**WEB-BASED DEPARTMENTAL ANNOUNCEMENT SYSTEMS**

**PREPARED BY:**

**JOEL ELISHA TABJI**

**CST21HND0112**

**SUPERVISED BY:**

**Mrs. SHU'AIBU MAIRO BIO**

**OCTOBER, 2023**

**1.1 BACKGROUND OF THE STUDY**

Announcement systems or electronic bulletin boards, are digital platforms (web-based applications) where users can post and view notices and other information. These announcement systems can be used for a variety of purposes, such as sharing information about upcoming events, posting job opportunities, or sharing news and updates within a community or organization. Online announcement systems are commonly used by schools, universities, businesses, and other organizations as a way to easily share information with a large number of people. Some online announcement systems are public and can be accessed by anyone, while others may require a login or other form of authentication to access the information. (Kingsley et al., 2021)

The concept of announcement systems is a relatively new one. It provides a platform for people to share information quickly and efficiently without the need for physical paper notices. Online announcement systems originated in the late 1990s as a way to provide users with an online platform to post announcements. These online announcement systems provide a space for users to post information about events, jobs, services, or any other type of announcement that they would like to share with a large group of people. With the advent of social media, online announcement systems have become even more popular, as they provide a way for users to quickly share information with their friends and followers. Online announcement systems are now used by many organizations and businesses to spread the word about their services, products, and events. (Bliss, 2019).

Dissemination of information refers to the process of sharing information with a large number of people. This can be done in a variety of ways, such as through the use of print media, electronic media, or online platforms. The goal of disseminating information is to make it widely available to as many people as possible in order to inform, educate, or otherwise engage with a target audience. The effectiveness of the dissemination of information depends on the quality of the information being shared, the reach of the medium being used, and the ability of the audience to access and understand the information. (Nirmale et al., 2022)

**1.2 STATEMENT OF THE PROBLEM**

The traditional method of using announcement boards for information dissemination faces challenges, as letters and notices are manually posted on department notice boards and are irregularly checked by students. This results in important information going unnoticed, and security concerns arise due to unauthorized access. The computer science department is not exempted, information are also disseminated manually, hence the need for an electronic announcement system for effective information dissemination.

**1.3 AIM AND OBJECTIVES**

To develop a web-based **announcement system** for effective communication.

**OBJECTIVES**

The objectives of this project are:

1. To design a web-based **announcement system** to streamline information dissemination.
2. To evaluate the efficiency of the system with real data in order to determine its effectiveness in disseminating information accurately.

**2.1 LITERATURE REVIEW**

Article Title: Notification Information System Android-Based for Spreading School Information Authors: Istiono, W., & Sampurna, J. (2021).

**Summary of the work**

This study presents the development of an Android-based information notification application with push messaging services for schools. The aim is to improve communication between schools, students, and parents by providing a convenient and efficient way to deliver information. Traditional methods of communication, such as manual letters, emails, and social media, are often ineffective and time-consuming. The developed application sends notifications to students and parents on their Android smartphones, ensuring that they receive important information promptly. User acceptance tests using the Technology Acceptance Model (TAM) demonstrate a high level of acceptance, with 84.88% approval from parents and students and 84.67% satisfaction from the school administration, indicating the system's success in meeting user expectations and enhancing information dissemination.

**Methodology**

The research methodology includes problem identification, literature review, system design, application development, testing, and evaluation. It's divided into two parts: creating a content management system (CMS) for the school as an information provider and developing mobile applications for parents and students. Testing and evaluation take place in a private school in Tangerang, Indonesia. The information notification process involves school administrators sending messages or images, with data stored in a database server and sent through Google push messaging to reach members individually or in groups.

**Recommendation**

Based on the results and discussions, it is recommended to further enhance the information notification system's features. The system has demonstrated its usefulness in facilitating communication between schools, parents, and students, but future improvements could focus on expanding its scope to include public information, such as social and religious activities in school.

**Research Gap**

One potential research gap is exploring the potential negative impacts of the information notification system. While it has shown positive results in terms of user acceptance and cost savings, there may be unintended consequences or drawbacks that need to be considered.

Article Title: Development of College Announcement Notification System

Authors: Bliss (2019).

**Summary of the work**

The project proposal aims to enhance the efficiency of communication for students at Sunway University. It addresses the common issues of inefficiencies in posting announcements and notifications, which can inconvenience students. To resolve these problems, the proposal suggests the creation of a website where university staff can post announcements. What sets this solution apart is the addition of an SMS (Short Messaging Service) feature, providing a real-time notification to registered students when an announcement is posted. These SMS notifications offer a brief overview of the event's title, venue, and time, with more detailed information available on the website.

**Methodology**

The methodology for developing the system involved combining the knowledge acquired from the analysis of requirements and initial design drafts. The author leveraged various programming languages learned from academic courses, self-study, and online tutorials to construct the system. The core of the system was built using PHP programming language, with additional integration of MySQL for database management, HTML for web page structure, and VB for specific functionalities, enabling the creation of a comprehensive web-based solution.

**Recommendation**

The College Announcement Notification System, which uses SMS notifications to inform students, is a promising project. To make it even more effective, it's suggested to expand its usage to all departments of Sunway University, allowing widespread access to timely notifications.

**Research Gap**

There's a need for further research to assess the scalability and impact of extending this solution to all university departments. Additionally, exploring the development of a mobile-friendly version of the system will be valuable. Future research should focus on these areas to enhance the project's capabilities and offer a comprehensive communication solution.

Article Title: E-Notice Board (ENB) for the Faculty Community

Authors: Kingsley N. O., Henry O. O., & Chimezie F. U. (2021).

