by providing real-time payment tracking and electronic receipts (Ouda *et al.*, 2018).

Automation enhances transparency and accountability in revenue management by providing an audit trail of transactions and actions. Automated systems maintain detailed records of revenue-related activities, including payment processing, adjustments, and communications. Property tax assessment is a prime candidate for automation, as it involves complex calculations and data analysis. Automated property tax assessment systems utilize data integration and machine learning algorithms to determine property values accurately. These systems can process large volumes of property data, compare property characteristics, and generate fair and consistent property valuations, reducing assessment errors and appeals (Hodge & McNab, 2020).

2.4 Information Management System

An information management system (IMS) is a comprehensive framework that encompasses the processes, technologies, and strategies used to collect, organize, store, retrieve, and analyze information within an organization. An information management system refers to the integrated set of processes, tools, and technologies that enable organizations to effectively manage their information assets. It includes various components such as data collection, storage, retrieval, analysis, and dissemination (Khumalo, 2020).

The concept of information systems (IS) is a fundamental pillar that underpins the modernization and optimization of revenue management practices within local governments. Information systems encompass a comprehensive framework of technologies, processes, and human resources designed to gather, store, process, analyze, and disseminate data for informed decision-making. In the context of revenue management, IS play a pivotal role in facilitating efficient and transparent collection, analysis, and utilization of revenue-related information. Information systems comprise several interrelated components that collectively enable the efficient flow of information within organizations. These components include hardware, software, data, procedures, and people. Hardware encompasses physical devices such as computers, servers, and networking equipment. Software refers to the applications and programs that process and manipulate data. Data represent the raw information that is collected, stored, and analyzed. Procedures outline the rules and guidelines for managing and using data, while people represent the individuals who interact with the system and make decisions based on the information it provides (Laudon, 2020).

Information systems play a critical role in modernizing revenue management processes within local governments. By integrating revenue-related data, automating collection procedures, and facilitating real-time reporting, IS enable local governments to enhance the accuracy, efficiency, and transparency of revenue generation and collection. Information systems also support decision-makers by providing data-driven insights that guide resource allocation, policy formulation, and performance evaluation (He, 2020).

2.4.1 Importance of Information Management Systems

- i. **Decision Making and Strategic Planning** IMS enables organizations to gather and analyze relevant data, providing valuable insights that support informed decision-making and strategic planning (Delen, 2021). By providing accurate and up-to-date information, IMS enhances the ability of managers to make informed decisions in a timely manner.

- ii. Improved Efficiency and Productivity Efficient information management improves operational efficiency and productivity. By centralizing information, eliminating duplication, and automating processes, IMS streamlines workflows, reduces manual effort, and enhances overall efficiency (Wang, Liu, & Lee, 2021).
- iii. Enhanced Collaboration and Knowledge Sharing IMS facilitates effective collaboration and knowledge sharing within organizations. It provides a centralized platform for employees to access and share information, fostering collaboration, and enabling knowledge transfer (Al-Khoury & Abu-Jarour, 2020).

2.5 Database Management System

Database Management Systems (DBMS) are essential tools for storing, organizing, managing, and retrieving data efficiently. DBMS provide a structured approach to store and retrieve data, ensuring data integrity, security, and scalability for organizations. Recent studies have highlighted the significance of DBMS in various domains. A research article by Ramakrishnan and Gehrke (2020), emphasized that DBMS are crucial for managing the increasing volumes of data generated in today's digital world. The study highlighted that DBMS enable organizations to handle diverse data types, ensure data consistency, and support complex data queries.

One of the key functions of DBMS is data storage and organization. DBMS provide a structured framework for storing data in tables, defining relationships between tables, and enforcing data integrity through constraints. These systems often employ relational models, such as the widely-used SQL (Structured Query Language), to manage data in a tabular format. A study by Elmasri and Navathe (2019), emphasized that DBMS enable efficient data storage, normalization, and indexing to optimize data retrieval performance. Moreover, DBMS offer tools for data retrieval and manipulation. These systems allow users to query the database using SQL or other query languages to retrieve specific data based on specified criteria. DBMS also support complex operations such as joining multiple tables, filtering data, and aggregating results. A research article by Rizvi et al. (2021) highlighted the role of DBMS in enabling efficient and accurate data retrieval, facilitating decision-making and analysis. DBMS also provide mechanisms for data security and access control. These systems enable organizations to define user roles and permissions, ensuring that only authorized users can access and modify the data. DBMS also offer features such as data encryption, backup, and recovery to protect against data breaches and system failures. A study by Motahari-Nezhad *et al.* (2021), emphasized the importance of DBMS in ensuring data privacy, integrity, and availability, particularly in the context of sensitive and regulated data.

CHAPTER THREE

SYSTEM ANALYSIS AND DESIGN

3.1 Introduction

This chapter contains the system design and analysis of the proposed system, the disadvantages of the existing system, the advantages of the proposed system over the existing system, the requirements (Hardware and Software), the design and the system architecture.

