DESIGN AND IMPLEMENTATION OF AN ELECTRONIC LEAVE MANAGEMENT SYSTEM

(A CASE STUDY OF AL-HIKMAH UNIVERSITY)

A final year project report submitted in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science,

Department of Physical Sciences, College of Natural Science.

Al-Hikmah University, Ilorin, Nigeria.

By

ADISA, Abass Olakunle

12/03CS099

June, 2016.

DECLARATION

I declare that the research work entitled DESIGN AND IMPLEMENTATION OF ELECTRONIC LEAVE MANAGEMENT SYSTEM has been prepared by me under the guidance of Mrs. T.T Salau-Ibrahim, Department of Physical Sciences, College of Natural Science. No part of this work has be formed the basis for the award of any degree previously.

ADISA, Abass Olakunle

Department of Physical Sciences,

College of Natural Science.

Date

CERTIFICATION

I certify that ADISA, Abass Olakunle with Matric Number 12/03CS099 has prepared his final year research project entitled DESIGN AND IMPLEMENTATION OF AN ELECTRONIC LEAVE MANAGEMENT SYSTEM, for the award of B.Sc. in Computer Science degree of Al-Hikmah University, Ilorin, Nigeria, under my guidance. He has carried out the work at the Department of Physical Sciences, College of Natural Science.

Mrs. T.T Salau-Ibrahim
Department of Physical Sciences,
College of Natural Science.

Date

Mr. K. Jimoh, Head, Department of Physical Sciences,
College of Natural Science

Date

External Examiner

Date

ACKNOWLEDGEMENT

I have always believed in the words of wisdom that says ‘Gratitude is the least of virtues; ingratitude is the worst of vices’. It is my great pleasure to acknowledge the efforts of many people whose names may not appear on the cover, but whose hard work, cooperation, friendship and understanding were crucial to the success of this project.

First and foremost, I will like to express my profound gratitude to my wonderful and great parents, Dr. and Mrs. B.O Adisa, my supervisor and siblings for their love, care, support and attention.

To my supervisor, thanks for your love, care and unequalled attention. I thank God for giving me the opportunity of knowing you, thank you for your moral support. To all my lecturers from Year 1 to Year 4, thank you for the knowledge shared. To those I have not mentioned, the list is really in my heart. Thank you all!

ABSTRACT

At some point in time, any employee of an organization may be faced with a personal or family illness or other life event that requires such employee to be away from work for an extended period of time. In this case, a system should be in place to assist such employee in managing the leave needed to handle these life events and to ensure a smooth transition back to his role within the organization. A Leave Management System basically works in situation like this, assisting in the management of leave application within an organization and also providing other functionalities like cancellation of leave, viewing leave details etc.

The aim of this project is to develop a web-based and user friendly leave management system that could be used to support leave application, management, and to enhance employee-based decision making processes. The system is designed using Universal Modeling Language tools such as use case diagram, sequence diagram, activity diagram and so on. It is implemented with PHP (Hypertext Preprocessor), HTML (Hypertext Markup Language), JavaScript and CSS (Cascading Style Sheet) using iterative model. The Leave Management System allow employees to apply for leave and receive approvals and confirmations online. This would ensure uniform leave policy management throughout an organization therefore reducing the need for Human Resource (HR) intervention and easy tracking of employee leave records.

TABLE OF CONTENTS

Chapter Three: Methodology

Chapter Four: System Design and Implementation

LIST OF FIGURES

Figure Number **Page Number**

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Leave is any form of vacation, sick time, personal time, or paid time off (PTO) which is provided as a standard portion of an employee benefit package.

Leave is an authorized absence from duty. It is a period of time that one must be away from his primary job, while maintaining the status of employee. This contrasts with normal periods away from the workplace, such as vacations, holidays, hiatuses, sabbaticals, and "working from home" programs, in that they are considered exceptional circumstances, rather than benefits. Generally, such an arrangement has a predefined termination at a particular date or after a certain event has occurred. All leave time must be earned or allotted before it can be used by the employee.

