DESIGN AND IMPLEMENTATION OF PARENT-TEACHER COMMUNICATION PORTAL

BY

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NOVEMBER, 2023.

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A PROJECT REPORT SUBMITTED TO THE DEPARTMENT OF COMPUTER SCIENCE, FACULTY OF PHYSICAL SCIENCE, UNIVERSITY OF BENIN, BENIN CITY IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF A BACHELOR OF SCIENCE (B.Sc.) DEGREE IN COMPUTER SCIENCE

NOVEMBER, 2023.

CERTIFICATION

This is to certify that AIGBEDO ANTHONY EVANS carried out this project work with Matriculation Number PSC1611518 under my supervision and that it is adequate and satisfactory, both in scope and content, for the award of a Bachelor of Science (B.Sc.) Degree in Computer Science at the University of Benin.

_____ _____

MR I. E OBAYAGBONA **DATE**

Project Supervisor

APPROVAL

This project work is hereby approved in partial fulfillment of the requirements for the award of Bachelor of Science (B.Sc.) Degree in Computer Science from the University of Benin.

MR I.E OBAYAGBONA **DATE**

Project Supervisor

PROF. G.O. EKUOBASE **DATE**

Head of Department

DEDICATION

I dedicate this work to God for giving me the strength and guidance to carry out and complete it correctly and for his protection throughout my time at the University of Benin. This work is also dedicated to my father, who made this journey as easy as possible by encouraging and guiding me. Lastly, this work is dedicated to my project supervisor. It wouldn't have been complete without you. You gave me proper direction and guidance.

ACKNOWLEDGEMENT

I am thankful for the guidance and support provided by my supervisor, Mr. I. E Obayagbona. I also thank my colleagues and friends for their valuable insights and assistance throughout this endeavor. Lastly, I am grateful to my family for their unwavering support and understanding during this period. Your collective efforts have been invaluable, and I couldn't have accomplished this without you. Thank you.

TABLE OF CONTENTS

ABSTRACT

This project centers on crafting a Parent-Teacher Communication Portal, acknowledging parents' pivotal role in supporting students' success. The focus is on developing an easy-to-use platform fostering real-time collaboration between parents and teachers for monitoring children's daily school performance. The study scrutinizes the current system, leading to the design of a new system poised to reduce parents' time accessing their children's reports significantly. This innovative system cultivates a community-like space where teachers and parents can engage in conversations based on students' school activities. The methodology adopted for this project is the Agile SDLC Methodology, employing HTML, CSS, and JavaScript for the frontend development and PHP for the backend development, with Xampp web server and MySQL database server for implementation. The goal is to create an efficient, user-friendly, and interactive tool that strengthens the vital connection between parents and teachers in supporting students' educational journeys.

CHAPTER ONE

INTRODUCTION

1.0 OVERVIEW

Effective communication between parents and teachers is pivotal in shaping a student's academic journey in today's dynamic educational landscape (Salac and Florida, 2022: Solano, 2022: Ziden, Rahman and Ching, 2020). Ziden et al. (2020) recorded that parental involvement has been recognized as one of the most important variables influencing students' academic achievement, and for schools to meet higher academic standards for their students, a partnership must be established between the home (parents) and the school. Also, Solano (2022) stated that when parents, school districts, and teachers frequently communicate, there are positive benefits for the entire school community and also success for individual students.

With the increasing reliance on digital solutions, there arises a need for a streamlined platform that facilitates seamless interaction between parents and teachers, fostering a collaborative educational environment. The Parent-Teacher Communication Portal aims to address this need by providing a comprehensive system that integrates messaging, event tracking, progress monitoring, user profiles, and announcement features.

1.1 BACKGROUND TO THE STUDY

The intricate dynamics between parents and teachers significantly influence a student's academic journey in the contemporary educational landscape. The traditional methods of parent-teacher communication, often reliant on sporadic meetings or handwritten notes, have proven to need to be more robust in meeting the demands of today's fast-paced world. A modernized communication solution becomes paramount as educational institutions grapple with actively engaging parents in their children's education. The Parent-Teacher Communication Portal emerges as a response to this need, aiming to redefine how parents and teachers interact and collaborate in the digital age.

The shift towards digital communication tools in education has become more evident in recent years. With the proliferation of smartphones and internet accessibility, there is a growing expectation for real-time updates and seamless communication channels. This project recognizes technology's transformative potential in revolutionizing how educational stakeholders engage with each other. By providing a dedicated portal that integrates essential features such as messaging, progress monitoring, user profiles, and announcements, the Parent-Teacher Communication Portal aspires to be a catalyst for fostering a more connected and informed educational community.

As technology continues to reshape the educational landscape, it is imperative to consider the implications and opportunities of digitizing communication channels between parents and teachers. The background of this study illuminates the rationale behind the project, emphasizing the need for an efficient, accessible, and secure platform that addresses the communication gaps inherent in traditional methods, ultimately contributing to an enriched educational experience for students.

1.2 PROBLEM STATEMENT

The traditional means of parent-teacher communication present many challenges that hinder effective collaboration in the educational journey. Conventional methods, such as periodic parent-teacher meetings or reliance on paper-based communication, often result in delays, miscommunication, and a lack of real-time updates. Additionally, the hectic schedules of both parents and teachers further exacerbate difficulties in establishing consistent and meaningful communication channels. The identified problem lies in the inefficiencies and limitations of these existing communication channels, negatively impacting the quality of parental involvement in a child's education.

The advent of the Parent-Teacher Communication Portal is motivated by the necessity to overcome these challenges. The limitations of current systems lead to missed opportunities for timely feedback and updates on student progress and hinder the establishment of a collaborative educational environment. This project intends to leverage technology to bridge the communication gap inherent in the traditional parent-teacher communication system and provide an innovative solution that simplifies and enhances the communication process between parents and teachers.

In essence, this subsection revolves around the need for more current communication methods, hindering the establishment of a robust educational support system. By pinpointing these issues, the Parent-Teacher Communication Portal aims to address the root causes and provide a digital platform that mitigates the challenges identified and contributes to a more engaged and informed educational community.

1.3 PROJECT PURPOSE AND OBJECTIVES

Purpose

The primary purpose of the Parent-Teacher Communication Portal is to establish a digital bridge that connects parents and teachers in a collaborative educational partnership. By leveraging technology, the Portal aims to facilitate seamless communication and provide a platform where parents can stay informed about their child's academic progress, receive timely updates, and engage in meaningful conversations with teachers. The overarching goal is to enhance the educational experience for students by fostering a supportive environment where parents and teachers work together to nurture each student's academic and personal growth.

Objectives

This project has the following objectives:

1. Create a user-friendly messaging system that allows real-time communication between parents and teachers, fostering quick and effective exchange of information.

2. Implement an interactive event calendar to inform parents about important dates, such as parent-teacher meetings, school events, and academic deadlines.

3. Design and implement a reliable system for tracking and displaying student progress, including grades, attendance, and relevant academic milestones.

4. Establish user profiles for parents and teachers, providing a centralized space for personalizing and managing their engagement within the Portal.

5. Develop a feature for teachers to post announcements, ensuring critical information reaches parents promptly.

By achieving these objectives, the Parent-Teacher Communication Portal seeks to offer a comprehensive solution that mitigates the challenges identified and enhances the overall effectiveness of communication and collaboration between parents and teachers in the educational ecosystem.

1.4 SIGNIFICANCE OF THE STUDY

In the ever-evolving education landscape, the Parent-Teacher Communication Portal holds significant implications for the stakeholders involved—students, parents, teachers, and school

administrators. At its core, the Portal aims to strengthen the educational support system by fostering increased parental involvement. Research consistently indicates parental engagement positively influences a child's academic success (Ziden et al., 2020). By providing parents with real-time insights into their child's progress, timely notifications, and a direct line of communication with teachers, the Portal contributes to a more informed and engaged parental community.

This study also extends to the efficiency and transparency it introduces to the school's communication infrastructure. The Portal is a centralized hub where teachers can efficiently share essential updates, academic achievements, and announcements with parents. Hence, it not only streamlines the flow of information but also establishes a collaborative environment conducive to students' holistic development. Teachers benefit from streamlined communication channels, allowing them to focus more on the educational needs of their students rather than administrative hassles.

Additionally, the Parent-Teacher Communication Portal aligns with the broader trend of digitization in education. As schools increasingly embrace technology, this study contributes to the ongoing discourse on how school management can strategically employ digital tools to enhance the educational experience. In summary, the significance of this study lies in its potential to positively impact student outcomes, improve communication dynamics, and contribute to the larger conversation on leveraging technology for educational advancement.