**Summary of the work**

This research presents the development of an Electronic Notice Board (ENB) tailored for the faculty community. The ENB aims to modernize the traditional manual methods of information dissemination, enhancing administrative processes and fostering efficient information delivery. By transitioning from physical notice boards to a digital platform, this system seeks to overcome limitations such as limited viewing time and the vulnerability of paper notices to damage or removal. The ENB offers a streamlined approach to daily activities within the university's faculties, aligning them with modern computerized systems.

**Methodology**

This research work was structured using the Object-Oriented Analysis and Design Methodology (OOADM) and realized through the implementation of a web-based system. The front-end of the system was developed using Hypertext Pre-Processor (PHP) for server-side scripting, Hypertext Markup Language (HTML) for content structuring, Bootstrap for responsive web design, and Cascading Style Sheets (CSS) for styling. The back-end functionality, including data storage and retrieval, was facilitated by a MySQL database.

**Recommendation**

The Electronic Notice Board (ENB) has demonstrated its capacity to significantly enhance the process of information dissemination within the university faculties. To further improve its effectiveness and user experience, it is recommended that the system be periodically updated to incorporate additional features or improvements based on user feedback and changing technology. Additionally, efforts should be made to increase awareness and adoption of the ENB system among students and faculty members.

**Research Gap**

While the ENB system has addressed many of the limitations and challenges associated with conventional notice boards, there remains a research gap in exploring the long-term sustainability and scalability of such electronic systems. Further research could investigate how to adapt the ENB for use in larger educational institutions or in different organizational contexts.

Article Title: IOT-Based Digital Wireless Notice Board

Authors: Nirmale, G., Kamalakar, S., Telasang, S., & Mali, P. (2022).

**Summary of the work**

This paper introduces an innovative online digital notice board system utilizing Internet of Things (IoT) technology. By connecting the notice board to the internet through a Wi-Fi module, users from anywhere in the world can post messages that are instantly displayed on an LCD screen. This system has a wide range of applications, from serving as help desks in transportation hubs to providing real-time updates in crowded places like supermarkets. It offers valuable assistance to people navigating unfamiliar areas and extends its reach to even the remotest regions, making it a practical and versatile solution made possible through IoT technology.

**Methodology**

The proposed system aims to create a digital notice board with two main components, a sender and a receiver. The sender is responsible for transmitting messages and information through a website. Users access the website, input their message, and send it for display. The system employs embedded C language and a Wi-Fi module for communication. The receiver, on the other hand, utilizes a Microcontroller 89c52 and an LCD to receive and display the messages according to the date and time, making it a user-friendly system for efficient notice board management.

**Recommendation**

The successful testing and efficiency of the system make it a promising candidate for commercialization. Its cost-effectiveness and the availability of simple components in the market enhance its marketability. It is therefore recommended that further exploration of its potential applications in various settings, including colleges, banks, and railway stations. Additionally, considering its foundation in Wi-Fi technology, there is ample room for future research and development to adapt the system for specific applications.

**Research Gap**

Further research could focus on customizing the digital notice board system for specific industries or sectors, incorporating features to address the unique needs and challenges they may present.

Article Title: Online Notice Board

Authors: Manish M., V., Manish, S., P., & Prakriti, C. (2023)

**Summary of the work**

The Online Notice Board is a versatile and user-friendly application designed to streamline the dissemination of essential information within various organizations, including schools, colleges, and offices. It offers features for displaying a wide range of notices, from academic schedules to extracurricular events, catering to administrators, professors, and students with distinct access privileges. The core objective is to enhance the efficiency of managing notice board messages by facilitating easy updates, deletions, and removals. This adaptable system can be tailored to suit the specific requirements of different organizations, making it a valuable tool for efficient communication and information sharing.

**Methodology**

The project's development process adheres to the iterative waterfall model, which is essentially an adapted version of the classical waterfall model tailored for practical software development. While sharing many similarities with the classical model, the iterative waterfall approach incorporates crucial changes aimed at enhancing the efficiency of software development. The project involves the creation of an Online Notice Board using a Content Management System (CMS) and utilizes both client-side and server-side scripting, with PHP being a key programming language in the development process.

**Recommendation**

This Online Notice Board application is strongly recommended for organizations looking to enhance communication and information management. It offers advantages over traditional paper-based boards, is cost-effective, user-friendly, and eco-friendly. The Agile methodology used for development ensures effectiveness and adaptability. The application's diverse features suit various information types and user roles, ensuring efficient communication.

**Research Gap**

Future research can explore wider applications in different industries, identify enhancements, and address challenges in real-world implementation to refine its potential.

**3.1 PROPOSAL METHODOLOGY**

A comprehensive inquiry such as this is used in the research technique to unearth new facts or information about the current system. The research method used in this study combines direct observation from the department and the Internet.

**3.1.2 DIRECT OBSERVATION**

This method was utilized to collect information/data for this study by assessing how the manual system was carried out; the method provides varying degrees of control over the context in which they are employed, and rigorous assessment highlighted the evident shortcomings in the current system.

**3.1.3 INTERNET**

The internet will be used as a data-collecting strategy, sourcing information on areas that appear difficult or perplexing in order to achieve a functional conclusion.

**3.4 CHOICE OF PROGRAMMING LANGUAGE**

This research work will be a web-based application and will be implemented on a relational database system (SQLite). HTML (hypertext markup language), CSS (cascading style sheet), and JavaScript will be employed in the front end while Django(python) will be employed for the backend programming. The above are the modern languages used in implementing this system.

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