DESIGN AND IMPLEMENTATION OF A PERSONAL PORTFOLIO WEBSITE

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**BEING A PROJECT WORK SUBMITTED TO THE DEPARTMENT OF COMPUTER SCIENCE SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY.
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CERTIFICATION

We, the undersigned, certify that this project work was carried out by **ETUNIM DANIEL** with **MAT NO. ICT/2252070021** and **IDEMUDIA GODSPOWER** with **MAT NO. ICT/2252070129** in the department of Computer Science, School of Information and Communication Technology.

We also certify that the work is adequate in scope and quality in partial fulfillment of the requirements for the award of Higher National Diploma (HND) in Computer Science.

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DEDICATION

This project work is dedicated to **ALMIGHTY GOD,** for giving us the strength to complete it and to our lovely parents.

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ABSTRACT

Website is a necessity for organizations and individuals enable to users worldwide to access their information and gain a competitive edge over others in a world that has gone drastically digital and online. This work aims to report the process of designing and developing a personal web portfolio for an individual. Further this work presents different ways and channels for creating and developing a personal online portfolio. By covering aspects such as: how to integrate personal visual identity and what is required to build an effective portfolio. The personal portfolio website was designed using PHP at the front end and SQL at the back end. The web-based system will be designed in a way to provide an effective platform both for upload and update of personal skills or qualifications acquired and areas of interest as well as provide visually appealing content for users.

KEYWORDS: *Portfolio, Portal. Website, Design*

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Over the years, portals have become popular in the information system community. A web portal is seen as a special internet (or intranet) site designed to act as a gateway to give access to other sites. A portal aggregates information from multiple sources and makes that information available to various users. It provides a gateway not just to sites on the web but to all network accessible resources. It offers centralized access to all relevant content and applications (Anderson, 2019). Although there exists so many definitions of the web portal from various perspectives, a common ground to the description of the portal is a single, personalized interface through which users access all information resources in a secure, consistent and customisable manner (Azmi, 2020). Portals connect users not only with everything they need but also with every one they need and provide all the tools they need to work together. Portals were projected to turn the web from institution-centric repository of information to a dynamic user-centric collection of everything useful to the person in a particular role and this is projection has been realized (Browning, 2019). Portals have these days become of interest in higher-education institutions.

Personal portals provides brief information about the professional background of an individual. Personal portals integrate campus personal-specific information and

activities which is stored in the websites electronic vaults such as databases, file systems and existing application systems, with unstructured data (text) from on and off campus (Leffler, 2020). Portal technology is used as a tool to enhance the individual's portfolio, interests and productivity. The portal is seen as a system to get ourselves organized to better form lifelong impressions (Patterson, 2020). It enables information system users to communicate with the individual information sub-systems securely. Most academics especially in developed countries are either developing or purchasing portal solutions for their needs. Interaction is defined as a reciprocal action or influence or a way of communication or relation between persons. The portal can provide its users with easier access to information as well as with information that is more relevant to them about the individual usually without the need to have a face to face interaction. Lack of or delayed communication can hamper progress and slow down the rate at which work is done. The setting up of a portal, to aid communication is a good step in the educational sector, as physical presence is not mandatory to be able to pass across message, data, information, documents or verify paperwork carried out by the individual. One of the solutions or functions provided by the portal is an automated and paperless system. Processes which would have been done manually and resulted in the use of paper circulation, is now been made efficient by the adoption of the portal system. Now that the world has gone digital, a personal web portfolio is a great way to innovate and resist obsolescence. Leffler notes that "This not only allows you to retrieve those ideas later

to help you work on your current project or stay focused, now others can see your ideas and add valuable insights too" (Leffler, 2020).

1.2   Statement Of The Problem

Access to information about an individual's professional qualifications, research interests, academic papers written, etc. is usually difficult to obtain especially when the said individual is the academic profession. Therefore, there is the need to have a personal portfolio for an individual where information about them is readily available to anyone who wish to contact or have a discussion with them. This more important following the effects of the pandemic and is even more relevant in this era of remote work. Someone just starting out in a profession may need a portfolio website to demonstrate their competence in a given field. A portfolio site can increase an individual's chances of landing a new job or getting a gig, and it may even be a job requirement. Many job openings, even in some non-design fields, require a link to the applicant's personal web site or social media accounts. Freelancers want to sustain and increase the amount of work they get hired to do. Some people just want to have an online presence and show off their work.

1.3 Aim and Objectives of the Study

The main goal of this research work is to develop a personal portfolio website that showcases the individual's professional qualifications, research interests, academic

papers written, etc. In other to achieve the main goal of this research, the objectives below are followed:

1. Create a strong brand with offline and online touch points in which is modern, relevant and consistent.

2. Create an innovative website portfolio to showcase previous work, attract employers and have an outstanding user experience.

3. Have a comprehensive knowledge of what it requires to create and maintain a user experience based website.

4. Understanding of where the future of the website development industry and its technologies are heading.

1.4 Scope of the Study

This research work will focus on the design of a website for personal portfolio website.

1.5 Significance Of The Study

Personal portfolio Website are created for many reasons and can serve many purposes. Whether they function as outlets for creative endeavors, as a means of getting ahead in the job market, or as vehicles for personal development, they are vitally important. Technology has become so deeply integrated into work in so many fields that portfolio websites have become a necessity. However, the potential benefits of a portfolio website are linked to personal choices. Whenever one sets out to make one of these sites, one must always ask what is motivating one to undertake such a project. In this

age of remote work, having an online presence is one way to maximize the potential of personal portfolio website.