1.5 SCOPE OF THE STUDY

The scope of the Parent-Teacher Communication Portal is carefully delineated to ensure a focused and achievable project within the given constraints. The project's primary scope includes implementing crucial features for effective communication and collaboration between parents and teachers. These features include a messaging system, an event calendar, a student progress tracker, user profiles, and an announcement feature. This selection represents a strategic balance that allows for creating a functional and impactful portal while accommodating the project's limited timeframe.

It is crucial to highlight what the project is not about to maintain clarity. Firstly, this project only aims to replace traditional face-to-face interactions partially. It seeks to enhance existing communication channels by providing a supplementary digital platform. While the Portal facilitates convenient and accessible communication, it acknowledges the importance of in-person engagements and aims to complement, rather than substitute, these interactions.

Secondly, the scope recognizes that the impact of the Parent-Teacher Communication Portal may vary based on factors such as school size, administrative policies, and the level of technological infrastructure available. The project does not attempt to create a one-size-fits-all solution, but

instead, it offers a flexible framework that various schools can adapt to different educational contexts.

Furthermore, the project partially overhauls all possible features within a communication portal. Given the time constraints, I decided to focus on core functionalities, which helped to ensure the timely delivery of a functional system that addressed fundamental communication and monitoring needs, leaving room for potential future expansions or enhancements based on user feedback and evolving requirements.

In summary, the scope of this study defines a strategic balance, outlining what the project aims to achieve while also delineating what it does not intend to cover. This ensures a focused and realistic approach to developing the Parent-Teacher Communication Portal within the specified timeframe.

DEFINITION OF TERMS

Parent-Teacher Communication Portal: Refers to the digital platform developed in this study, facilitating communication and collaboration between parents and teachers. It includes user authentication, a messaging system, an event calendar, etc.

Messaging System: A feature within the Portal enabling real-time communication between parents and teachers, fostering quick and effective exchange of information.

Event Calendar: An interactive calendar displaying essential dates, such as parent-teacher meetings, school events, and academic deadlines.

Student Progress Tracker: A system within the Portal for monitoring and displaying student progress, including grades, attendance, and academic milestones.

User Profiles: Personalized accounts for parents and teachers within the Portal, allowing them to manage and customize their engagement.

Announcement Feature: A component of the Portal enabling teachers to post important announcements, ensuring timely communication of critical information.

Stakeholders: Refers to individuals or groups with a vested interest in the educational process, including students, parents, teachers, and school administrators.

Digitization in Education: The broader trend of incorporating digital tools and technologies into educational practices to enhance learning, communication, and administrative processes.

Educational Support System: The network of resources and interactions, including parental involvement and teacher support, aimed at fostering the holistic development of students within an educational institution.

CHAPTER TWO

RELATED WORK

In exploring the Parent-Teacher Communication Portal, examining existing literature and projects that delve into similar domains is crucial. This section provides an overview of related work, encompassing studies, systems, and technologies that address the dynamics of parent-teacher communication, educational portals, and digital tools within the academic sphere. This chapter aims to contextualize the current project within the broader landscape of technology-driven solutions for enhancing communication and collaboration in education by analyzing and synthesizing the insights gained from these sources.

The evolution of digital communication tools and educational platforms has seen a surge in innovations geared toward bridging the gap between parents and teachers. Previous research and projects have explored various aspects of communication portals, emphasizing the importance of accessibility, security, and user-friendliness. This overview sets the stage for a comprehensive understanding of the existing body of knowledge, allowing for informed decisions in designing and implementing the Parent-Teacher Communication Portal.

2.1 WEB-BASED PARENT-TEACHER COLLABORATIVE SYSTEM

Aniegwu, Onyesolu, Onyenwe, and Ugoh (2022) developed a web-based system for engaging teachers and parents in monitoring students' performance in school. The aim was to provide a well-designed platform that would allow for real-time communication between teachers and parents concerning children's daily performance in school, thereby reducing the time it takes for parents to access their children's reports in school. The system functions based on engagement between Form Teachers and the parents of their (the Form teachers') students on the software about the student's development. The authors adopted the Object-Oriented Hypermedia Design Methodology (OOHDM) – a model-based approach for building large hypermedia applications - for the work, and they implemented it using the Python programming language and the Django Framework as the database tool.

2.2 WEB-BASED BOARDING SCHOOL MONITORING SYSTEM

Ya'acob, Azize, Yusof, Sarnin, Naim, & Rohaizad (2018) designed a web-based monitoring system to remove problems that arise due to a lack of automation affiliated with the traditional system employed for students' monitoring purposes in boarding schools. These problems include

the students' inaccurate logging time, misplacing of outing cards by the students, unorganized logging records, etc. This system aims to provide accurate student log data to their parents and teachers in real time via a single click on their various personal devices. The Web-based Boarding School Monitoring System, commonly called WEBMOS, utilizes Arduino Mega, Ethernet Shield, Global System for Mobile Communication (GSM), Radio Frequency Identification (RFID) technologies, and MySQL Database.

This system performs an automated data log after the students flash their cards to the RFID reader, and the data is uploaded to the database. This uploaded data becomes the information that the parents and teachers can view on the webpage anywhere and anytime.

2.3 MOBILE-BASED PARENT PORTAL

Ong'udi (2021) developed a mobile-based parent portal for public Primary schools in Nairobi, Kenya. The authors developed the software based on the academic needs of the schools and reviews of the products already being used by learning institutions in other parts of the world. It was developed to remove issues like parents having to visit the children's schools to get requisite information regarding their children's performance in school. The author used the Rapid Application Development (RAD) software development model, which involves swiftly building a software project. Martinez-Fernandez, Jedlitschka, Guzman, & Vollmer (2018) pointed out the three key objectives of the RAD model, which are high-quality products, fast software development and delivery, and low cost, and these were part of the goals of this work because of limited funding and time constraints. The app was developed using the Android Studio and Java programming language. The project also utilizes a layered approach: the HTTP layer, the API layer, the Generic Data layer, the Platform Dependent Data layer, and the UI layer.

2.4 ONLINE SYSTEM FOR PARENTS TEACHER ASSOCIATION

Muhammad (2022) embarked on this project to study parents' and teachers' perspectives on the connection between them using a mobile application, to develop an application that engages parents in educational programs and other events, and to help schools handle problematic students by collaborating with moral rehabilitation programs, spirit building camps, and counseling sessions aimed at creating awareness and enthusiasm for learning and success in the lesson. The author called the application SchoolGo app. The Agile Software Development Life Cycle approach was utilized to develop the application. He used Visual Studio Code IDE and the React Native framework for the frontend development and Google Firebase for the backend development.

CHAPTER THREE

METHODOLOGY

3.1 SYSTEM ANALYSIS AND DESIGN

This section is about studying and understanding how a proposed system works and designing and producing the functions. System analysis is mainly about the appropriate study of a new system to determine the issues affecting its efficiency. As a result, this phase in this project will provide recommendations and alternatives for re-designing the system for improved functionality.

While system analysis emphasizes the business problem, system design focuses on the technical and implementation aspects of the system. Hence, the system design is a complementary problem-solving technique to the system analysis, which involves reassembling a system's component pieces back into a complete system, resulting in an improved version of the old system. This may include deleting or adding features, changing components related to the original system, etc.

3.2 DATA COLLECTION METHOD

As usual, data was essential for completing this research project. The methods employed for the collection of the data used are discussed here, and they are:

Physical Interview: Here, oral interviews were conducted with various parents and form teachers who were encouraged to express their opinions about the traditional collaboration system used for parent-teacher collaboration and their take on the proposed solution this project research is focused on.

Secondary Source: Data was also sourced from various educational Journals, websites, and academic research platforms.

3.3 THE PROPOSED SYSTEM

From the data sourced, which is also considered as the user requirement for this work, and also from findings from some existing systems, this current system will be designed. This design stage is crucial in every system because the system's success largely depends on the design specifications. The proposed system is going to be implemented using web technology that will be executed as a distributed system that stores the information about the end users – parents,

teachers, and the administrator – providing an efficient and effective channel for parents-teachers collaboration that will further lead to the learning success of the students.

3.4 SYSTEM DESIGN

This phase deals with the detailed flow graph, requirement analysis, and the design process involving the frontend and backend of the Parents-Teachers Communication Portal.

This proposed system comprises three interfaces, each performing different functions and granting access rights to the operation the user is permitted to carry out on the platform. The three interfaces include:

The Administrator (Admin) Interface: This interface will be used by the admin of the Portal platform to login to the system, perform the operation of managing the accounts of the other users of the platform, view the form teachers' reports, and approve the registration of the other members, and update their details like changing of password.