Leave management is the process of employees requesting time away from work and supervisors granting or denying leave based on its impact on the organization. This may involve handling leave of absences related to personal or family illness, the birth, adoption, or foster care placement of a child, military service, and any other event that results in an extended absence.

Electronic Leave Management is the automation of a traditional Leave Management System. An Electronic Leave System is described as a smart online leave management system that allow users to apply for their leave conveniently anytime, anywhere and designed with online leave approving capabilities, making every leave application a total breeze for both those applying as well as those approving.

Electronic Leave Management System (e-Leave) allows employees to apply for leave online using computer system and internet facilities. Nowadays, more and more people choose the simpler, quicker and more secure alternate ways to do things by going online. Some of the advantages of online leave application include; reduced cost, ease of access, quick processing and so on.

The management of leave in Nigeria is governed by Part 1 of the Labour Act Chapter 198, Laws of the Federation of Nigeria 1990. According to section 18, Part 1 of the Labour Act, every worker is entitled after twelve months of continuous service to a holiday with full pay of at least six working days; or in the case of persons under the age of sixteen years (including apprentices), at least twelve working days (Laws of the Federation of Nigeria, 1990). The holiday may however be deferred by agreement between the employer and the worker: Provided that the holiday-earning period shall not be increased beyond twenty-four months' continuous service.

In Nigeria, different organizations have various policies regarding the management of leave, such policies must however adhere with the Labour Act Laws of 1990 (other law applies for other countries).

A pro-active leave policy may also serve to preserve the interest of an organization, for example one study estimated that a one per cent increase in absenteeism is equivalent to a one per cent increase in salary costs (Nikolay et al., 2012).

1.2 Problem Statement

First, leave within the organization is managed through leave application letter prepared by the person when he wants to get a leave. Mostly this application is used for taking leave for specific reason. The application letter is then presented to the approving authority who will grant or reject the request. However, this method of managing leave using leave application letter is not capable to achieve a high level of leave management

and making efficient employee-based decisions because it is prone to delay and unnecessary paperwork.

Second, for the current manual filing system, data are kept in files according to the year or staff name alphabetically. This may take time to search for the information needed in time as the staff may have to look for the file, one by one and other related files just to search for some information. For example, if the leave manager wants to calculate leave balance of their staff, he or she has to search every file, one by one and it will take a long time.

Third, the manual file system has no backup and if the files with the information are lost or damaged, the staff at Al-Hikmah University will lose all its valuable information.

1.3 Project Aim and Objectives

The aim of the project is to design and implement a web-based leave management system using PHP (Hypertext Pre-Processor), HTML (Hypertext Markup Language), JavaScript and CSS (Cascading Style Sheet).

The objectives of this project are to:

- **i.** Review the existing leave management system;
- **ii.** Information's gathering by interview method, gathering and measuring answers to relevant questions and evaluate outcomes;
- **iii.** System analysis;
- **iv.** Design the proposed leave management system;
- **v.** Implement the leave management system; and

vi. Test the system by testing each module of the system separately (unit testing) and the integration of all the modules as a whole (integration testing).

The Electronic Leave Management System would eliminate unnecessary paper work by allowing employee to request for leave without using any physical paper. Also, it would allow necessary data pertaining to leave application to be stored efficiently in the database and subsequently used for making necessary decisions.

1.4 Scope of the Study

Although the system would be able to manage leave application in any organization, it has been noticed that different organization have different leave structures and different approval hierarchies. Due to this, Al-Hikmah University, Ilorin has been chosen as a case study for this project.

Also, the system would only support basic leave type such as casual leave, sick leave, study leave and maternity leave etc. Only female married employee would be entitled to maternity leave.

More so, general change of rules associated with leave, and leave type as defined by change in organizations' policy would not be supported.

Finally, the process of assigning alternate employee or staff for an employee who is on leave would not be handled by the system.