3.2 Disadvantages of the Existing System

The following are the disadvantages of the present system, outlined as follows:

- i. **Manual Data Entry:** The existing system likely relies heavily on manual data entry, which is time-consuming and error-prone. This can lead to inaccuracies in revenue records and reports.
- ii. **Data Redundancy:** In manual systems, it's common to have redundant data stored in various documents and files, making data management inefficient and increasing the risk of inconsistencies.
- iii. **Lack of Data Security:** Manual systems are more susceptible to data theft, loss, or unauthorized access. Protecting sensitive financial data may be a challenge.

3.3 Advantages of the Proposed System

The proposed Database Management Model offers numerous advantages over the existing manual system. Here are some of the key advantages:

- i. **Automated Data Entry:** The proposed system would automate data entry processes, reducing the chances of errors and ensuring accuracy in revenue records.
- ii. **Centralized Database:** The system would centralize revenue data in a secure database, eliminating redundancy and making data management more efficient.
- iii. **Enhanced Data Security:** The proposed system would implement robust security measures, protecting sensitive financial information from unauthorized access.
- iv. **Real-time Reporting:** The system would provide real-time reporting and analytics, enabling quicker decision-making and better financial management.

3.4 The Proposed Method

The waterfall model is a traditional sequential approach to software development that consists of distinct phases that follow a linear sequence. Here is a simplified version of the waterfall model for the development of a Database Management Model:

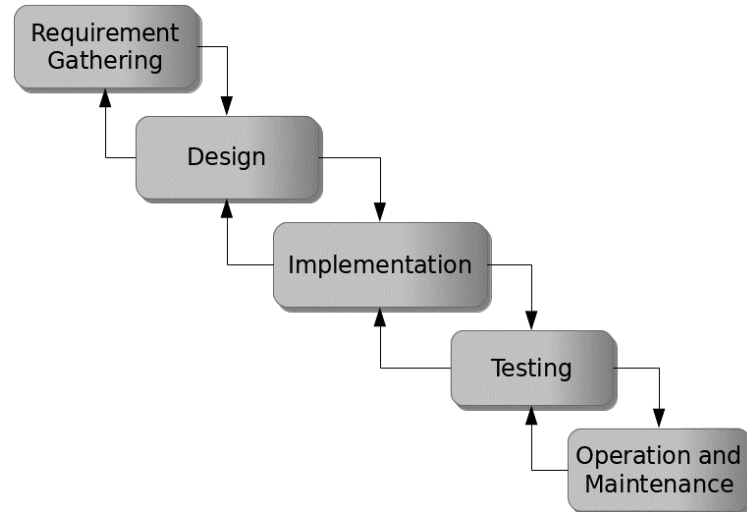


Figure 3.1: Waterfall model

3.5 Method of Data Collection

This study adopted two methods of data collection which are the primary and secondary method.

3.6 System Design

Systems design is the process of defining the architecture, modules, interfaces, and data for a system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development.

3.6.1 Algorithm Diagram

Use Case Diagram

A use case diagram at its simplest is a representation of a user's interaction with the system and depicting the specifications of a use case.