The Form Teacher Interface: The form teachers will use this interface to log in to the platform to send the parents messages and update the student performance. They can also update their details on the platform.

The Parents Interface: The parents of the students can use this interface of the platform to login to the platform and perform actions like viewing their child's or children's performance, commenting about their performance, interacting with the child's form teacher via the message channel and updating their details on the Portal platform.

Due to time constraints, the function of this system had to be limited to those captured in the above interfaces.

3.5 DATA FLOW DIAGRAM OF THE PROPOSED SYSTEM

A data flow diagram (DFD) is a diagrammatic representation that consists of nodes and arrows. The node may be a data store, an auxiliary node, a process, or a terminator that is either an input or an output of the system. The arrows represent data flows. DFDs are used to reflect the structure of a system. Below is the DFD of the proposed system – Parents-Teachers Communication Portal – showing the flow of data through the processes in the system.

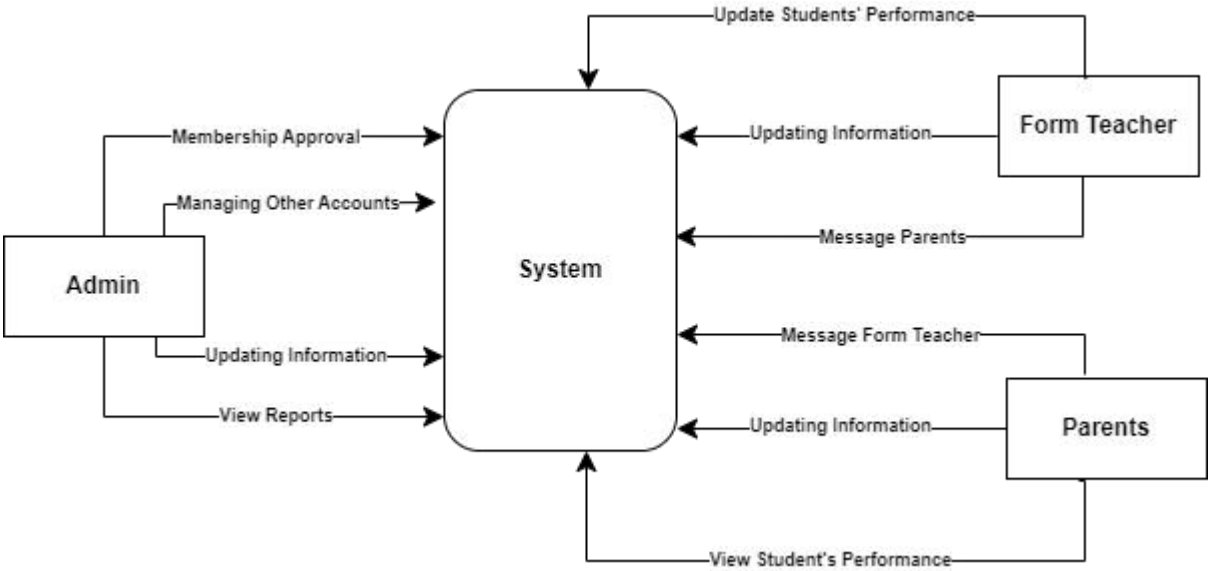

Fig 3.1 Data Flow Diagram of Parents-Teachers Communication Portal

3.6 SOFTWARE DEVELOPMENT TOOLS

The following tools were used to achieve this project work:

Web server: A web server can be considered one of the most essential software development tools. This is because, without it, the software product cannot be hosted and hence cannot be used. It has to be installed on the developing machine to be used for the project to enable viewing of the work being done as though it were online. In this project, the Xampp web server was used.

Database server: The project utilized the MySQL database server, renowned as the leading open-source database globally and holding the second position in popularity, trailing only behind the Oracle database. Functioning as a relational database, MySQL organizes data into distinct tables rather than consolidating it into a singular repository. Its database structure is designed

with optimized physical files to enhance speed. Offering a flexible programming environment, the logical data model includes entities such as data tables, views, rows, and columns. The MySQL database server is recognized for its reliability, user-friendly interface, and operational efficiency.

Web Browser: A web browser is a software or application showcasing websites or a collection of web pages. These web pages are documents created using the HTML language codes and styled with the CSS codes.

Hypertext Markup Language (HTML): HTML is the standard text-formatting language for documents on the interconnected computing network, also called the World Wide Web. HTML documents contain two parts: the content meant to be rendered on a computer system screen and markup or tags, which are encoded information that directs the text format on the screen and is generally hidden from the user.

Cascading Style Sheet (CSS): CSS is a language for specifying how documents are presented to users — how they are styled, laid out, etc. Giving a document to a user means converting it into a form usable by them. This is why it is also referred to as a Presentation Language.

JavaScript (JS): JavaScript is an excellent tool for creating mobile and web apps, developing game apps, building web server and server applications, etc.

Hypertext Preprocessor (PHP): PHP is an open-source server-side scripting language many developers use for web development. It is also a general-purpose language used for many projects, including Graphical User Interfaces (GUIs), advanced code editors, integrated debuggers, etc.

3.7 HARDWARE REQUIREMENT

The hardware configuration is also an essential task in the software development processes. This is so because factors like insufficient memory – Random Access Memory (RAM) – may adversely affect the whole system's speed and performance or efficiency. A minimum hardware configuration should include:

A hard disk (should have sufficient capacity to store the file and application)

Any processor with a minimum of 1.6 GHz or higher processor power

At least 512MB RAM

A keyboard

A mouse

A video adapter

A monitor with Super VGA (800 x 600) or higher resolution

At least 32GB hard disk drive

Any digital device with internet connectivity or an internet-enabled mobile device

3.8 TOOLS FOR SYSTEM ANALYSIS AND DESIGN

The tools used to analyze and design this proposed system are called the Unified Modeling Language (UML) tools. These include the use case diagram, the sequence diagram, the class diagram, the entity relationship diagram, the flowchart, etc. Below are various UML diagrams of this proposed system