1.5 Significance of the Study

The project will enhance the leave management processes by enabling staff to apply for leave anywhere, anytime online, this will make leave application processes become smoother because there would be little or no waiting period between when employee apply for leave and when the leave is granted.

The new LMS has the many features that benefit the staffs:

i. **Fast & Efficient,** the improved leave system has further streamlined the leave application/approval workflows such that it is much more convenient for staff make leave application and managers to approve.
ii. **Easy-to-Use,** the new LMS is specifically designed to be intuitive so that the system is very easy to learn and use by the administrators, approving offices and applicants.
iii. **Real-Time Information,** the new LMS operates on Real-Time whereby information is updated instantly whenever a leave transaction is completed. As such, all staff can check instantly who's on leave, applying for leave or other status, etc.
iv. **Single Sign-On,** there is no need to log into the new LMS again once user has already logon onto the Intranet.

Also, leave record would become more manageable because all leave records would be stored in the database. Besides that, manager(s) can view staff leave history without much difficulty.

1.6 Project Layout

This project will be divided into the following five chapters:

Chapter One provides an introduction and project background, aim and objectives of the project, scope and significance of study, and also methodology to be adopted in the project work.

Chapter Two will be the review of existing literature and related work or existing systems.

Chapter Three will discuss the architecture of the propose electronic leave management system.

Chapter Four will presents the design and the implementation of the system.

Chapter Five will be the concluding chapter. It will include summary, discuss limitations and discuss present and the future recommendations and the concluding remarks.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The purpose of the literature review is to give a summary of facts and findings on this project. This can be done by studying or finding the references or related findings. This review will give a better understanding to the need for this project and also help in designing the methodology for this project. In this project methodology section will describe in detail about the selected methodology or approach that will be used in this project. By selecting the suitable methodology, the productivity and quality of the project will be increased and improved.

Besides that, the description of the existing system and review of related works are included in this chapter.

2.2 Leave Overview

Leave is an authorized absence from duty. It is a period of time that one must be away from his primary job, while maintaining the status of employee. This contrasts with normal periods away from the workplace, such as vacations, holidays, hiatuses, sabbaticals, and "working from home" programs, in that they are considered exceptional circumstances, rather than benefits. Generally, such an arrangement has a predefined termination at a particular date or after a certain event has occurred. All leave time must be earned or allotted before it can be used by the employee.

2.2.1 Classifications of Leave

There are two major classes of leave. These are paid leave and unpaid leave.

i. **Paid leave:** Essentially, paid leave is a situation in which the employee is away from the workplace with permission of the employer, but continues to receive

salary or wages during that period of time. Generally, paid leaves are given at the request of the employer, or per some statutory or contractual requirement.

ii. **Unpaid leave:** Unpaid leaves are generally at the request of the employee or as a result of suspected misconduct on the part of the employee. A leave may be obtained for a variety of employee-requested reasons, including active duty call-up for reserve military personnel, or to attend to the health needs of the employee or of a family member of the employee.

In many jurisdictions, it is up to the employer's discretion as to whether or not an employee's request for a leave is approved. In Nigeria, the Labour Law Act of 1990 defines certain circumstances under which approval of a leave is compulsory. During periods of time where the employer's market is sluggish, some employers offer certain classes of employees an opportunity to take an unpaid leave of absence as extra vacation time, in an effort to temporarily reduce operating expenses without the complications of performing a layoff, and potentially losing critical employees permanently. Such a period is referred to as a "leave of absence in lieu of layoff".

2.2.2 Categories of Leave

Subject to fulfilling the terms and conditions as stipulated rules by the organization, the following types of leave may be admissible to an employee. These are:

i. **Annual leave:** This is the paid time off work granted by employers to employees to be used for whatever the employee wishes. Depending on the employer's policies, differing number of days may be offered, and the employee may be required to give a certain amount of advance notice. An employee is allowed to take earned leave once in a calendar year and this period is always less than 30 (Thirty) days. At least One (1) year of continuous service is needed for an employee to be eligible for this type of leave.