1.6 Limitations of the Study

- Limited Access to Information: this study is limited by little access to primary and firsthand information as regards to data from previous designers of a personal website.

- Time Limits: this study is also limited by time.

- Limited resources: this study is limited particularly in the area of application and implementation

1.7 Definition Of Terms

Website: a set of related web pages located under a single domain name, typically produced by a single person or organization.

Portfolio: is a set of works done by someone, which they can use when entering competitions or applying for work.

Personal: relating or belonging to a single or particular person.

Portal: a website or page on the internet that allows people, especially a group of people who are interested in a particular subject, to get useful information and to find other websites.

System: a set of things working together as parts of a mechanism or an interconnecting network; a complex whole.

CHAPTER TWO

LITERATURE REVIEW

2.1   INTRODUCTION

A Web portal can be defined as a single point of access (SPOA) for the pooling, organizing, interacting, and distributing of organizational knowledge (Bock, 2001; Kendler, 2000; Schroeder, 2000). Portals can filter, target, and categorize information so that users will get only what they need (Eckel, 2000). Many studies have been conducted in an attempt to identify portals' functions and features, which are fairly difficult to define separately as they unite inter-related components (Raol et al., 2003). Functions are the components that provide access to the range of disparate enterprise databases and information resources and the ease with which users can set up personalized access to enterprise and external information resources (White, 2000).

What is a portal?

There are many different kinds of portals and many differing ideas as to what constitutes one. Some people claim that a portal is nothing more than a new name for a home page and have simply called their home pages portals and declared portal victory. Nothing is an enterprise portal unless it is user-centric. If large groups of users see the same Web page it is not a true portal. Companies such as Netscape, Yahoo, and Excite claim to have Web sites that are portals. Although they do not meet the test for user-centricity at first, it is possible for users to personalize them to make them user-centric. These portals

are called horizontal portals. All potential portal users and builders should try one to gain experience with portal personalization, an important feature found in horizontal portals and in all enterprise portals. Some people claim that a portal is nothing more than a gateway to Web access, but since the Web is very interconnected, nearly any Web page would meet that criterion. Others have said that a Web page is a hub from which users can locate all the Web content they commonly use. That is necessary, though not sufficient. Extremely important is the caveat that the portal gives quick access, not to all the data that one might ever use, but just to those resources that one commonly uses.

By providing a single place where each user can access all of the information and services she or he commonly uses, a portal greatly increases the efficiency and effectiveness of all users. It will be tempting to have a student portal, a faculty portal, an alumni portal, and possibly a library portal. However, none of these will become the single place for information access for all but a few people. Many students are also employees. They work in the library, in dining services, and elsewhere on campus. Graduate students often serve as junior faculty, and everyone uses the library. No separate portal will be able to cover all the needs of the entire university community. Only a single portal will be able to do that. To get the most benefit from a portal, there should be one and only one. If a university wants to start slowly with portals they should build a portal for some small constituency area and then slowly grow the portal into other areas using a single portal. What they must not do is start several different portal

projects using different software and hope that they can grow all those efforts together. Doing so is very difficult, very expensive and has a very low probability of success.

Since for many users, if information is not on the Web it does not exist, if users were just able to find information effectively on the Web much of their information retrieval problem would be solved. But the Web is very difficult to search and nothing short of changing the way Web pages are built will change that. The existing three billion or so Web pages that have been written in HTML (HyperText Markup Language) cannot be effectively searched with any current or future technology if the Web pages themselves don't change. In addition to that nearly insurmountable difficulty, an increasing number of Web pages are inaccessible to any Web search engine because they are built on the fly and do not exist until someone asks for one. The only way to search those is to be able to search their underlying databases. HTML cannot be effectively searched because it is a formatting language not a document description language. One could search HTML for the word "yellow" in bold type, but could not effectively find all of the yellow cars for sale on the Web. One solution is to add key words to HTML so that they could be searched. For limited applications that is fairly effective, but standards are difficult to enforce and search engines would need to be modified to have this work. Another solution is to use XML (Extensible Markup Language). XML is a true document description language and would be very searchable with the right search tools. To make XML effective, a standard vocabulary called a schema is required. Many schemas exist, such as one for the hotel business and another for K-12 schools. XML,

however, cannot be used to display Web pages directly since it does not encode any formatting information. Some scheme for transforming XML into the HTML required by the Web is needed. Typically XSL or XSLT (extensible style language translator) is used to render XML as HTML. The effect of this is to make Web sites built with XML almost as unsearchable as those built with HTML.

Perhaps the best portal definition is that a portal is a user-centric customized, personalized, adaptive desktop (CPAD). The very best enterprise portals will exhibit all CPAD features. CPAD

- **Customization**

A user of an enterprise portal must authenticate to it by providing some proof of identity, typically an ID and password. Once the portal system knows who a user is, it can gather all the information the institution has about the user to attempt to build the best possible, most user-centric set of Web pages. These pages will necessarily be different for each person. Information such as a person's job function, employment status, manager, subordinates, benefit plans, years of service, vacation schedule, and much more are used to build a set of Web pages that will give each user access to an optimum collection of information and services. The creation of user-centric Web pages by the portal system is called customization. Customization also includes reformatting Web pages and other information to fit the particular device from which the portal is accessed. A user would

want quite a different format on a three-inch PDA screen than on a twenty-one-inch desk top computer monitor.