3.8.1 UML Use Case Diagram for the Proposed System

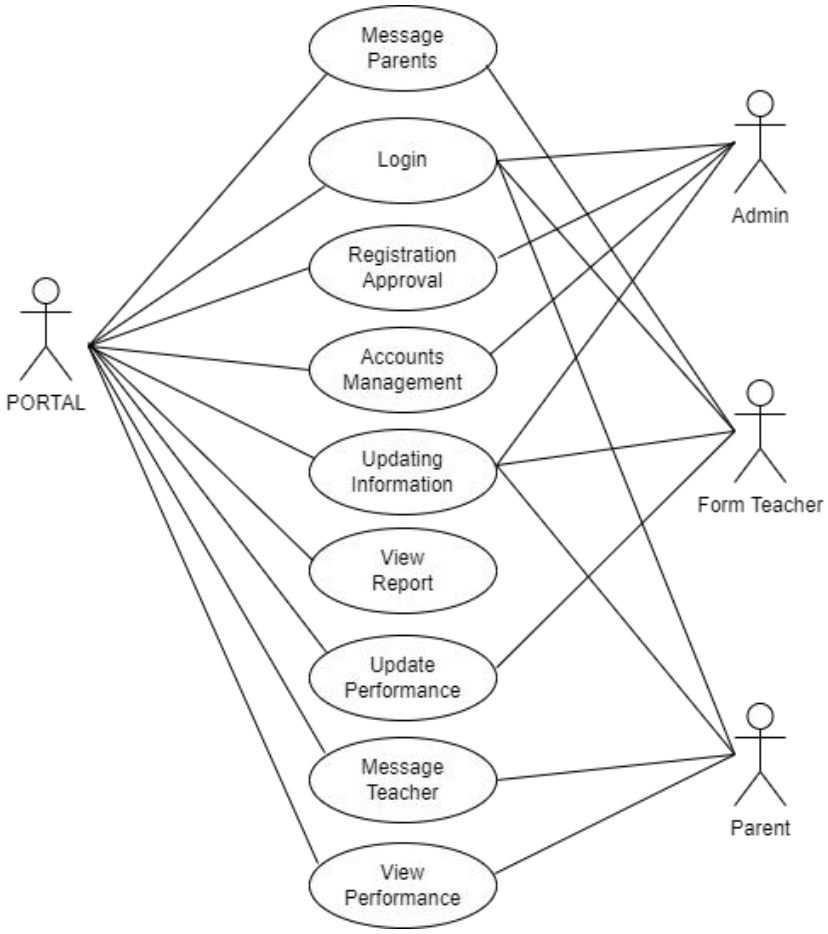

Fig 3.2 Use Case Diagram of the Proposed System

3.8.2 Parent Activity Diagram

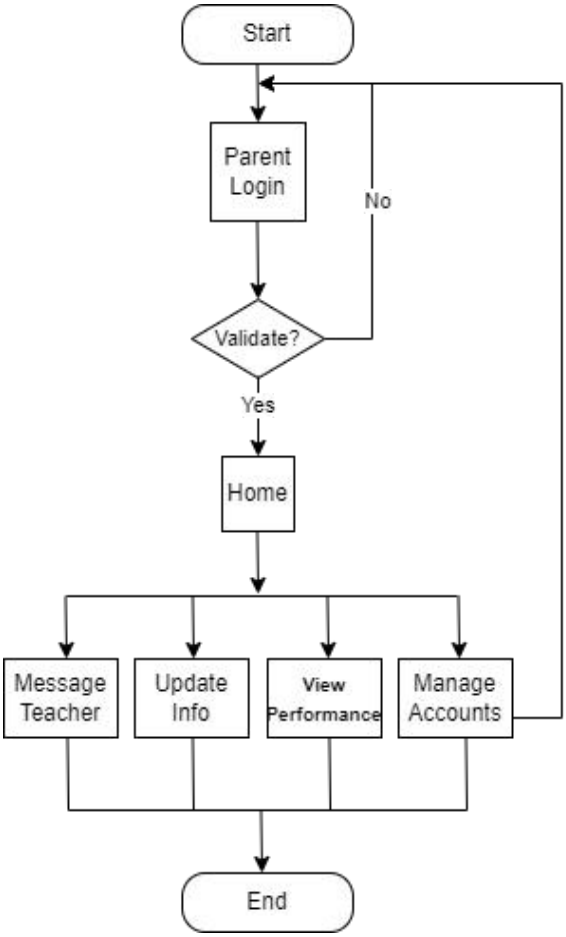

Fig 3.3 Parent Activity Diagram

3.8.3 Form Teacher Activity Diagram

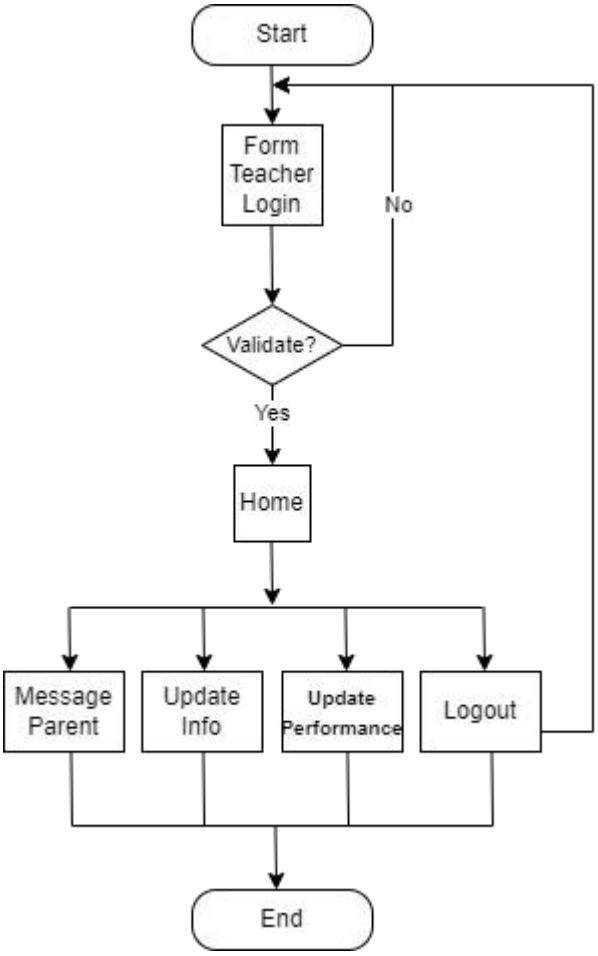

Fig 3.4 Form Teacher Activity Diagram

3.8.4 Admin Activity Diagram

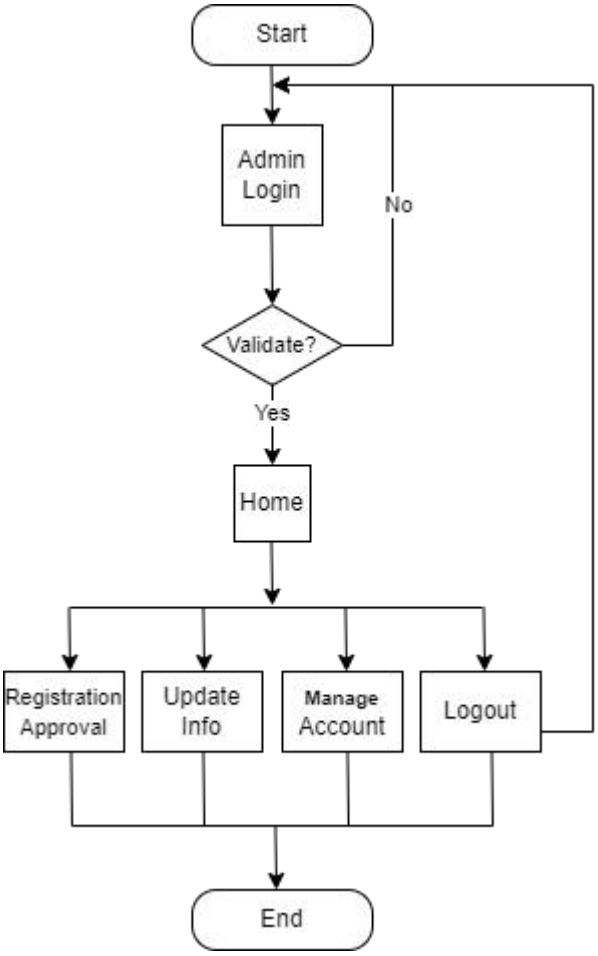

Fig 3.5 Admin Activity Diagram

3.9 DATABASE DESIGN

In the realm of information systems, the pivotal role played by databases cannot be overstated. A database constitutes a logically cohesive assembly of data imbued with inherent meaning. However, the creation and upkeep of a database necessitate using a specialized tool known as a Database Management System (DBMS). This system comprises a collection of programs meticulously designed for the explicit purpose of creating and maintaining databases.

A DBMS is a versatile software system, serving the overarching goal of streamlining the processes involved in defining, constructing, manipulating, and sharing databases across a spectrum of users and applications. The initial phase of database management involves meticulously defining its parameters, encompassing the specification of data types, structures, and constraints applicable to the stored data.

The manipulation of a database, a subsequent and crucial facet, encompasses a range of functions. These functions include querying the database to retrieve data and executing operations to update, insert, or delete data. This dynamic interaction with the database facilitates the seamless flow of information within various contexts and serves as a cornerstone in the effective functioning of information systems.

CHAPTER FOUR

IMPLEMENTATION AND TESTING

4.1 IMPLEMENTATION

In the software development process, after the system analysis and design phase comes the creation of the System Architecture. This is like the blueprint of the system. We now move on to the implementation phase to bring this design to life. For the Parents-Teachers Communication Portal, I used HTML and CSS to build the look and feel of the website (frontend). JavaScript was then added for interactive features, while PhP was employed to handle the backend. The whole system runs on the Xampp web server, and the data is stored in a MySQL database. I designed the components to be easily replaced or customized, ensuring flexibility.

Choosing a web-based application made sense for the Parents-Teachers Portal. I intended it to be user-friendly for people with different levels of IT experience. Making the interface similar to popular platforms like Facebook and Twitter helps new users feel at home. Even if someone isn't a tech expert, they've probably used the web for searches and socializing.

Another factor was making the Portal available on different devices i.e using a responsive design approach. I wanted this proposed system to work on static and mobile devices, with smartphones and tablets widely used. Instead of dealing with the complexities of creating separate mobile apps, I leveraged on all these devices having web browsers. This ensures a consistent user experience, whether on a computer or a mobile device.

I also took care to validate input and handle errors. If something goes wrong, the system gives clear error messages. This way, the Parents-Teachers Portal is functional but also user-friendly and reliable.

4.2 TESTING

Testing is a crucial step in ensuring a software system works as intended. It's like putting the program codes to the test to see if everything is running smoothly. There are two main aspects to testing: verification and validation. Let's dive into the reasons why testing is so important:

Identifying and Fixing Errors: The first goal of testing is to find any mistakes or errors in the system. It's like a detective work for the software, where I carefully check and fix any issues.