ii. **Medical Leave:** Leave on medical ground may be granted for the period not exceeding Two (2) months. At least One (1) year of continuous service is needed for an employee to be eligible for this type of leave.

iii. **Maternity Leave:** Maternity leave may be granted by the competent authority to an employee depending on the organizations' policy. Currently, women are traditionally entitled to maternity leave for two main reasons:

a. To provide women with time to recuperate and rest from the physical, mental, and psychological hardship associated with giving birth.

b. To provide women with bonding time to spend with the new-born child. Although parents who decide to utilize artificial wombs do not need maternity leave for the first reason stated above, they still undoubtedly need maternity leave for the second reason.

iv. **Study Leave (with pay or without pay):** Study leave for a period not exceeding Two (2) years may be granted to an employee to enable him study or undergo special courses of training considered useful for his services.

v. **Casual Leave:** This kind of leave refers to a leave of absence for a very short period of days granted to an employee who may be unable to attend duty due to sudden illness or urgent private/family affairs.

vi. **Hajj or Umrah Leave:** This is a kind of leave granted to Muslims for the purpose of pilgrimage to the Holy land. Hajj leave may be granted not more than 35days and Umrah leave not more than 15days.

vii. **Sabbatical Leave:** This is a leave of absence granted for the purpose of study, research, or other pursuit of value to the scholarly agenda of the organization. A sabbatical leave lasting one year. Employee will be eligible to request their first sabbatical leave with the completion of eight years of service.

viii. **Administrative leave**: This is a temporary leave from a job assignment, with pay and benefits intact. Generally, the term is reserved for employees of non-business institutions such as schools, police, and hospitals. Usually, an employee is placed on administrative leave when an allegation of misconduct is made against such employee, either by a co-worker, student or parent, an alleged victim or police officer. During the leave, employers may investigate the situation before determining an appropriate course of action. Administrative leave does not in itself imply that an employee will be disciplined or even that an allegation is credible, which is why pay and benefits are not discontinued. It simply allows the employer to investigate the situation, maintaining the employee's present status while at the same time removing them from the environment, eventually leading to either their return or termination. Other reasons that an employee may be placed on administrative leave may include protecting sensitive information or resources or to remove an employee who may be behaving disruptively pending assessment of a situation. Police officers are routinely placed on administrative leave after a shooting incident while an investigation is conducted, without implying fault on the part of the officer.

2.2.3 Leave Management

Leave management is the process of employees requesting time away from work and supervisors granting or denying leave based on its impact on the organization and also keeping its records. This may involve handling leave related to personal or family illness, the birth, adoption, or foster care placement of a child, military service, and any other event that results in an extended absence.

As today's employee work schedules become more flexible, many employers now offer paid leave plans to employees as a way of combining personal time, vacation, holiday, floating holidays, and other paid leave. Leave policies are often based on seniority, job classification, or mandated by union or federal employee regulations.

2.2.4 Electronic Leave Management System

According to the division of the state chief information officer (CIO), Malaysia (2002), An Electronic Leave System (E-leave) is an easy to use Internet or web-based system for creation, submission, confirmation and reporting of all type of leave.

Also, electronic Leave System is described as a smart online Leave Management System that allows users to apply for their leave conveniently anytime, anywhere and designed with online leave approving capabilities, making every leave application a total breeze for both those applying as well as those approving (Sin, 2007).

An Electronic Leave Management System could be seen as an automation of the traditional leave management system, allowing employees to apply for leave online using computer system and internet facilities.

2.2.5 Benefits of Electronic Leave Management System

Nowadays, more and more people choose the simpler, quicker and more secure alternate ways to do things by going online. There are myriad of advantages for online leave application:

i. **Availability:** Employee can apply anywhere whenever there is internet connection.

ii. **Quick processing:** It allow manager(s) to get all leave requests as soon as the requests were made and can therefore give faster response to the requests.

iii. **Save Cost:** E-leave is a paperless and environmental friendly method of applying for leave by employees. The cost of acquiring papers to be used for leave application is therefore eliminated.

iv. **Save Time:** Online applications allow Employees to receive approval or denial of their leave request faster. This will save the time as employee would not need to wait for clerk to slowly process their leave request manually.