- **Personalization**

Even the best customization cannot decide how every person works best. One user might prefer benefit information on a portal page to be at the top left, another might prefer it at the bottom right, and another might only want to see it once a year. Many users have their own favorite Web search engine. Customization will not be able to decide how to give everyone access to only the one search engine they'd prefer. Even for the ideal customized portal page, there are dozens of changes that could be made to optimize its use for each user. An enterprise portal allows a user to make those changes. The changes that a user makes to tailor a customized portal page are called personalization.

- **Adaptation**

Since the portal knows each user's schedule, workflow, and all of the information that an institution knows about a user, it changes to adapt to changes in a user's status. If someone gets promoted, goes from being a junior to a senior, changes departments, gets married, or changes in any of the thousands of ways someone does every day, the portal presents a customized, personalized face that matches a user's current status. The portal also watches how each user works and attempts to adapt. A simple example of this kind of thing is our use of spell checkers. When one first enters a word such as

deconstructionism, most spell checkers will mark it as misspelled. Yet if one commonly writes about literary criticism it might be a fine word that one might add to a personal dictionary and have it not reported as misspelled. After a time, as users add terms to their own spell checking dictionaries, each user's spell checker becomes personalized to each user's use of language. Effectively, the spell checker adapts to each user. Portal software will also help each user discover shortcuts and opportunities for working more effectively. One needs only to look at Amazon.com's "readers of this book also bought" to imagine a portal suggesting "other office managers who used this link found the Library Reference channel useful to subscribe to."

- **Desktop**

Once every user has a customized, personalized, adaptive portal available via any Web browser on every computer, it will replace the desktop that is displayed on today's computers. The desktop paradigm that one sees on Linux, Windows, and Mac computers (and many others) is a convenient way for a user to navigate to all the information they commonly use. Since that function will be taken over by a portal, when a user turns on his or her computer or other information access device, the first thing they will see is their Web portal. For many users, that's all they will ever need to see. For most others, seeing anything else will be very rare. Since the portal can be accessed by any Web browser, the particular hardware and operating system (e.g., Windows, MacOS, Linux) that one uses will become much less important.

- **Enterprise Portals**

Universities and corporations will get the most benefit from building enterprise portals. These portals are able to do customization because they have access to institutional information about each user. Horizontal portals such as myExcite and myYahoo do not have such access though they have many features that should be included in any enterprise portal, such as their excellent personalization and the many general interest channels they make available. An important feature of enterprise portals is that they support single sign on or at least simple sign on. Single sign on is the ability of users to identify themselves (usually called authentication) to a portal and then have the portal authenticate to all of the applications that a user is allowed to use. For a user, instead of authenticating to the many systems within a portal, there is a need to authenticate or sign on only once. Simple sign on is what is done when single sign on cannot be done. It attempts to reduce the number of times a user has to sign on and to attempt to synchronize password usage. Single sign on is much preferred over simple sign on.

2.2 A Portal Overview

A portal is one or more customized, personalized, adaptive Web pages that become each user's computer desktop. The portal gives each user access to all of the digital information and services he or she uses. Because most users have access to more information than will conveniently fit on a single Web page, most portals consist of multiple pages. Some method to move from page to page is necessary. The most

common way to achieve that is with a descriptive tab on each page. A portal may also have an area at the top of all pages for portal-level alerts. Alerts are context-sensitive messages that may appear at any level in the portal and may be directed at any subset of users. A portal page consists of columns of information. Three columns is normal usage, but the number of columns may be personalized by each user. Each column consists of one or more channels. A channel is a window-like area containing related information. Information in a channel may be updated on request by a user (pulled) or updated automatically in response to external events (pushed). A channel can contain channel level alerts, text, multi-media of every stripe, links to information and applications, navigation, search, help, and cameos. Two kinds of cameos, data cameos and application cameos are commonly used in portal channels. Data cameos are small amounts of data from a Web page, database, or other information source. Instead of having a link to an entire Web page, database report, or other information source, a cameo allows a portal to continuously display just a small amount of information, for example one's current budget balance. An application cameo is a text area which is attached to a small part of a large application or to a special use of an application. Instead of linking to an application, a user can just enter data into a text area within a channel and have those data passed to a specific application. A simple use of this would be to implement access to a Web search engine within a portal channel. Since users will have different preferences for search engines, one might just allow users to personalize a portal channel with a link to their favorite search engine. However, that would require

a user to click on the link, wait for the search engine Web page to load, enter their search, set their favorite search parameters, and then start the search. With an application cameo, a small text box would appear in a portal channel. It would be linked to the user's favorite search engine with his or her search parameters already set. A user would just enter a search request into the box and the search would begin. This is far more efficient than using a link. In general, a cameo is always preferred to a link when possible.

Portals can bring benefits at both the individual and organizational levels. They can further enhance effectiveness by supporting communication between individuals and workgroups, allowing increased collaboration internally and with external business partners, such as customers and suppliers (Detlor, 2000; Dias, 2001; Benbya et al., 2004). Besides, portals can reduce information overload and enhance employee productivity (Tojib et al., 2006). Portals also benefit in streamlining business processes, increasing efficiency and productivity, and improving employee satisfaction due to increased convenience in accessing relevant applications and information, and due to greater collaboration and learning opportunities provided through the portal (Rahim and Singh, 2006). Today, many companies, especially large ones, use portals in their businesses. Despite the restricted IT budgets of many companies, investments in portal solutions are still growing. Portal projects are usually considered as complex, time-consuming, costly, and associated with a high failure risk (Remus, 2006). Despite the complexity of such project, companies in general are still investing huge amounts of

money in building, establishing and running portals, but mostly without assessing the actual benefits of their portal implementations (Brown et al., 2007). In fact, information systems such as Web portals would not bring the intended benefits if users are not encouraged to adopt and use them. However, the intentions of individuals to use such a technology are influenced by many factors such as information quality, system quality, perceived usefulness and perceived ease of use.