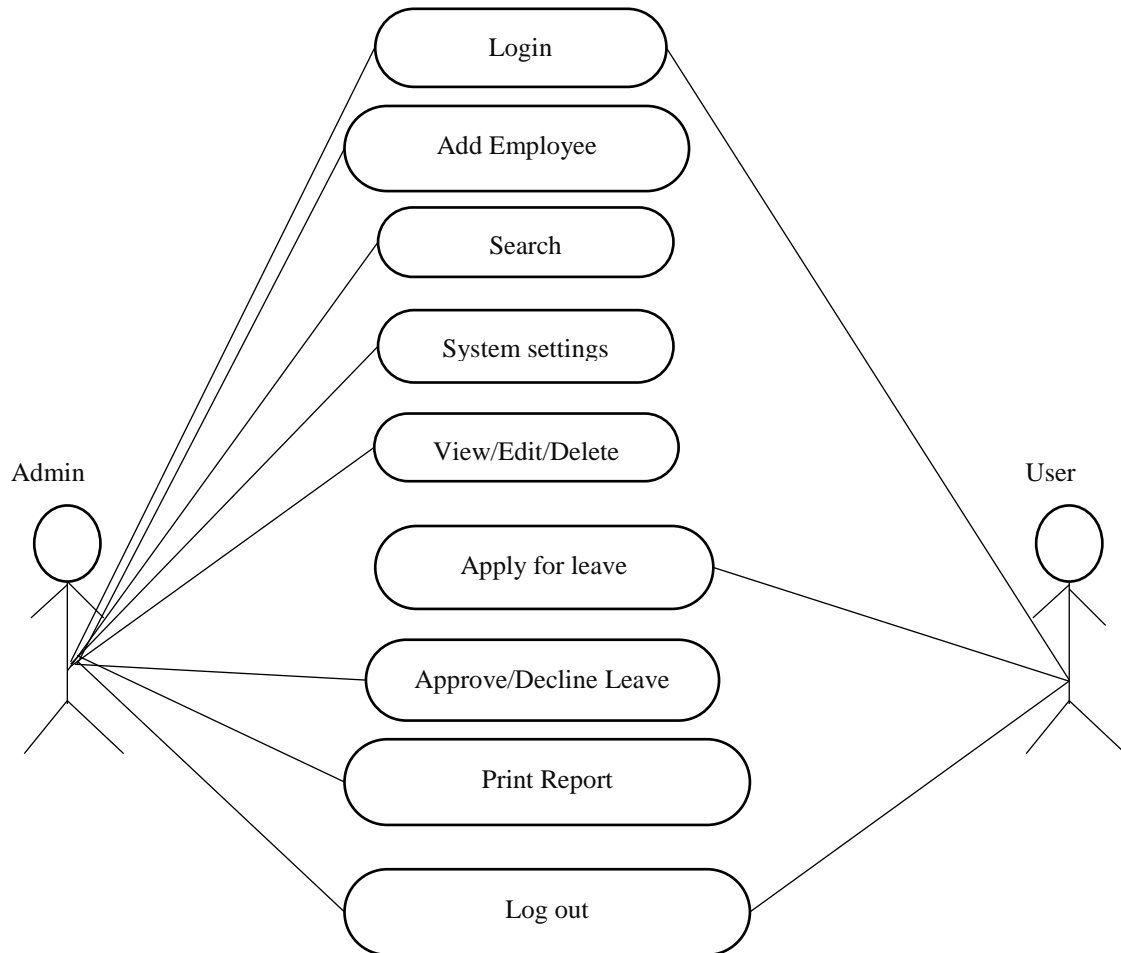


Figure 3.2: Use case diagram

3.6.2 System Architecture

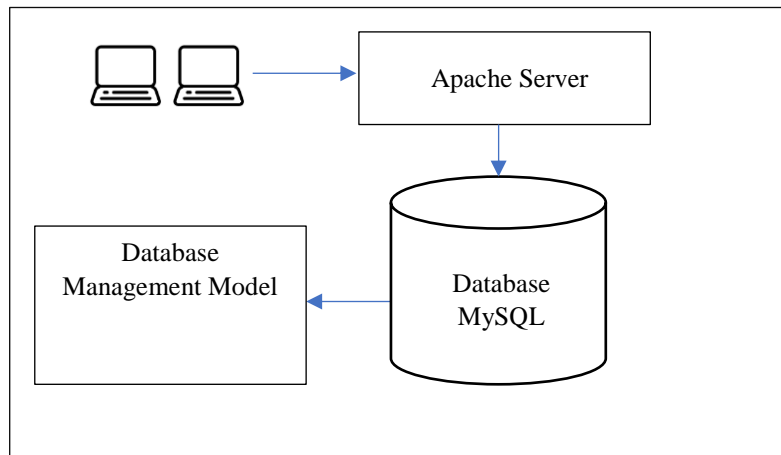


Figure 3.2: System Architecture

3.6.3 Database Tables/Queries Structures

Table 3.1: Employees Table

| Field | Datatype (length) | Null | Key | Extra |
|----------------|-------------------|------|---------|----------------|
| id | int(10) | NO | PRIMARY | auto_increment |
| Employee_id | int(10) | YES | | |
| Firstname | varchar(50) | YES | | |
| Middlename | varchar(50) | YES | | |
| Lastname | varchar(50) | | | |
| Email | varchar(50) | | | |
| Date of Birth | varchar(50) | | | |
| Gender | varchar(50) | | | |
| Phone Number | varchar(50) | | | |
| Address | varchar(50) | | | |
| LGA | varchar(50) | | | |
| State | varchar(50) | | | |
| Country | varchar(50) | | | |
| Marital Status | varchar(50) | | | |
| Photograph | varchar(50) | | | |
| Leave date | varchar(50) | | | |
| Position | Varchar(50) | | | |
| Date | timestamp | | | |

Table 3.2: Admin Login Table

| Field | Type | Key | Extra |
|------------|-------------|-----|----------------|
| Id | int(10) | PRI | auto_increment |
| First name | varchar(50) | | |
| Lastname | varchar(50) | | |
| Username | varchar(50) | | |
| Password | varchar(50) | | |
| Photograph | varchar(50) | | |
| Date | timestamp | | |

3.6.4 Entity Relationship Diagram

This shows the relationship of the various tables in the database with each other