Confirming the Solution: I also wanted to ensure that this system is solving the problems I identified in the existing system. It's like double-checking to ensure this solution is effective and does what it should.

Checking Functionality: Testing helps me understand how well the new system's features work. I want to confirm that all the specified functions are handy and practical for users. It's like ensuring a new gadget's buttons and features do what they should.

To carry out this testing process for the Parents-Teachers Communication Portal, I set up a local server called Xampp. Think of it like a test environment that mimics the real thing. I used Google Chrome as my web browser to browse through the Portal. It's like taking my new creation out for a spin to see how it performs in a standard browser many people use.

In essence, testing is like quality control for software. It ensures that everything is not just working but working in a way that is error-free, effective, and user-friendly. It's a crucial phase before I let this system out into the world, ensuring it's ready for prime time.

4.3 RESULTS

The system successfully delivered the intended functionalities following a comprehensive series of tests. The specific functionalities are visually represented in the figures below:

Figure 4.1 below shows the Home Page where the users must first be taken when they visit the Portal. From the Home Page, they can register or log in to the platform.

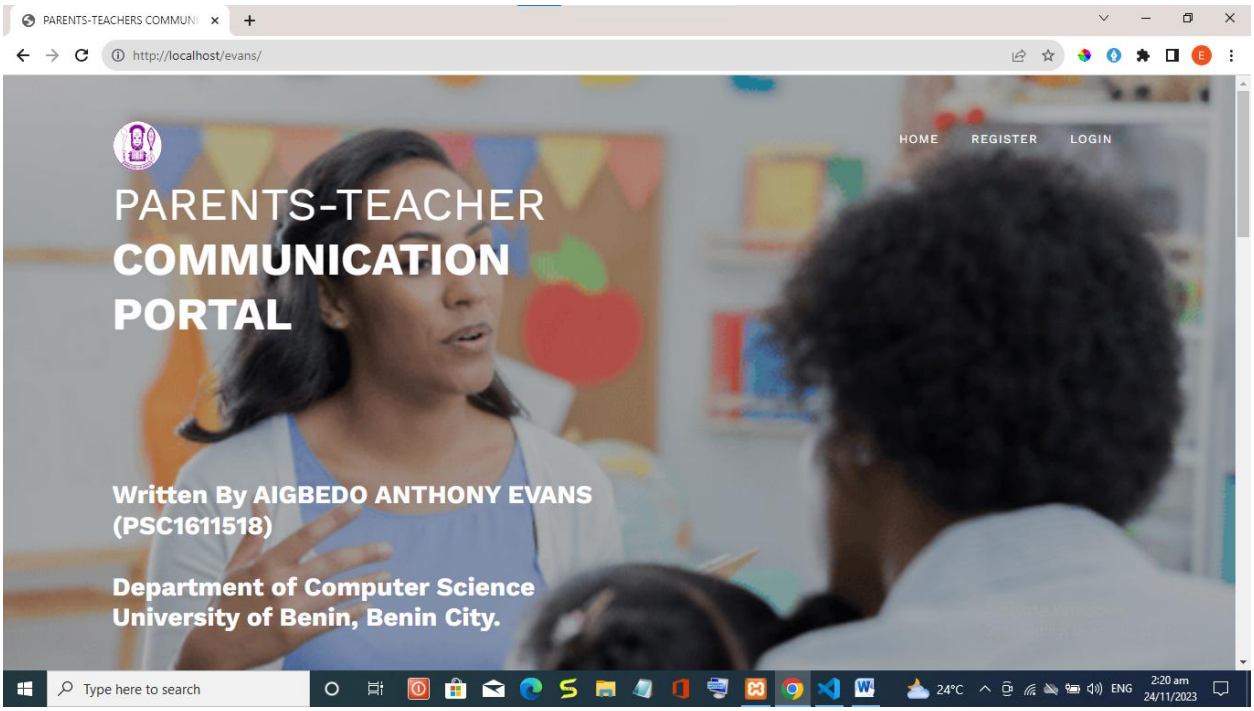

Fig 4.1 The Home Page

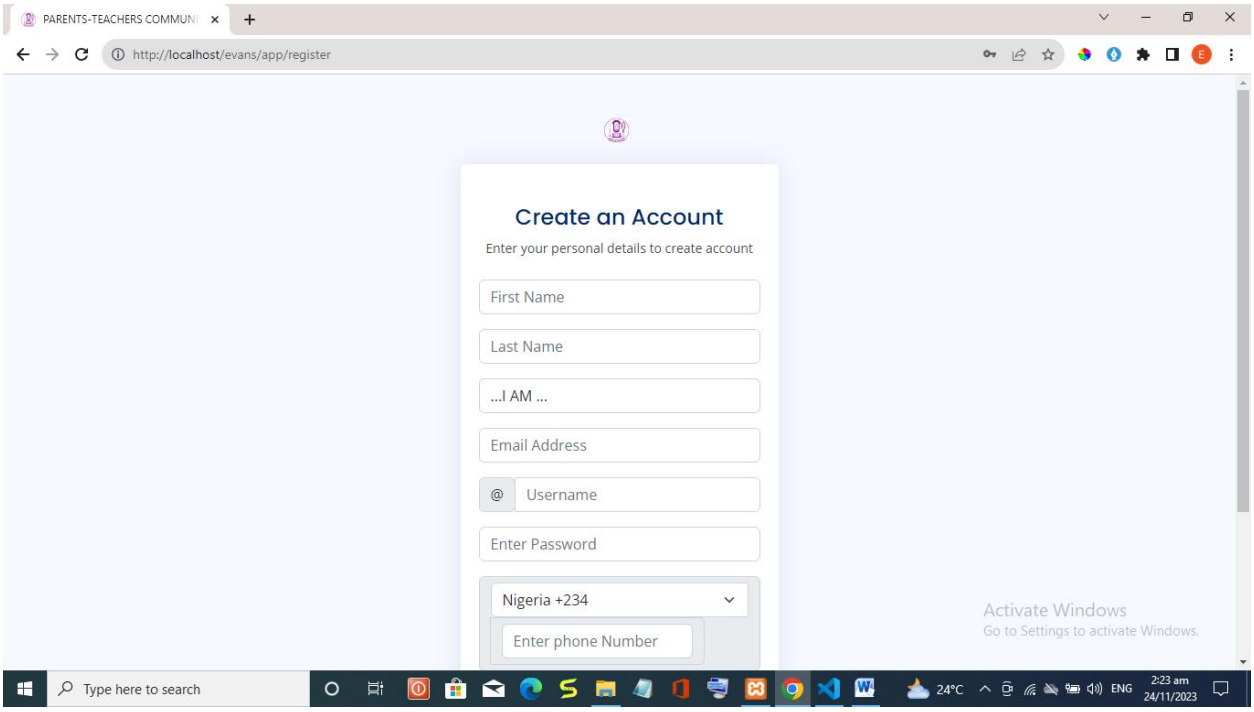

Fig 4.2a Registration Page

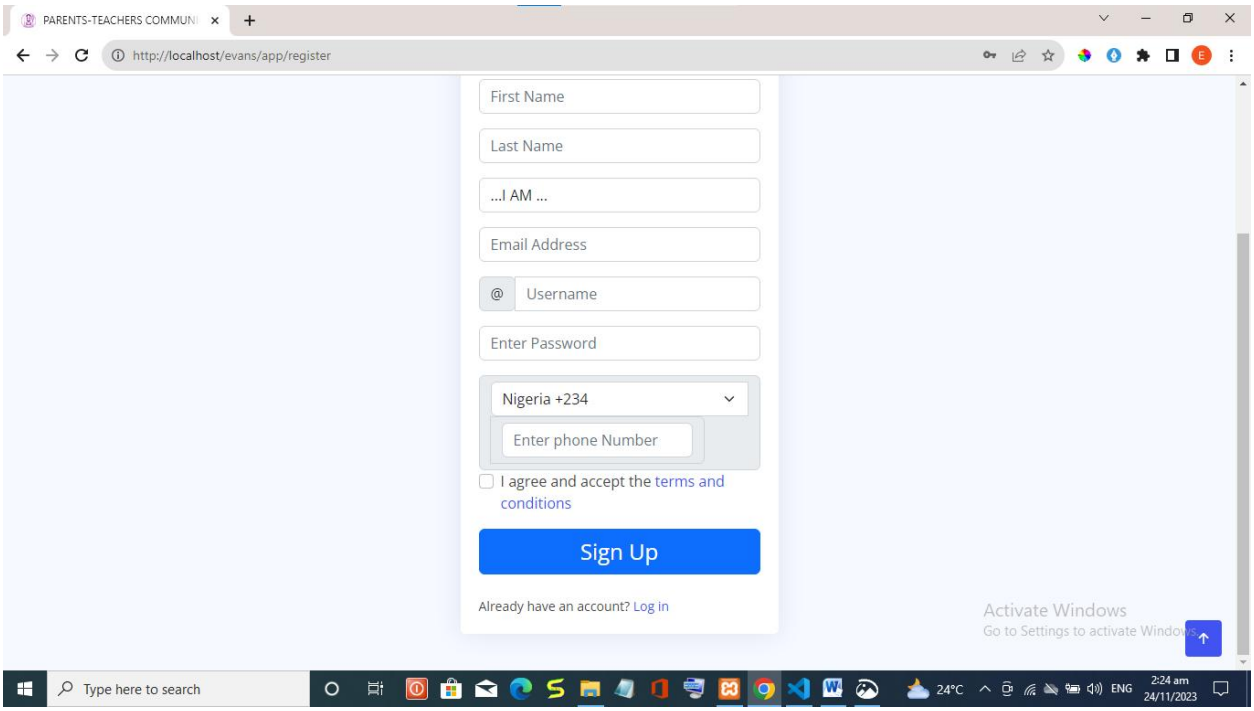

Fig 4.2b Registration Page

The figures In 4.2 above show the user registration page, a pivotal step for prospective users to join the platform. On this page, users are prompted to provide their basic information. It serves as the initial entry point, requiring individuals to input essential details before accessing the platform. Notably, once users submit their application, an approval process follows. Upon approval, users receive an email notification indicating successful registration and access to the platform. This establishes a secure and controlled onboarding process for users.

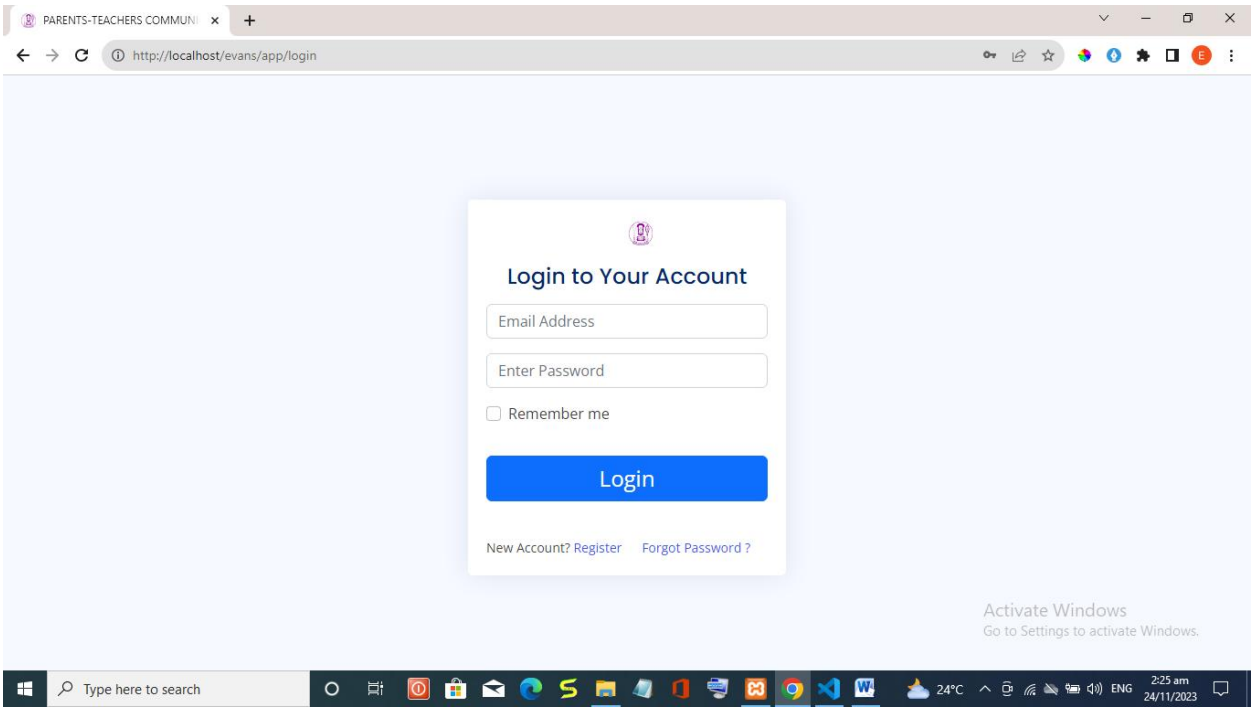

Fig 4.3 Users Login Page

Fig 4.3 shows the user's login page, where they are expected to log in with their ID and password.

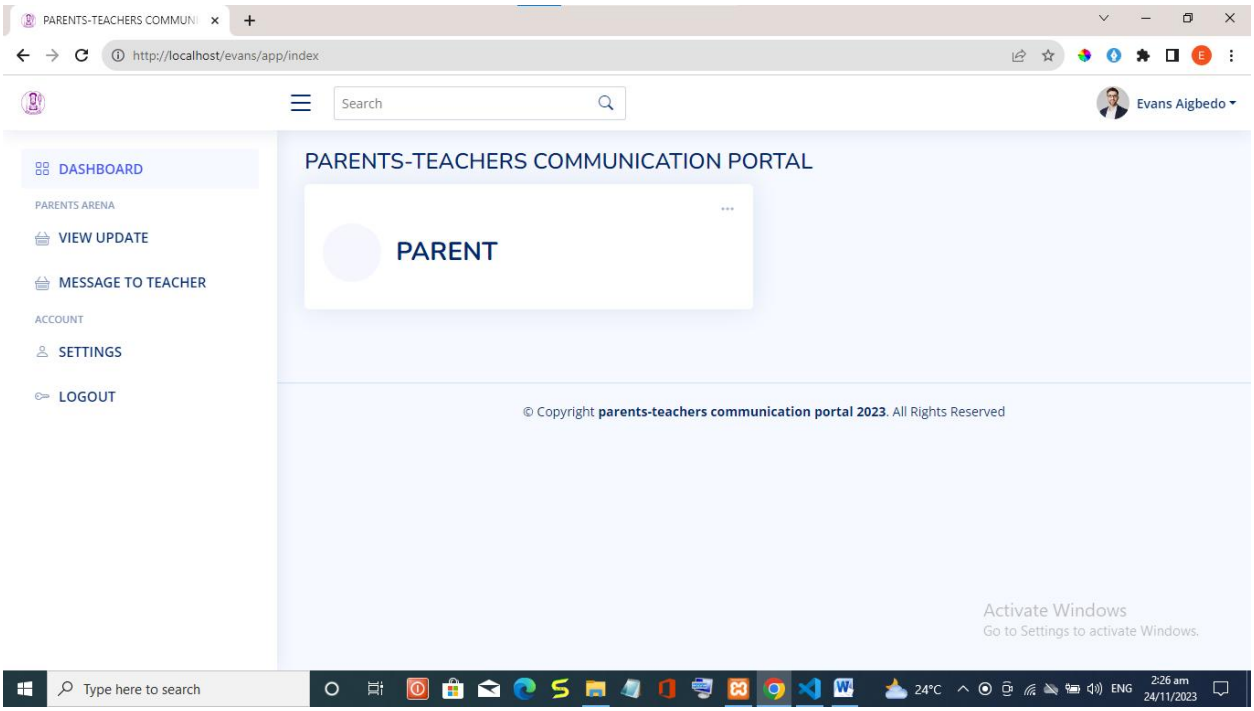

Fig 4.4 Parent Dashboard

Fig 4.4 shows the parent dashboard where they can carry out all their operations on the platform.