2.3 Features of a Web Portal

A web portal is not a single technology, but it brings together a wide range of technologies and enables them to work together for the benefit of the individual. Web portal is considered as a type of information systems used to gather, manage, share, and utilize information that has been stored in database. In other words we can define portals as applications getting data from different data sources and displaying the stuff under a consistent look and feel umbrella which in other case would have been different applications or sites altogether.

Portals are classified into two groups: horizontal portals and vertical portals.

• A horizontal portal is used as a platform to several companies in the same economic sector or to the same type of manufacturers or distributors.

• A vertical portal is a specialized entry point to a specific market or industry niche, subject area, or interest. The web portal has following features:

Content Management: User can adjust data according to their requirement. Integration: Data existing in different data format is integrated and presented to a unified interface. Security: It provides secure access to resources by describing levels of access to each user. Search Ability: User can retrieve required information directly by using search engine. Collaboration: It provides collaborative tools needed to enforce and optimize work and process collaboration inside and outside the organization.

Scalability: The system can be expanded by adding more features. Accessibility: which describes the ability to access the system from anywhere at any time. When portals are used they can improve following factors such as:

1. Delivery of contents and applications

2. Updates which are made become more visible in portals, because the data and contents of application are being filtered.

3. Portalization allows users to customize or personalize the content as to fit according to their interests.

2.4 Difference between Website and Web Portal

The difference of web portal and a website may not be obvious at face value – after all, both present information in what appears to be an organized way – but a web portal makes that information more interactive.

A website can have a huge depth of information (for example, some blogs), content which can be narrowed down with categories or tags, but this is very much a one-way flow of information all contained on the one website. A web portal, in contrast, allows for users to find or link out to information or services across many web properties as well as to interact (use a calculator, drag elements on a dashboard) or input information for custom outputs.

Although websites can become quite visually sophisticated, a portal is a kind of web app that takes advantage of a more complex, modular design in order to be able to deliver a customized experience back to the user. Many portals are created behind a registration system (e.g. an intranet), but this is not always the case.

2.5 Types of Web Portals

There are two main classifications for web portals: vertical and horizontal.

Vertical Web Portal

A vertical web portal ("vortal") is designed for a specific interest or target community providing a gateway to specialized content or services. These vertical portals can range from common interest news sites (e.g. entertainment news, car sales) or target specific industries by sector or function (e.g. HR). A corporate portal is another example of a vertical portal.

Horizontal Web Portal

A horizontal web portal collects and presents information from different sources across a wide range of interests, usually supported by search and personalization. For example, a weather network that offers personalization by town and the ability to save and customize dashboard views.

Horizontal web portals target the entire Internet (e.g. Yahoo, MSN) or the widest possible audience (e.g. government portal), earning the term "mega portal." A horizontal portal can also be a collection of vertical portals, such as we see with Yahoo's dive into sports, style, or entertainment.

2.5 Benefits of a Web Portal

Web portals can be a hugely valuable digital solution to very common user experience challenges, including:

- Personalization

Portals can personalize information based on inputs from the user, either given explicitly or implied by location data (e.g. weather). Portal features can be assigned by user role or details (e.g. IT user or Economics student), providing a customized level of access that begins before a user logs in, or can be customized by the user (often in a dashboard).

- Customized interaction

Portals can offer alternative ways to communicate with customers, including support for email, calls, forums, and dashboards that display statistics or custom data flows.

- Single Sign On

Portals allow access to a variety of other systems via single sign-on (SSO), streamlining the end user experience.

- Content aggregation

One of the main features of a portal is the ability to aggregate content and services from many sources.

- Sophisticated features

A portal is a kind of web app, often a collection of web apps known as "portlets", which collaboratively supports the various interactive components of the overall portal.

- User-friendly

The ability to organize vast amounts of information and jump off to valuable services is great, but most portals become invaluable because they pay particular attention to the user experience: delivering useful, valuable, accessible, findable and desirable information in an intuitive way that exceeds expectations.

- Agility

Portal platforms are modular by nature, making it possible to roll out new features or touch points while still supporting existing experiences.

CHAPTER THREE

SYSTEM ANALYSIS AND DESIGN

3.1 System Analysis

System investigation and analysis deal with considering the full study of the existing system by investigating the system to expose the strength and weakness of the existing system. It also allows the problem of existing system to be identified and eliminated from the proposed system and enables the good method to be incorporated if possible SWOT (strength, weakness, opportunity, and threat) analysis is used as a tool in this chapter.

3.2 Methods of data collection

For achieving the objectives of this study and to conduct the investigation, data has been collected from both primary and secondary sources:

Primary Data: Data collection methods for primary data include: Structured and semi-structured questionnaires, mailed questionnaires, structured and semi-structured interviews (personal and telephone interviews), observation and focus discussions. Questionnaires are the most commonly used methods when respondents can be reached and are willing to co-operate. These methods can reach a large number of subjects who are able to read and write independently. The study used primary data, which was captured through a prearranged questionnaire. For this study Primary data was collected from selected members of the staff through oral interview on daily operations.

Secondary Data: Secondary data was collected through Books, Journals. Research papers, Websites, Articles and Newspapers.