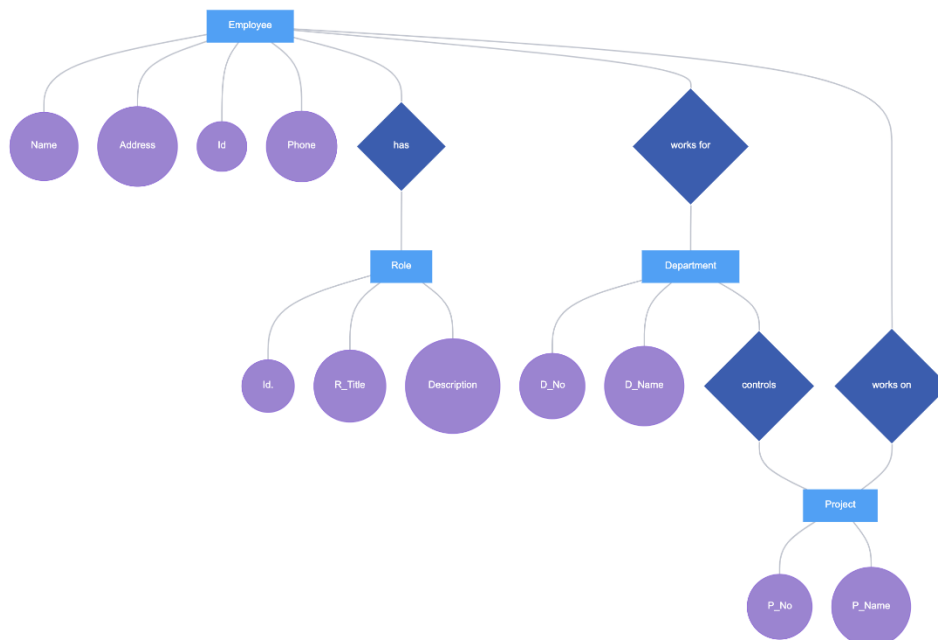


Figure 3.4: Entity Relationship Diagram

3.6.5 Input and Output Design

LOGIN

Enter Username

Enter Password

Login

Figure 3.5: Login interface

ADD EMPLOYEE

| | | |
|------------|----------------|--------------|
| First name | Othername: | Last Name: |
| Gender: | Date of Birth: | Employee ID |
| Photograph | Marital Status | Phone Number |
| Address: | LGA of Origin: | State |
| Country | Email | Position |
| Role | Password | Join Date |

SUBMIT

CANCEL

Figure 3.6: Add Employee Form



| # | Photograph | Employee Name | Position | Full Details |
|---|---|----------------|------------|--------------|
| 1 |  | VICTORIA MENKU | ACCOUNTANT | VIEW |
| 2 |  | IBRAHIM MUSA | ADMIN HR | VIEW |

Figure 3.7: Report Interface

3.7 System Requirements Specification

3.7.1 Hardware Requirements

The software designed needed the following hardware for an effective operation of the newly designed system.

- i. A system running on intel, P(R) duo core with higher processor
- ii. The-Random Access Memory (RAM) should be at least 512mb.
- iii. Enhanced keyboard.
- iv. At least 20-GB hard disk.
- v. V.G.A or a colored monitor.

3.7.2 Software Requirements

The software requirements include:

- i. A window 7 or higher version of operating system.
- ii. XAMP or WAMP for Database
- iii. PHP

3.7.3 Personnel Requirements

Any computer literate who has a technical knowhow of internet surfing can use the system because it is user friendly.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The new system is designed using PHP and MySQL programming language for easy records inserting and updating. This system will help in managing and easily retrieving of information from the system for management purposes. The new system Student with National Diploma for computer science department.

4.2 Results

4.2.1 Welcome Interface

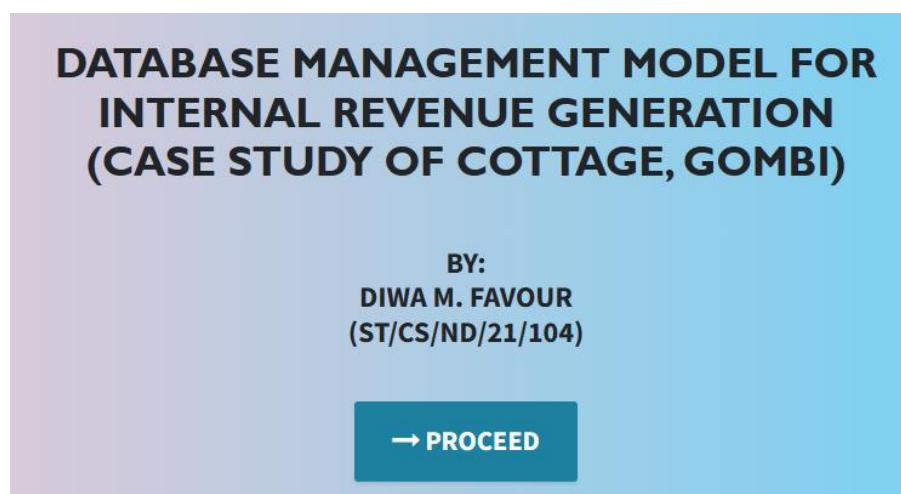


Figure 4.1: Welcome Interface

The above figure 4.1 shows the welcome page of the system, the welcome page is the first page that displays on opening the program.