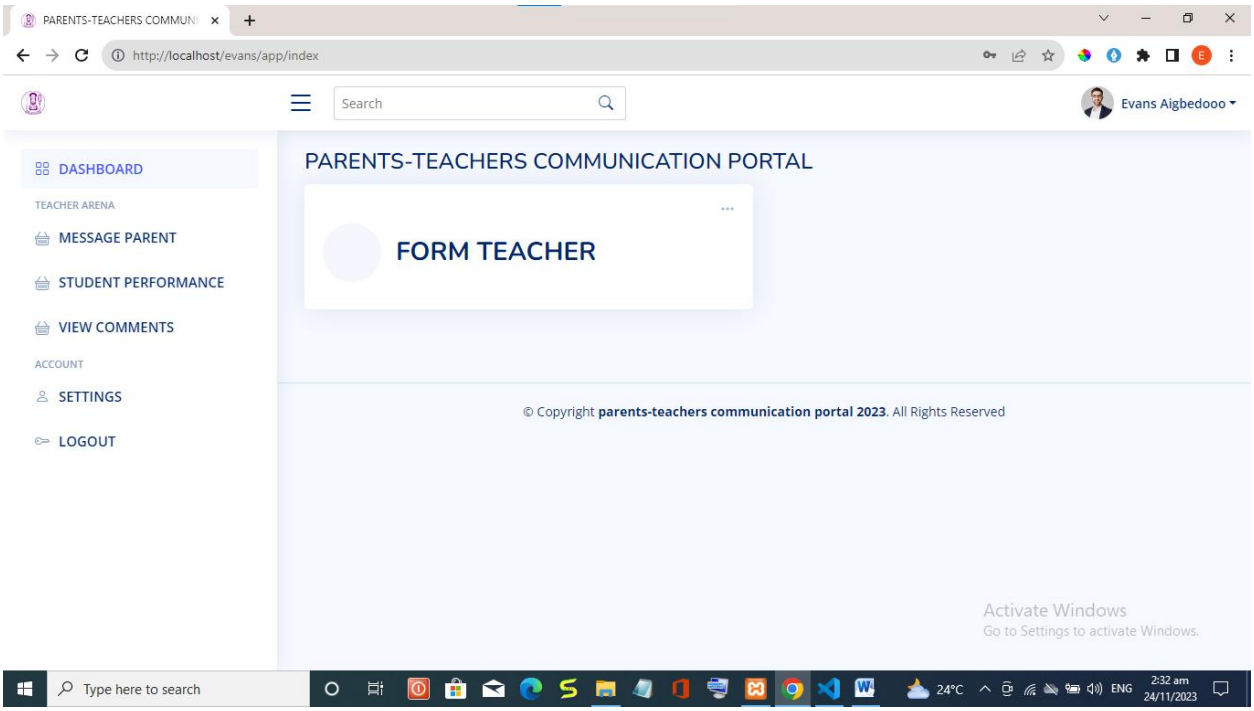

Fig 4.5 Form Teacher Dashboard

Fig 4.5 shows the form teacher dashboard from which they can carry out their operations on the platform.

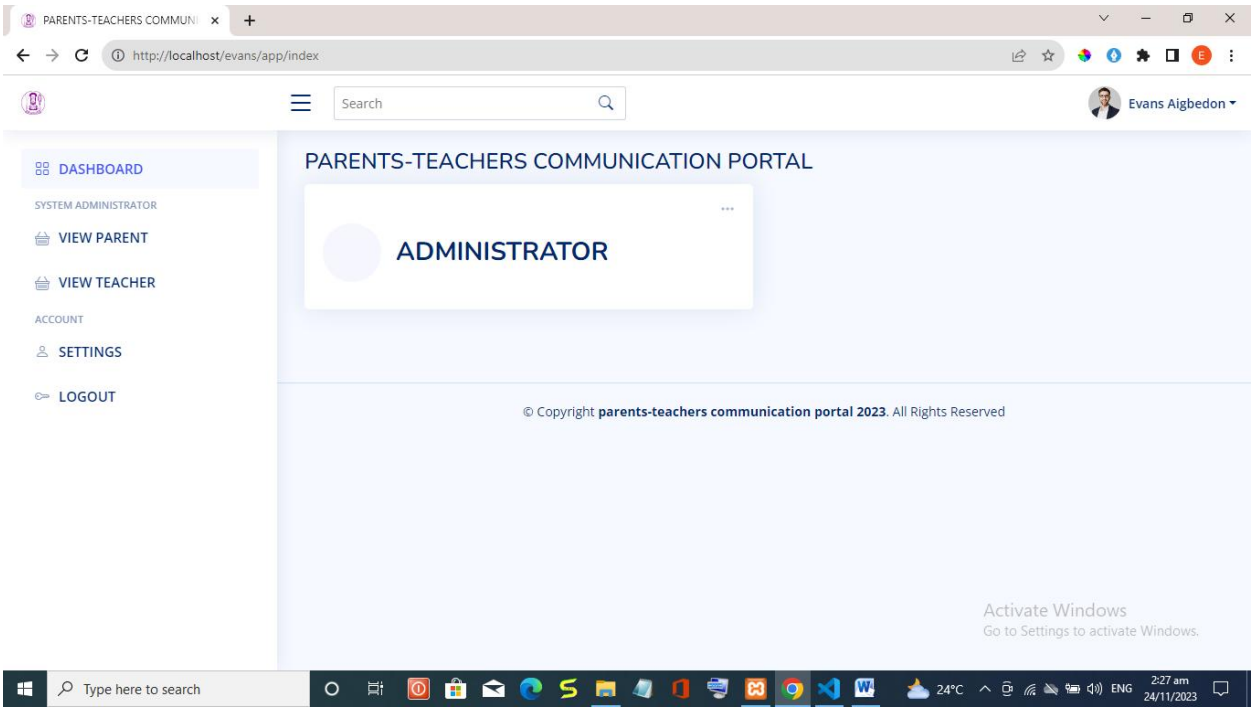

Fig 4.6 Admin Dashboard

Fig 4.6 above shows the admin's dashboard. They carry out all their functions from here.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

The development and implementation of the Parent-Teacher Communication Portal represent a deliberate effort to provide a sophisticated yet user-friendly platform for enhancing communication between educators and parents. The software was designed to offer a rapid, seamless, and error-free experience, emphasizing its potential to improve the dialogue surrounding students' academic performance significantly.

One of the central objectives of the system is to alleviate the challenges often associated with traditional communication methods. By introducing a digital interface, the Portal aims to save valuable time for teachers and parents while mitigating unnecessary stress from less efficient communication channels. The streamlined design ensures that users can effortlessly navigate the platform, fostering an environment conducive to meaningful and productive interactions.

The real-time functionality of the system stands out as a key feature, enabling instantaneous updates and exchanges between teachers and parents. This dynamic capability enhances the timeliness of information dissemination, promoting a proactive approach to addressing academic matters. However, it's important to note that this real-time functionality necessitates access through an Internet-enabled device.

By acknowledging this prerequisite, the system is positioned as a modern solution tailored to the needs of a technologically connected society. This requirement ensures that users can leverage the full spectrum of the Portal's features, turning it into a versatile tool for prompt and effective communication. In essence, the Parent-Teacher Communication Portal seeks to streamline interactions and redefine the standards for accessible, efficient, and contemporary communication in academic collaboration.

5.2 FUTURE RECOMMENDATION

As I envision the future of the Parent-Teacher Communication Portal, several exciting possibilities emerge to enhance its capabilities and impact further. Here are some critical areas for consideration:

Enhanced Mobile Accessibility: To cater to the diverse preferences of users, future updates could focus on optimizing the Portal for improved mobile accessibility. This ensures that parents and teachers can conveniently engage with the system using various devices, including smartphones and tablets.

Multilingual Support: Incorporating multilingual support could promote inclusivity and widen the Portal's reach. This feature would enable users to interact with the platform in their preferred language, fostering a more inclusive and globally accessible communication tool.

Integration with Educational Platforms: Exploring integration possibilities with existing educational platforms, such as Learning Management Systems (LMS) or Student Information Systems (SIS), could provide a more holistic view of a student's academic journey. Seamless data sharing between systems could streamline administrative processes and enhance user experience.

Intelligent Notifications: Future iterations could delve into the realm of smart notifications. By leveraging machine learning or AI technologies, the Portal could provide personalized and context-aware notifications, informing users about events, updates, and essential milestones tailored to their needs.

Collaborative Features: To foster even greater collaboration, consider introducing collaborative features that allow parents, teachers, and students to engage in joint activities or discussions within the Portal. This could facilitate a more dynamic and inclusive educational community.

User Training and Resources: Continuous user training and educational resources within the Portal can empower users to maximize its features. Consider developing tutorials, guides, or interactive elements that help users navigate the system effectively, ensuring a positive and informed user experience.

Security and Privacy Enhancements: Given the sensitivity of academic data, future enhancements should focus on bolstering security measures and privacy features. Regular security audits and implementing robust privacy controls will instill confidence in users regarding protecting their information.

These recommendations aim to propel the Parent-Teacher Communication Portal into a future where it not only meets but exceeds its users' evolving needs and expectations, creating an even more dynamic and impactful tool for educational collaboration.