2.3 Review of existing Electronic Leave Management Systems

Various Electronic Leave Management Systems had been designed to ease leave application in various companies, organizations and domains, some of such systems are enumerated below:

2.3.1 JustLogin eLeave

A major system that was targeted at managing leave within an organization is the Electronic Leave Management system by JustLogin Limited. JustLogin is a premier Software-as-a-Service (SaaS) Provider offering a suite of Human Resource and office collaborative applications for the global business community (JustLogin Pte Ltd, 1999).

The JustLogin software with its powerful features, cuts out the physical movements and enables managers to have a bird's eye view of the leave situation in a company, and make decisive, on-the-spot approval decisions.

The system flow for this electronic leave application is that users submit their leave application using the e-leave system to the approving officer, and then the officer approves or reject the leave request and then send email notification to the user.

This electronic leave system also allows users to view who is currently on leave in the company at the company calendar. Moreover, this e-leave system could handle the leave rules of different companies in different countries with each company being able to configure the leave rules to suit their specific company policies. Besides that, leave records could be exported to any backend system. (JustLogin Pte Ltd, 2010).

Some of the features of the JustLogin Leave management system include:

i. Online application for leave without the need for paperwork.

ii. Email notifications to approving officer and applicants.

iii. Leave approval through normal email without the need to login.

iv. Applicant and Approving Officer can see complete leave records and approval history respectively.

v. Leave records are updated automatically once applications are approved.

vi. Leave records may be printed out or generated into reports.

vii. Leave records may be exported to any backend system.

viii. Accommodates "exceptional cases" in HR policies, such as special leave entitlement for individuals.

ix. Advanced Features such as delegation, block leave, document tracking, leave adjustment.

x. Leave calendar provides a bird's eye view of who's on leave.

2.3.2 e-HRMS

e-HRMS powered by CNL HR Solutions in Malaysia was designed in 2011. It is an online Leave Management System that allow users to apply for leave conveniently anytime and anywhere as long as there is an internet connection. It was designed to make application and approval easy using auto-routing for approval and has various online leave management capabilities (CNL HR Solutions Sdn Bhd., 2011) With various easy-to-use tools, e-HRMS system allow users to check, apply and manage their leaves easily. It has the following features:

i. Employee Self Service (ESS): Empowers employees and department heads to self-manage

ii. leave information, for a better communication with the HR department

iii. Auto-calculate leave entitlement: e-Leave will auto-calculate leave entitlement of each employee based on date join, group and service year.

iv. Easy to check leave balance: Employees can easily check their leave balance online without going through HR personnel or leave administrator.

v. Unlimited records creation: Create unlimited records for employee profile, leave type, approval group and more.

vi. Multi-levels leave approval methods: Up to 5 levels of leave approvers/supervisors for each group.

vii. Approval & Notification via e-mail: Supervisors can alternatively approve/reject leave application via e-mail. Employee will be notified via e-mail their leave application status.

viii. Calendar view to see "Who's on-leave": User friendly interface with Calendar View.

2.3.3 SCTCS Leave

This electronic leave management system was designed and implemented in 2011 by the Faculty of Information and Communication Technology, South Caroline Technical College, U.S.A. It was designed for the staff of the college to make leave application easy and fast. This electronic leave system also allows users to view who is currently on leave in the college and handles the leave rules. (SC Technical College System, 2011). Below are some of the features of the system:

i. Leave application and approval anytime, anywhere.

ii. Single sign-on.

iii. Time and payroll system

iv. Instant information retrieval and updating.

v. Leave planning.

vi. Email notification.

2.3.4 BMS Leave Management System

This leave management system was developed by IBASE Technology Pte Ltd, Singapore in 2005. The BMS Leave Management System (LMS) is an easy-to-use and efficient full web based application to replace the previous LMS that was developed in 1999.