4.2.2 Login Interface

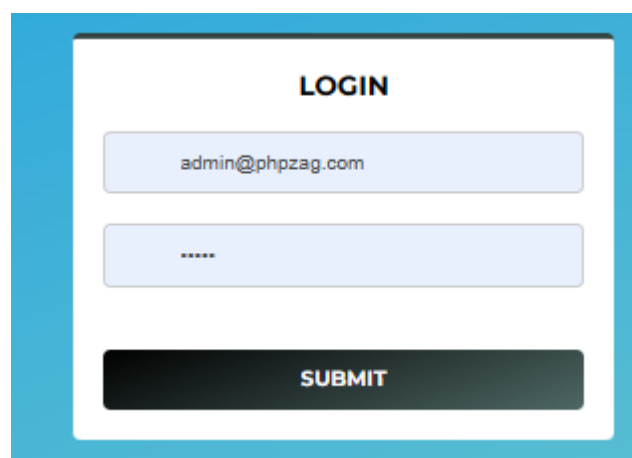


Figure 4.2: Login page interface

Figure 4.2 above shows the system login page interface. The login interface allows the users and Administrator to enter his username and password to get access to the system.

4.2.3 Add Employee Interface

Home > Employee > Employee Add

Employee ID*
Employee ID

Profile Image*
Choose File No file chosen

Gender*
-- Select Gender --

First Name*
First Name

Middle Name*
Middle Name

Last Name*
Last Name

Birth Date*
Birth Date

Marital*
-- Select Marital --

Mobile Number*
Mobile Number

Address 1*
Address Line 1

Address 2*
Address Line 2

Address 3*
Address Line 3

Country*
-- Select Country --

State*
-- Select State --

City*
-- Select City --

Join Date*
Join Date

Leave Date*
Leave Date

Status*
-- Select Status --

Role*
-- Select Role --

Position*
-- Select Position --

Email*
admin@gmail.com

Password*

SUBMIT RESET

Figure 4.3: Add Employee Interface

Figure 4.3 above shows where employees are registered into the system for records of Internal revenue generation cottage.

4.2.4 Employees List interface

Employee View

Search Submit

| Profile Photo | Name | Employee Id | Full Detail |
|---------------|-----------------------|-------------|----------------------|
| | AKAMSHU GABRIEL EYUAH | COTGMBI | View |

1

Figure 4.4: Employee List Interface

Figure 4.4 interface shows the employee list of all the registered employees in the system.

4.2.5 Dashboard Interface

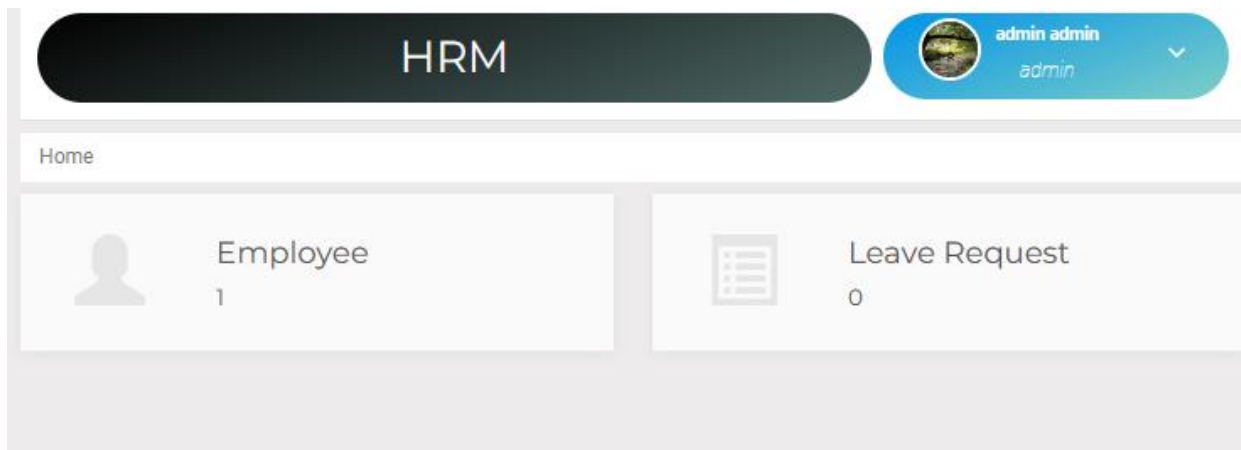


Figure 4.5: Dashboard Interface

Figure 4.5 above displays the admin dashboard showing all the tasks that can be performed in the system.

4.3 Discussion

Figure 4.1 Welcome Interface: The Welcome Interface is the first screen users encounter when accessing the system. Its purpose is to provide a friendly and informative welcome message, possibly with the organization's logo or branding. This interface should create a positive first impression and guide users to navigate further into the system.