3.2.1 Data Analysis Technique

The analytical tool used in the analysis is simple percentage. Percentage analysis is the method used to represent raw streams of data .as a percentage (a part in 100-percent) for better understanding of collected data.

3.3 Analysis of the Existing System

The existing system of making contacts or advertising oneself is highly manual, time consuming and stressful. Besides, reaching a wide range of people is practically almost impossible, but with an online system, it is very easy to get across to a wider audience across the world. Because the system is manual, it involves a lot of paper work which in itself is cumbersome and prone to loss or damage. Another thing to note is the margin for error which is high because it is based solely on human abilities.

3.3.1 Advantages of the Existing System

  i. The current existing system has some of few advantages which are like less hardware and software required, cheap in comparison of computerized system.
 ii. In the current system most of work are done by manually and based on paper. Because of these reason the requirement of hardware and software is very less.
iii. And the requirement of hardware and software so less that's why the cost of the system is low in comparison of computerized system.

3.3.2 Disadvantages of the Existing System

  i. More man power.
 ii. Consumes large volume of paper work.

iii.   Needs manual calculations.

iv.   Inconsistency in data entry, room for errors, miscopying information.

 v.   Large ongoing staff training cost.

vi.   System is dependent on good individuals.

vii.   Time consuming and costly to produce reports.

3.4 Analysis of the Proposed System ·

The main objective of this project is to present a website which can effectively replace the existing system by providing quick and prompt responses to queries requested. This is based on new techniques and on new idea. This is totally different and beneficial for others (new users/ non-computer literate) to easily use and understand. This website provides fresher processing of any query and makes information up to date.

3.4.1 Advantages of Proposed System

The system is very simple in design and to implement. The system requires very few system resources and the system will work with almost all configurations. It has got the following features and advantages;

 i.   Minimize manual data entry.

 ii.   Minimum time needed for the various processing.

iii.   Greater efficiency.

iv.   User friendliness and interactive

3.4 Justification of the New System

Based on the many disadvantages of the existing system, there is a need to design a new system that will address most if most all of this deficiencies. The new is designed to:

i. increase productivity

ii. reduce time and resources wastages

iii. reduce cost and use of manual labour

iv. increase efficiency

3.5 System Design

The proposed system is built with the user put into consideration. The flow of data is in such a way that the system is very easy to use and the system requirements are met.

3.5.1 Input Design

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps that are necessary to put transaction data into a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The modules or forms to the system includes
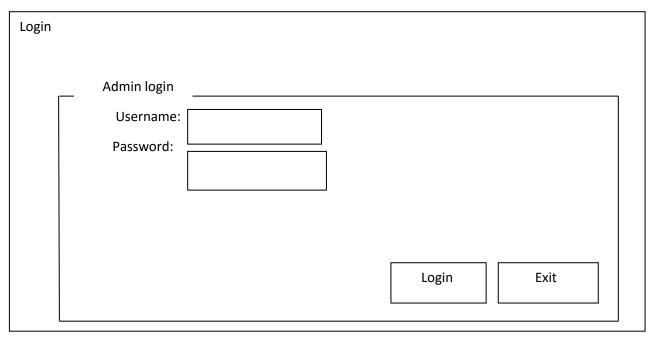
i. Admin Login Form

Figure 3.1 Admin Login Form

3.5.2 File Design

File Management describes the fundamental methods for naming, storing and handling files. The data that we work on computers is kept in a hierarchical file system in which directories have files and sub directories beneath them.

Table 1 Login Table

FIELD NAME	DATA TYPE	NULL	KEY
USER NAME	VARCHAR (30)	NO	PRI
PASSWORD	VARCHAR (30)	NO	PRI

Table 2 Personal Information Table

FIELD NAME	DATA TYPE	NULL	KEY
USER ID	VARCHAR (30)	NO	PRI
FIRST NAME	VARCHAR (30)	NO	PRI
LAST NAME	VARCHAR (30)	NO	PRI
ADDRESS	VARCHAR (30)	NO	PRI
SEX	VARCHAR (30)	NO	PRI
DATE OF BIRTH	VARCHAR (30)	NO	PRI
DATA	VARCHAR (30)	NO	PRI
DATE ADDED	Datetime		
DATE MODIFIED	Datetime		