The new LMS streamlines communication between the HR and every individual staff and facilitates a simple-to-use yet efficient system to manage all employee leave matters.

At the same time, the LMS ensures that all leave application and request are accurately accounted so that staffs can apply, approve and view leave records without the hassle and delay through admin staffs – it's all at a few mouse click anytime, anywhere with broadband Internet access (Ibase technology private limited, 2005).

The minimum system requirement is any Windows-based computer (or PC notebook) that can run Microsoft Internet Explorer 5.5 and above efficiently on any broadband connection (512Kbps and above). Some of the benefits of this system BMS leave management system includes:

i. Single sign-on.

ii. Integrates with HR.

iii. Time and payroll system.

iv. Real-time information

v. East to use

2.3.5 HR e-Leave Management System.

HR e-Leave management system is an electronic leave management developed by HR 2000 Sdn Bhd, Malaysia in 2012. It is flexible to cater any leave policy, be it entitlement or accrual policies. It automatically calculates the leave entitlement for each staff based on seniority, years of work, joined date and probation period. It also provides customizable detailed and summary reports on employee leave, giving you a good overview of your company. Online leave management also means that all your reports are up to date, and generated in seconds (HR 2000 Sdn Bhd., 2012). Below are some features of the leave management system:

i. Employee Self Service (ESS): Empowers your employees and department heads to self-manage leave information.

ii. Unlimited records creation: Create unlimited records for employee profile, leave type, approval group and more.

iii. Multi-levels leave approval methods: Up to 5 levels of leave approvers/supervisors for each group.

iv. Approve/reject leave via e-mail: Supervisors can alternatively approve/reject leave application via e-mail.

v. Instant update of leave status: Instant update of leave application status to applicant via e-mail or alternatively view from system.

vi. Leave Application anytime, anywhere.

vii. Provides e-Leave management for many companies.

viii. Easy to use.

2.3.6 e-Management Solution System.

This is an electronic leave management system powered by Info-tech Systems Integrators Pte Ltd, Singapore in 2012. It is a web-based Leave Management System that streamlines communication between HR and employees and facilitates simple yet efficient management of employee leave. For employees, this system allows them to easily determine their vacation availability (from any point-in-time) and request leave online. For managers, leave approval no longer involves trails of paperwork. e-leave ensures that all leaves taken and leave requests are properly monitored, where everybody can apply and view leave records without the hassle and delay of going through the admin staff - it's all at your fingertips with anytime, anywhere access (Info-Tech Systems Integrators Pte Ltd., 2012)

Below are the benefits of the system:

i. Provides e-Leave management for many companies.

ii. Easy Administration

iii. Mini-HR Management Module (capture Employee's Personal and Basic Employment Information)

iv. Customizable leave type/entitlement

v. Customizable calendar of holidays

vi. Two-level leave approval

vii. It supports different types of access level can be set for different approving officers.

viii. Leave application and approval anytime, anywhere.

ix. It supports email notification.

CHAPTER THREE

METHODOLOGY

3.1. Methodology

The electronic leave management system would be developed by following the standard System Development Life Cycle (SDLC) processes, that is system planning and requirement analysis, system design, system implementation and testing.

The methodology to be adopted is:

i. Extensive survey of the existing system will be carried out through review of related work and requirement analysis.

ii. The proposed web-based leave management system will be designed using Universal Modelling Language (UML) tools such as sequence diagram and use case diagram.

iii. The leave management system will be implemented using PHP (Hypertext Pre-processor), HTML (Hypertext Markup Language), JavaScript and CSS (Cascading Style Sheet).

iv. After the development of the system, evaluation will be carried out on the system to examine the efficiency and general performance of the system; and test the ability of the system to verify and ensure the proper execution of the system.

The analysis, design and development of this project would involve the following steps:

i. Definition of the problem space: The problem record keeping is defined by the issues involved in the current management system. The structure and operation will be considered while taking into consideration the scope of the project

ii. Analysis of the existing system: This involves broad literature review on the existing system its operation, functionalities, benefits and the deficiencies.

iii. Design of the system: An adequate solution to the problem will be proposed after the reviewing of the existing system which involves conceptualizing the various modules required to implement this project. Information about mode of operation needed to aid the design will also be gathered at this stage.