Figure 4.2 Login Interface: The Login Interface is where authorized users log in to access the database management system. Users typically enter their credentials (username and password) to gain access. Security measures such as encryption and multi-factor authentication might be implemented to protect sensitive tax-related data.

Figure 4.3 Add Employee Interface: The Add Employee Interface is used by administrators or authorized personnel to input employee information into the database. This information could include personal details, job roles, and access permissions. It's essential for maintaining an organized record of the staff responsible for revenue generation activities.

Figure 4.4 Employees List Interface: The Employees List Interface displays a comprehensive list of all employees within the organization. This interface might allow users to search, filter, or sort the employee list, making it easier to find specific personnel. It can also provide quick access to individual employee profiles.

Figure 4.5 Dashboard Interface: The Dashboard Interface is a central hub that offers an overview of key performance indicators and data related to internal revenue generation. It may include charts, graphs, and statistics to help management and users track revenue trends, tax collection, and other relevant metrics. A well-designed dashboard can facilitate data-driven decision-making.

These interfaces collectively contribute to efficient database management, allowing the organization to track and optimize its revenue generation efforts effectively. Additionally, they help ensure user-friendly interactions with the system, improving overall productivity and data accuracy.

4.4 User manual

The following are the necessary steps to take in order to use the system efficiently and effectively.

- i. Load the url of the system <https://localhost/cottage/> the welcome page will be displayed.
- ii. Click on the **Proceed** button to proceed to the main system.
- iii. If you created an account, provide your login details by entering your username and password.
- iv. Depending on the login details provided you will be automatically directed to the dashboard.
- v. The various task that you can perform on the portal will be displayed on the sidebar of the dashboard.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The Database Management Model for Internal Revenue Generation discussed in this study represents a critical tool for modern organizations, particularly in the context of revenue collection. The system comprises a set of well-defined interfaces, including a welcoming interface, login interface, employee management interface, employee list interface, and a comprehensive dashboard. These interfaces collectively facilitate efficient data management, allowing organizations to track and optimize their revenue generation efforts. By implementing this model, organizations can enhance their ability to collect, manage, and analyze revenue data, leading to improved financial performance.

5.2 Conclusion

In conclusion, the development and implementation of a robust Database Management Model for Internal Revenue Generation are pivotal for the success of contemporary organizations. This model, with its user-friendly interfaces and data-driven dashboard, empowers organizations to streamline revenue collection, monitor financial performance, and make informed decisions. Properly managing internal revenue is essential for sustaining and growing any enterprise, and this model provides a solid foundation for achieving this goal.

5.3 Recommendations

Based on our findings, we offer the following recommendations:

- i. Organizations should consider implementing this database management model or similar systems to enhance their internal revenue management.
- ii. Regular training and updates should be provided to employees to ensure effective utilization of the system.
- iii. Continuous monitoring and security measures should be in place to safeguard sensitive revenue-related data.
- iv. Organizations should explore integration options with existing financial systems for seamless data flow.

5.4 Contribution to Knowledge

This study contributes to knowledge by presenting a practical model for internal revenue management. It outlines the importance of database management systems in revenue collection and highlights the significance of user-friendly interfaces and data visualization through dashboards. Additionally, it underscores the need for integrating technology into financial processes for efficiency and accuracy.

5.5 Area for Further Work

There are several avenues for further research in this domain:

Investigating the impact of this database management model on revenue generation in various organizational contexts.

Exploring advanced data analytics and machine learning techniques to improve revenue forecasting and fraud detection.

Assessing the scalability and adaptability of the model for different industries and organizations of varying sizes.

Examining the security measures and compliance requirements associated with revenue management systems in different regions or industries.

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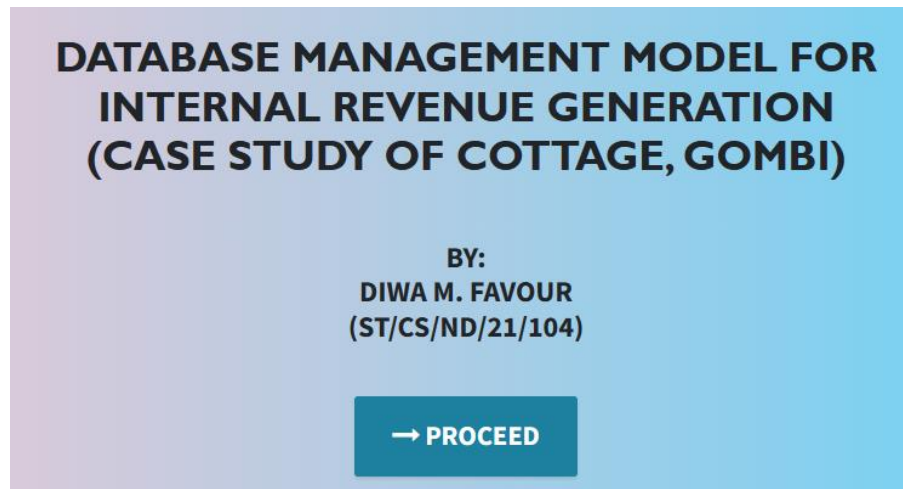
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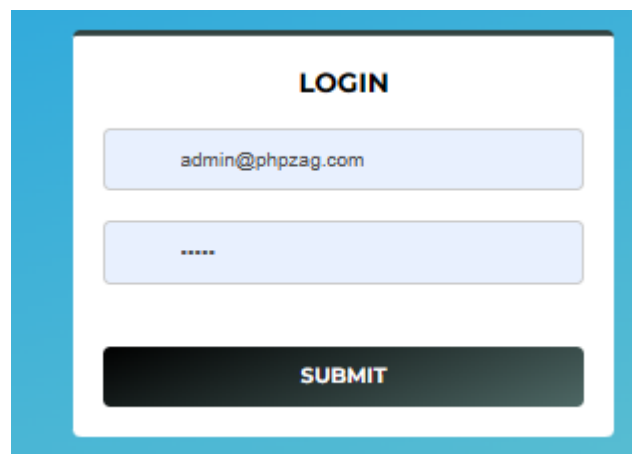
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APPENDIX A