Table 3 Status Update Table

FIELD NAME	DATATYPE	WIDTH	KEY
USER ID	VARCHAR	50	PRI
APPROVE	VARCHAR	50	
CANCEL	VARCHAR	50	

3.6. Program Flowchart

A flowchart is a type of diagram that represents an algorithm, workflow or process, showing the steps as boxes of various kinds, and their order by connecting them with arrows. This diagrammatic representation illustrates a solution model to a given problem. The program flowchart is shown below
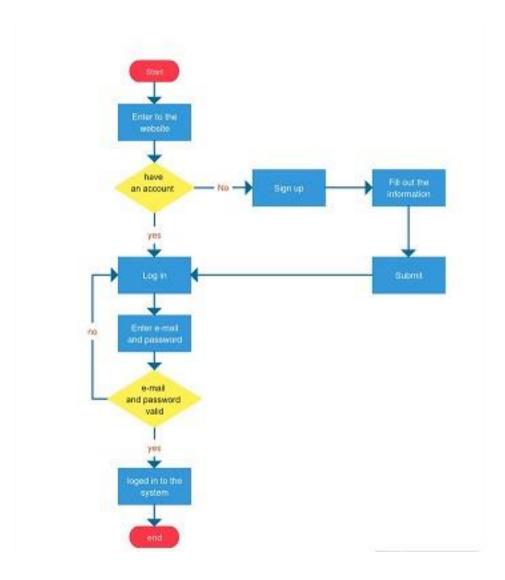
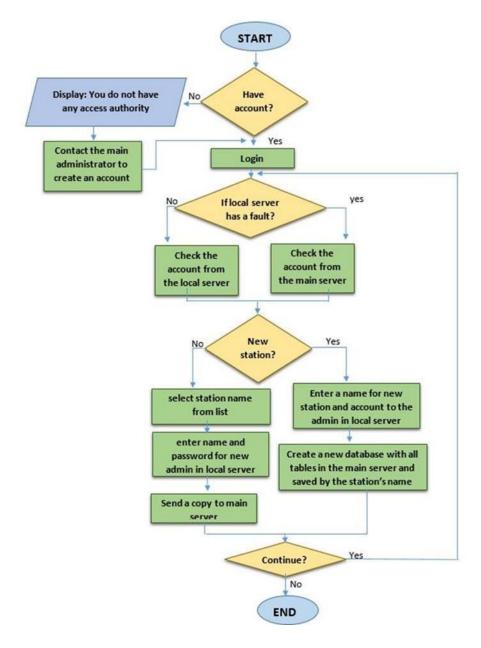**Figure 3.2 Program Flowchart for the Proposed System**
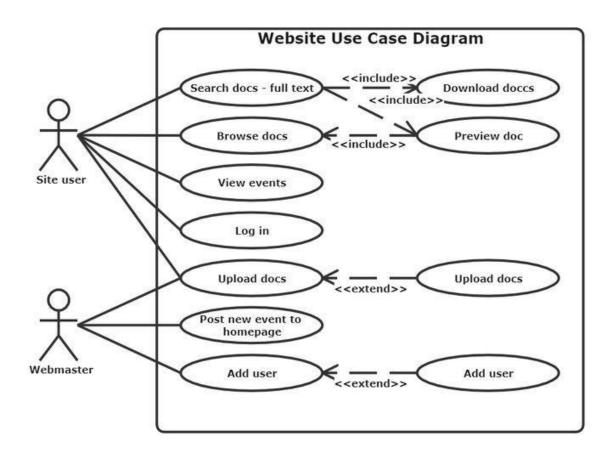
Figure 3.3 Sequence Flowchart for Administrator Login

Figure 3.4 Use Case Diagram for the Proposed System Users

CHAPTER FOUR

SYSTEM IMPLEMENTATION

4.1 System Requirements

For effective installation and efficient functioning of this system, some hardware and software components are fundamental in the process of accomplishing the desired objectives.

4.1.1 Software Requirements

For the effective implementation of the new system, the following software has to be installed on the computer system.

i.   PHP

ii.   Windows 7 Operating System or later

iii. MYSQL

4.1.2 Hardware Requirements

For running the project, the following minimum hardware is required.

i.   Pentium VI and above

ii.   80 Gigabyte of Hard Drive

ii.   2 GB Ram and above

4.2 Choice of Programming Language

PHP was used to develop the new system. This is because of its ease of use and flexibility which provides the programmer with hints and a good graphical user interface. PHP also allows for object-oriented programming. There are various tools in

the program environment that makes coding and navigation easy. These and many more makes PHP the ideal programming language.

4.3 System Documentation

The system was designed to be user friendly. It can be operated by anyone regardless of their literacy level.

4.3.1 User Documentation

The admin needs to register before he/she can have access to the program. After the registration, the user can login to the platform via the login account he/she has used to register. Other registration details can be filled up after the user must have login to the site.

4.4 Education and User Training

1. User's Training: The users should be taught how to enter data into the system to retrieve the output and know mode of operation. The training session needs to cover how and what a simple error message on the screen means and how it can be handled successfully coupled with the maintenance of the system.

2. System Conversion: This is the process of switching from one system to the other (i.e manual to automation). Prior to conversion, users and computer operation personnel might bear been trained in their duties on the application software of the news system made available for use.

4.5 Execution of Testing

Testing phase is a very important for a successful system. In this phase before implementing the new system into operation, for eliminating bugs a test run of the system is done. After completing codes for the whole programs of the system, a test plan should be developed and run one given set of test data.
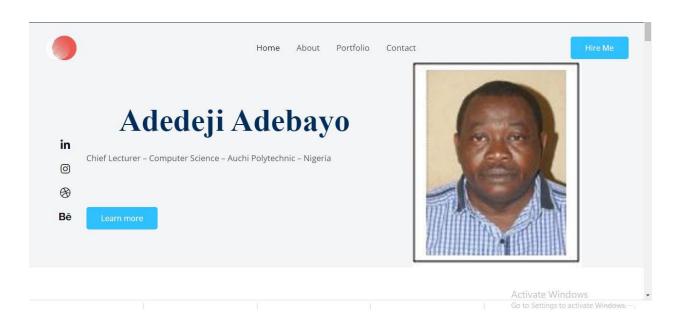
4.5.1   Login Form