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APPENDIX

A Section of the Home Page Code

```
<?php  @include 'views/mainhead.php';?>

<!-- <div class="js-animsition animsition" id="site-wrap" data-animsition-in-class="fade-in" data-animsition-out-class="fade-out"> -->

<?php  @include 'views/navbar.php';?>

    <!-- .templateux-navba -->

   <div class="templateux-cover" style="background-image: url(images/gjghg.png);">

     <div class="container">

       <div class="row align-items-lg-center">

<div class="col-lg-6 order-lg-1">

          <h1 class="heading mb-3 text-white" data-aos="fade-up"><?php echo @sitebrief1;?> <strong><?php echo @sitebrief2;?> </strong></h1><br><br><br><br><br>

       <!--          <h2><strong class="text-white"> A case study of <?php echo @casestudy;?></strong></h2> <br> -->

          <h3><strong class="text-white">Written By <?php echo @studentname.' ('.@matnumber.')';?></strong>

           <br> <br> <b class ="text-white">Department of Computer Science

           <br>  University of Benin, Benin City.</b>

          </h3>
```

A Section of the Settings Code

```
<?php
@define('sitetitle', @"PARENTS-TEACHERS COMMUNICATION PORTAL");
@define('sitetitlebrief', @"PARENTS-TEACHERS COMMUNICATION PORTAL");
@define('sitebrief', @"PARENTS-TEACHERS COMMUNICATION PORTAL");
@define('sitebrief1', @"PARENTS-TEACHER");
@define('sitebrief2', @"COMMUNICATION PORTAL");
@define('siteaddress', @"Benin City, Edo State");
@define('websitename',  @'https://parents-teacher.com');
@define('sitephone',  @"+2349024117342");
@define('matnumber',  @"PSC1611518");
@define('studentname',  @"AIGBEDO ANTHONY EVANS");
@define('casestudy',  @"Computer Science Department");
@define('sitephone',  @"+2349024117342");
@define('siteemail', @'support@parents-teacher.com');
@define('siteemail', @'support@parents-teacher.com');
@define('paypalemail', @'info@parents-teacher.com');
@define('siteemail2', @'help@parents-teacher.com');
@define('siteemail3', @'help@parents-teacher.com');
@define('adminmail', @'help@parents-teacher.com');
@define('facebookhandle', @'facebook.com/parents-teacher');
@define('instagramhandle', @'instagram.com/parents-teacher');
@define('telegramhandle', @'telegram.com/parents-teacher');
@define('twitterhandle', @'twitter.com/parents-teacher');
```

A Section of the Registration Code

```
<?php @include 'view/newinheader.php';?>

<body>

  <main>

    <div class="container">

       <section class="section register min-vh-100 d-flex flex-column align-items-center justify-content-center py-4">

       <div class="container">

        <div class="row justify-content-center">

              <div class="col-lg-4 col-md-6 d-flex flex-column align-items-center justify-content-center">

            <div class="d-flex justify-content-center py-4">

              <a href="../index" class="logo d-flex align-items-center w-auto">

                <img src="assets/img/logo.png" alt="">

                  <span class="d-none d-lg-block"><?php //echo @sitebrief;?></span>

              </a>

            </div><!-- End Logo -->

            <div class="card mb-3">

              <div class="card-body">

                <div class="pt-4 pb-2">

                  <h5 class="card-title text-center pb-0 fs-4">Create an Account</h5>

                  <p class="text-center small">Enter your personal details to create account</p>

                </div>

                          <form class="row g-3 needs-validation" novalidate  method="POST" enctype="multipart/form-data" >

                <div class="col-12">
```

```
                <input type="text" class="form-control" placeholder="First Name" id="firstname" name="firstname" aria-describedby="textHelp">

            </div>

             <div class="col-12">

               <input type="text" class="form-control" placeholder="Last Name" id="lastname" name="lastname" aria-describedby="textHelp">

            </div>

            <div class="col-12">

            <select class="form-control" name="clienttype" id="clienttype">

             <option value="NA" >...I AM ...</option>

             <option value="ADMINISTRATOR">ADMINISTRATOR</option>

             <option value="FORM TEACHER">FORM TEACHERS</option>

             <option value="PARENT"selected >PARENT</option>

            </select>

            </div>

            <div class="col-12">

                        <input type="email" class="form-control" placeholder="Email Address" id="emailaddress" name="emailaddress" aria-describedby="emailHelp">

            </div>

            <div class="col-12">

              <!-- <label for="yourUsername" class="form-label">Username</label> -->

              <div class="input-group has-validation">

                <span class="input-group-text" id="inputGroupPrepend">@</span>

                 <input type="text" class="form-control" placeholder="Username" id="username" name="username" aria-describedby="textHelp">

              </div>

            </div>
```

```
                <div class="col-12">
                        <input type="password" class="form-control" placeholder="Enter Password" id="password" name="password">
                </div>
                <div class="col-12">
                  <div class="input-group has-validation">
                    <span class="input-group-text" id="inputGroupPrepend">
                      <div class="input-group">
                        <select class="form-select" id="phonecode" name="phonecode">
```

The Login Section Code

```
<?php @include 'view/newinheader.php';?>
<body>
  <main>
    <div class="container">
      <section class="section register min-vh-100 d-flex flex-column align-items-center justify-content-center py-4">
       <div class="container">
        <div class="row justify-content-center">
            <div class="col-lg-4 col-md-6 d-flex flex-column align-items-center justify-content-center">
          <div class="d-flex justify-content-center py-4">
            <a href="../index" class="logo d-flex align-items-center w-auto">
              <!-- <img src="assets/img/logo.png" alt=""> -->
              <!-- <span class="d-none d-lg-block"><?php echo @sitebrief;?></span> -->
```

```
  </a>
 </div><!-- End Logo -->
 <div class="card mb-3">
  <div class="card-body">
   <div class="pt-4 pb-2">
   <a href="../index" class="logo d-flex align-items-center w-auto">
   <img src="assets/img/logo.png" alt="" width="" style="padding-left:156px;" >
  </a>
    <h5 class="card-title text-center pb-0 fs-4">Login to Your Account</h5>
    <!-- <p class="text-center small">Enter your username & password to login</p> -->
   </div>
                    <form class="row g-3 needs-validation" enctype="multipart/form-data" method="POST" novalidate>
    <div class="col-12">
     <!-- <label for="yourUsername" class="form-label">Username</label> -->
     <div class="input-group has-validation">
      <!-- <span class="input-group-text" id="inputGroupPrepend">@</span> -->
                     <input type="text" name="emailaddress" placeholder="Email Address" class="form-control" id="emailaddress" required>
     </div>
    </div>
    <div class="col-12">
     <!-- <label for="yourPassword" class="form-label">Password</label> -->
                    <input type="password" name="password" placeholder="Enter Password" class="form-control" id="password" required="">
                     </div>
```

```
                <div class="col-12">
                  <div class="form-check">
                                <input class="form-check-input" type="checkbox" name="remember" value="true" id="rememberMe">
                    <label class="form-check-label" for="rememberMe">Remember me</label>
                  </div>
                </div>
                <div class="col-12">
                     <p id="usercheck"></p>
                    <p id="displayloading" style="display: none;">.....processing please... </p>
                  <!-- <button class="btn btn-primary w-100 login" type="submit">Login</button> -->
                <input type="button" class="btn btn-primary w-100 py-8 fs-4 mb-4 rounded-2 login" value="Login" name="login">
                </div>
                <div class="col-12">
                                                <p class="small mb-0">New Account? <a href="register">Register</a>      <a href="forgot">Forgot Password ?</a></p>
                </div>
              </form>
            </div>
          </div>
        <!--   <div class="credits">
            <a href="forgot">Forgot Password ?</a>
          </div> -->
        </div>
```

```
        </div>
      </div>
    </section>
  </div>
</main><!-- End #main -->
  <a href="#" class="back-to-top d-flex align-items-center justify-content-center"><i class="bi bi-arrow-up-short"></i></a>
<!-- Vendor JS Files -->
<script src="assets/vendor/apexcharts/apexcharts.min.js"></script>
<script src="assets/vendor/bootstrap/js/bootstrap.bundle.min.js"></script>
<script src="assets/vendor/chart.js/chart.min.js"></script>
<script src="assets/vendor/echarts/echarts.min.js"></script>
<script src="assets/vendor/quill/quill.min.js"></script>
<script src="assets/vendor/simple-datatables/simple-datatables.js"></script>
<script src="assets/vendor/tinymce/tinymce.min.js"></script>
<script src="assets/vendor/php-email-form/validate.js"></script>
<!-- Template Main JS File -->
<script src="assets/js/main.js"></script>
<script src="assets/js/jquery.min.js"></script>
<script src="assets/js/bootstrap.bundle.min.js"></script>
</body>
</html>
<?php include 'urls/controllers/logincontroller.php';?>
```