Welcome Interface



Login Interface




Add Employee Interface

Home > Employee > Employee Add

| | | |
|--|--|---|
| Employee ID* <input type="text" value="Employee ID"/> | Profile Image* <input type="button" value="Choose File"/> No file chosen | Gender* <input type="text" value="-- Select Gender --"/> |
| First Name* <input type="text" value="First Name"/> | Middel Name* <input type="text" value="Middel Name"/> | Last Name* <input type="text" value="Last Name"/> |
| Birth Date* <input type="text" value="Birth Date"/> | Marital* <input type="text" value="-- Select Marital --"/> | Mobile Number* <input type="text" value="Mobile Number"/> |
| Address 1* <input type="text" value="Address Line 1"/> | | |
| Address 2* <input type="text" value="Address Line 2"/> | | |
| Address 3* <input type="text" value="Address Line 3"/> | | |
| Country* <input type="text" value="-- Select Country --"/> | State* <input type="text" value="-- Select State --"/> | City* <input type="text" value="-- Select City --"/> |
| Join Date* <input type="text" value="Join Date"/> | Leave Date <input type="text" value="Leave Date"/> | Status <input type="text" value="-- Select Status --"/> |
| Position* <input type="text" value="-- Select Position --"/> | Email* <input type="text" value="admin@gmail.com"/> | Role* <input type="text" value="-- Select Role --"/> |
| Password* <input type="text" value="*****"/> | | <input type="button" value="eye"/> |

Employees List interface


Employee View

| Profile Photo | Name | Employee Id | Full Detail |
|---|-----------------------|-------------|----------------------|
|  | AKAMSHU GABRIEL EYUAH | COTGMBI | View |



1

Dashboard Interface

HRM

 admin admin
admin

Home

| | |
|---|--|
|  Employee 1 |  Leave Request 0 |
|---|--|

APPENDIX B

PROGRAM CODE

```
<!DOCTYPE html>
<html lang="en">

  <head>

    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-
to-fit=no">
    <meta name="description" content="">
    <meta name="author" content="">

    <title>NATIONAL DIPLOMA</title>

    <!-- Bootstrap Core CSS -->
    <link href="vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">

    <!-- Custom Fonts -->
    <link href="vendor/font-awesome/css/font-awesome.min.css" rel="stylesheet"
type="text/css">
    <link
href="https://fonts.googleapis.com/css?family=Source+Sans+Pro:300,400,700,300ita
lic,400italic,700italic" rel="stylesheet" type="text/css">
    <link href="vendor/simple-line-icons/css/simple-line-icons.css"
rel="stylesheet">

    <!-- Custom CSS -->
    <link href="css/stylish-portfolio.min.css" rel="stylesheet">

  </head>

  <body id="page-top" style=" background: linear-gradient(90deg, pink, rgb(67,
207, 250));">

    <!-- Header -->
    <header class="masthead d-flex">
      <div class="container text-center">

        <h1 class="mb-2" style="font-size: 45px; font-weight: bolder; font-
family: 'Gill Sans', 'Gill Sans MT', Calibri, 'Trebuchet MS', sans-serif; text-
transform: uppercase;"><span style=" margin-top:15px;"> DESIGN AND
IMPLEMENTATION OF AN Automated Information System (AIS) for students with
National Diploma</span> <br> </h1>
        <h2 class="mb-3" style="">(A case study of COMPUTER SCIENCE
DEPARTMENT)</h2><br><br>
        <h2>BY: <br> BITRUS USA <br> (ST/CS/ND/21/011)</h2> <br>

      </div>

    <br>

  </body>

</html>
```

```

        <strong><a class="btn btn-primary btn-xl js-scroll-trigger"
href="grading/login.php" style="font-size: 30px;"><span class="fa fa-long-arrow-
right"></span> PROCEED</a></strong>
        <br> <br> <br>
        <!-- <h4 class="alert alert-success"><a href="onlinefood-
order/admin/index.php">Admin Login Here!</a></h4> -->
        </div>
        <div class="overlay"></div>
</header>

<!-- Scroll to Top Button-->
<a class="scroll-to-top rounded js-scroll-trigger" href="#page-top">
    <i class="fa fa-angle-up"></i>
</a>

<!-- Bootstrap core JavaScript -->
<script src="vendor/jquery/jquery.min.js"></script>
<script src="vendor/bootstrap/js/bootstrap.bundle.min.js"></script>

<!-- Plugin JavaScript -->
<script src="vendor/jquery-easing/jquery.easing.min.js"></script>

</html>
<h1>Welcome to <?php echo $_settings->info('name') ?></h1>
<hr class="bg-light">
<?php if($_settings->userdata('type') != 3): ?>
<div class="row">
    <div class="col-12 col-sm-6 col-md-3">
        <div class="info-box">
            <span class="info-box-icon bg-light elevation-1"><i class="fas fa-file-
alt"></i></span>
            <div class="info-box-content">
                <span class="info-box-text">Pending Applications</span>
                <span class="info-box-number text-right">
                    <?php
                        $pending = $conn->query("SELECT * FROM `leave_applications` where
date_format(date_start,'% Y') = '".date('Y')." and date_format(date_end,'% Y') = '".date('Y')."
and status = 0 ")->num_rows;
                        echo number_format($pend
                    </div>
                <!-- /.info-box -->
            </div>
        <!-- /.col -->
    <div class="col-12 col-sm-6 col-md-3">
        <div class="info-box mb-3">
            <span class="info-box-icon bg-info elevation-1"><i class="fas fa-
building"></i></span>

            <div class="info-box-content">
                <span class="info-box-text"> Departments</span>
                <span class="info-box-number text-right">
                    <?php