Figure 4.1 Login
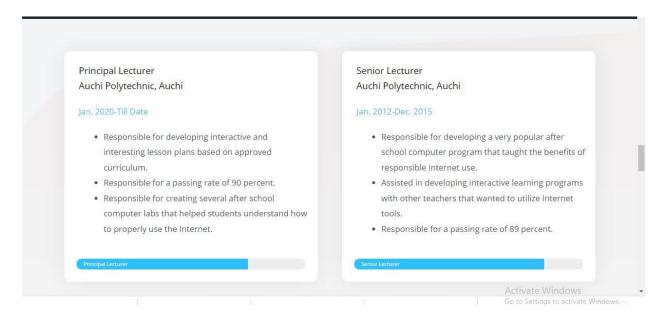
Figure 4.2 Homepage
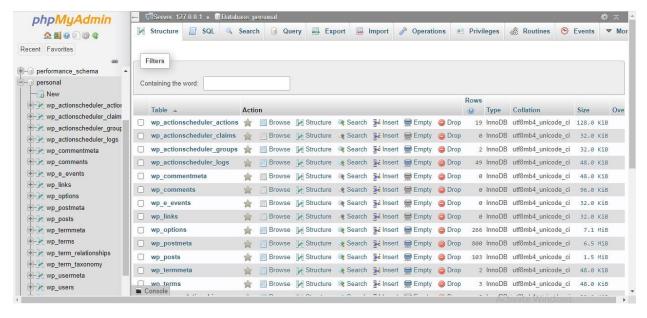

Figure 4.3 Portfolio Snapshot

Figure 4.4 Database

Unit testing: It is a method by which individual units of source code, sets of one or more program modules collectively with associated control data, usage procedures, and operating procedures, are tested to determine whether they are fit for use. Intuitively, one can view a unit as the smallest testable part of an application. In procedural programming a unit can be an entire module but is more commonly an individual function. In object-oriented programming a unit is an entire interface but could be an individual method. Unit test is created by programmers or by white box testers during the development process.

Each test case is independent from the others: substitutes like method stubs, mock objects can be used to assist testing a module in isolation. Unit tests are typically written and run by software developers to ensure that code meets its design and behaves as

intended. Its implementation can vary from being very manual to being formalized as part of build automation.

Integration testing: It is the phase in software testing in which individual software modules are combined and tested as a group. It occurs after unit testing and before validation testing. Integration testing takes as its input modules that have been unit tested, groups them in larger aggregates, applies tests defined in an integration test plan to those aggregates, and delivers as its output the integrated system ready for system testing .

Program test: After the programs have been coded, compiled and carried out to working conditions, they must be independently tested with the prepared test data. Any unwanted happening should be noted and debugged.

System Test: When the program test for each of the programs of the system is written and errors are removed then system test is complete. At this stage the test is done on actual data. The complete system is put into execution on the actual data. At every stage of the execution, the output of the system is studied. During theoutcome analysis, it may be found that the outputs are not matching the estimated output of the system. In such situation, the bugs or errors in the particular programs are recognized and are fixed and further verified for the expected output.

When it is confirmed that the system is running error-free, the users are called with their own real data so that the system could be presented running as per their requirements.

4.6 System Maintenance

Maintenance involves the software industry captive, typing up system resources. It means restoring something to its original condition. Maintenance follows conversion to the extent that changes are necessary to maintain satisfactory operations relative to changes in the user's environment. Maintenance often includes minor enhancements or corrections to problems that surface in the system's operation. Maintenance is also done based on fixing the problems reported, changing the interface with the other software or hardware enhancing the software. Any system developed should be secured and protected against possible hazards. Security measures are provided to prevent unauthorized access to the database at various levels. An uninterrupted power supply should be so that the power failure or voltage fluctuations will not erase the data in the files. Password protections and simple procedures to prevent the unauthorized access are provided to the users. The system allows the user to enter the system only through proper user name and password.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1   Summary

The system has three basic types of users; the clients/customers/site visitors, the subscribers and the Administrator (Note that an employee can also be the Manager and Admin) each of which would have their respective roles. Employees are allowed to make leave request by submitting leave application request online, leave can also be cancelled either by an employee or by the Leave Manager after approval.

On the other hand, the Leave Manager is allowed to approve or reject leave request. The Manager is also responsible for checking out the eligibility of the employee for the type of leave he/she has applied for and send necessary feedback report to the employee. Finally, the Administrator is allowed to add all update, edit and delete information on the portal.

Security features are put in place to prevent a user from login into the system as another user and to validate form data. The methodology used in designing the system is explained in chapter three while chapter four provides detailed procedures for implementing the system.

5.4   Conclusion

The aim of this project has been successfully achieved. Personal web portals are created for many reasons. Whether they function as outlets for creative endeavors, as a means

of getting ahead in the job market, or as vehicles for personal development, they are vitally important. Technology has become so deeply integrated into work in so many fields that portfolio websites have become a necessity. However, the potential benefits of a portfolio website are linked to personal choices. Whenever one sets out to make one of these sites, one must always ask what is motivating one to undertake such a project. It is possible that there may be multiple reasons for setting up such a webpage. Regardless of the reason for creating a web portfolio, designers should always stay true to their personal narratives. Even though there is a debate as to how much content should be in a portfolio, staying true to one's inspiration can overcome this problem and help one to choose the right projects and capability to showcase.

5.3   Recommendations

i.   Interfacing it with other existing systems such as the E- portal system. This would avoid duplication of staffs' bio-data and reduce data entry efforts. The system can also be interfaced with the staff biometric attendance system currently been used in the school and all the records of staffs can automatically be sent to the system for record keeping, verification and preparation of leaves.

ii.   Porting it and making it usable for all the departments. This would enable collaboration between the departments in the organization.

iii.   Migration of the old application staff's data and allowing past records of staffs already processed with the old leave management system be ported to this new application.

iv.   Generation of standard leave report for the employees, to ensure the staff to view leave reports and also include the capability of sending reports to their e- mail addresses.

v.   Interfacing it with some sort of electronic processing system that ensures that staffs who would like to print their leave report get access to this information. This would effectively convert the system into a report generating system.