```

```

        $department = $conn->query("SELECT id FROM `department_list` ")-
>num_rows;
        echo number_format($department);
        ?>
    </span>
</div>
<!-- /.info-box-content -->
</div>
<!-- /.info-box -->
</div>
<!-- /.col -->

<!-- fix for small devices only -->
<div class="clearfix hidden-md-up"></div>

<div class="col-12 col-sm-6 col-md-3">
    <div class="info-box mb-3">
        <span class="info-box-icon bg-lightblue elevation-1"><i class="fas fa-th-
list"></i></span>

        <div class="info-box-content">
            <span class="info-box-text"> Designations</span>
            <span class="info-box-number text-right">
                <?php
                    $designation = $conn->query("SELECT id FROM `designation_list`")-
>num_rows;
                    echo number_format($designation);
                    ?>
                </span>
            </div>
            <!-- /.info-box-content -->
        </div>
        <!-- /.info-box -->
    </div>
    <div class="col-12 col-sm-6 col-md-3">
        <div class="info-box mb-3">
            <span class="info-box-icon bg-purple elevation-1"><i class="fas fa-list"></i></span>
            <div class="info-box-content">
                <span class="info-box-text">Promotion Types</span>
                <span class="info-box-number text-right">
                    <?php
                        $leave_types = $conn->query("SELECT id FROM `leave_types` where status = 1
")->num_rows;
                        echo number_format($leave_types);
                        ?>
                    </span>
                </div>
                <!-- /.info-box-content -->
            </div>
            <!-- /.info-box -->
        </div>

```

```

        </div>
<?php else: ?>
<div class="row">
<div class="col-12 col-sm-6 col-md-3">
<div class="info-box">
<span class="info-box-icon bg-light elevation-1"><i class="fas fa-file-alt"></i></span>

<div class="info-box-content">
<span class="info-box-text">Pending Applications</span>
<span class="info-box-number text-right">
<?php
    $spending = $conn->query("SELECT * FROM `leave_applications` where
date_format(date_start,'%Y') = '".date('Y')."' and date_format(date_end,'%Y') = '".date('Y')."'
and status = 0 and user_id = '{$_settings->userdata('id')}' ")->num_rows;
    echo number_format($spending);
?>
<?php ?>
</span>
</div>
<!-- /.info-box-content -->
</div>
<!-- /.info-box -->
</div>
<div class="col-12 col-sm-6 col-md-3">
<div class="info-box">
<span class="info-box-icon bg-lightblue elevation-1"><i class="fas fa-th-
list"></i></span>

<div class="info-box-content">
<span class="info-box-text">Promotion Requests</span>
<span class="info-box-number text-right">
<?php
    $upcoming = $conn->query("SELECT * FROM `leave_applications` where
date(date_start) > '".date('Y-m-d')."' and status = 1 and user_id = '{$_settings->userdata('id')}'
")->num_rows;
    echo number_format($upcoming);
?>
<?php ?>
</span>
</div>
<!-- /.info-box-content -->
</div>
<!-- /.info-box -->
</div>
</div>
<?php endif; ?>

```