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APPENDIX I: SOURCE CODES

```
<!DOCTYPE html>
    <html lang="en-US">
    <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="profile" href="https://gmpg.org/xfn/11">

    <title>Adedeji Adebayo &#8211; Just another WordPress site</title>
    <meta name='robots' content='max-image-preview:large' />
    <link rel='dns-prefetch' href='//fonts.googleapis.com' />

    <link rel='dns-prefetch' href='//s.w.org' />

    <link rel="alternate" type="application/rss+xml" title="Adedeji Adebayo
&raquo; Feed" href="http://localhost/personal/index.php/feed/" />

    <link rel="alternate" type="application/rss+xml" title="Adedeji Adebayo
&raquo; Comments Feed" href="http://localhost/personal/index.php/comments/feed/" />

    <script>
    window._wpemojiSettings =
    img.wp-smiley,
    img.emoji {
    display: inline !important;
    border: none !important;
    box-shadow: none !important;
    height: 1em !important;
    width: 1em !important;
    margin: 0 0.07em !important;
    vertical-align: -0.1em !important;
    background: none !important;
    padding: 0 !important;
    }
    </style>
    <link rel='stylesheet' id='dashicons-css' href='http://localhost/personal/wp-
includes/css/dashicons.min.css?ver=6.0.2' media='all' />

    <link rel='stylesheet' id='admin-bar-css' href='http://localhost/personal/wp-
includes/css/admin-bar.min.css?ver=6.0.2' media='all' />

    <link rel='stylesheet' id='astra-theme-css-css'
href='http://localhost/personal/wp-
content/themes/astra/assets/css/minified/frontend.min.css?ver=3.9.2' media='all' />

    <style id='astra-theme-css-inline-css'>
```

```
<style id='global-styles-inline-css'>
body   <link rel='stylesheet' id='wpforms-base-css'
href='http://localhost/personal/wp-content/plugins/wpforms-lite/assets/css/wpforms-
base.min.css?ver=1.7.7.1' media='all' />

<link rel='stylesheet' id='wpforms-admin-bar-css'
href='http://localhost/personal/wp-content/plugins/wpforms-lite/assets/css/admin-
bar.min.css?ver=1.7.7.1' media='all' />

<style id='wpforms-admin-bar-inline-css'>
#wpadminbar .wpforms-menu-notification-counter, #wpadminbar .wpforms-menu-
notification-indicator {
background-color: #d63638 !important;
color: #ffffff !important;
}
</style>
<link rel='stylesheet' id='elementor-frontend-css'
href='http://localhost/personal/wp-content/plugins/elementor/assets/css/frontend-
lite.min.css?ver=3.7.8' media='all' />

<link rel='stylesheet' id='elementor-post-28-css'
href='http://localhost/personal/wp-content/uploads/elementor/css/post-
28.css?ver=1665510115' media='all' />

<link rel='stylesheet' id='elementor-post-1355-css'
href='http://localhost/personal/wp-content/uploads/elementor/css/post-
1355.css?ver=1668080801' media='all' /
<
}
</style>
</head>
<body itemtype='https://schema.org/WebPage' itemscope='itemscope' class="home
page-template page-template-elementor_header_footer page page-id-1355 logged-in
admin-bar no-customize-support wp-custom-logo ast-single-post ast-replace-site-logo-
transparent ast-inherit-site-logo-transparent ast-theme-transparent-header ast-hfb-
header ast-desktop ast-page-builder-template ast-no-sidebar astra-3.9.2 elementor-
default elementor-template-full-width elementor-kit-28 elementor-page elementor-page-
1355">
<script>
(function() {
var request, b = document.body, c = 'className', cs = 'customize-support', rcs
= new RegExp('(^|\\s+)(no-)?'+cs+'(\\s+|$)');

request = true;
b[c] = b[c].replace( rcs, ' ' );
// The customizer requires postMessage and CORS (if the site is cross domain).
b[c] += ( window.postMessage && request ? ' ' : ' no-' ) + cs;
}());
```

```
        </script>
        <div id="wpadminbar" class="nojq nojs">
        <div class="quicklinks" id="wp-toolbar" role="navigation" aria-label="Toolbar"
        </a>
        </li>
        <li class="elementor-icon-list-item">
        <a href="#">


        <span class="elementor-icon-list-icon">
        <i aria-hidden="true" class="fab fa-behance"></i> </span>
        <span class="elementor-icon-list-text"></span>
        </a>
        </li>
        </ul>
<script type="text/html" id="tmpl-wpforms-admin-menubar-data">
        <li id="wp-admin-bar-wpforms-form-id-9" class="menupop wpforms-menu-form
wpforms-menu-form-notifications wpforms-menu-form-last">
        <div class="ab-item ab-empty-item" aria-haspopup="true"><span class="wp-admin-
bar-arrow" aria-hidden="true"></span>Newsletter Signup Form</div>
        <div class="ab-sub-wrapper">
        <ul id="wp-admin-bar-wpforms-form-id-9-default" class="ab-submenu">
        <li id="wp-admin-bar-wpforms-form-id-9-edit">
        <a class="ab-item" href="http://localhost/personal/wp-
admin/admin.php?page=wpforms-builder&#038;view=fields&#038;form_id=9">Edit Form</a>
        </li>
        </ul>
        </div>
        </li>
                </script>
        </body>
</html>
```

APPENDIX II: USER DOCUMENTATION