3.2 Fact Finding Techniques

Fact finding is the formal process of using techniques to collect facts about systems, requirements, and preferences. There are several fact-finding techniques normally used by developer during a single project which are examining documentation, interviewing, observing the enterprise in operation, research and questionnaires. It may use either one or all techniques for the system, therefore, interview and investigation techniques were chosen for the proposed electronic leave management system.

3.2.1 Interview

In fact finding techniques, interview is most commonly used and most useful. This technique is used to collect information from individuals or groups who are related to the system. Al-Hikmah University employees were chosen for the interview session. The objectives of using this method are to find out facts, to verify facts, to clarify facts, to generate enthusiasm, to getting the end-user involved, to identify the requirements, and to gather the ideas and opinions.

Interview can either be structured interview or unstructured interview. For structured interview, it is a formal interview where there has a specific set of questions ask by interviewer to the interviewee. Open-ended questions allow the employees free to answer the question. From that, we can get extra and different information and employees' feelings or attitudes towards an issue. For instance, what is your opinion on the present manual leave application system? On the other hand, unstructured interview is

like a casual conversation where in-depth areas topics are covered and other information apart from the topic may also be obtained. This type of interview frequently loses focus and not reliable. Therefore, it often does not work well for database analysis and design.

The advantages of having this technique are; through interview, the employees body language can be observed. It also allows the employees feel freely to answer the question. And also, the interesting comments made by the employees can be followed up. However, interview technique is very costly and time-consuming, it requires good communication skill in order to deal with the employees whose have different perceptions.

Interview is not always the best method for all situations but implementing the interview by choosing the university employees and preparing extensively for the interview and also conducting it in an efficient and effective manner was a success.

3.2.2 Investigation

Investigation is the act of discovery and analysis of data. Many different problems or situations will lead organization to start an investigation such as attitude problems, safety problems, workplace theft and so on. As the University have investigated the leave apply by the employees in order to avoid employees make fraud. For instance, an employee who mentioned he/she is sick but actually, he/she is not sick. Therefore, in order to get an accurate data, we have to examine both quantitative and qualitative hard data.

For quantitative data, the documents are available for interpretation and have a specific purpose. We have to find employees personal record file to ensure whether the employees still available for the leave. And check the attached documents that submitted by the employees to make sure employees are not fraud. If there have no doubt, the leave will approve by Human Resource Manager. In addition, management would investigate or refer to their available record and to make decision such as the distribution of salary,

management could calculate the salary based on employee's attendance by refer to their leave had applied before.

While for the qualitative data, it includes email messages, memos, sign on bulletin boards web pages, procedure manuals, and policy handbooks. Many of these documents are rich in details revealing the expectation for behaviour of other that their writers hold and the ways in which users expect to interact with information technologies. By using the system, the University may instruct employees not to apply leave at the one shot time, this will lead company shortage of labour, therefore, the university might provide a memo to inform their employees and revealing the expectations for behaviour of employees

3.3 Information on the Existing System in Operation

The existing Leave Management System of Al-Hikmah University is manual. It is a lengthy process and this process is not optimized. The Human Resource Department and/or the HR Manager are the competent authorities for the approval or refusal of leave depending on the type of leave. The Leave Management System is initiated with the submission of an application by an employee for leave. This application must be submitted to the leave supervisor at the Human Resource Department at least one month ahead (with the exception of casual leave and the medical leave) from the date of commencement of the leave applied for.

The leave supervisor is responsible for checking out the eligibilities of the employee for the type of leave he/she has applied for. If the applicant is eligible, then the leave supervisor submits the application to the HR Manager. The work of the HR Manager is the most complicated as he/she is responsible for the synchronization of the leave.

Moreover, he is also accountable for the smooth functionality of the University. If the HR Manager allows an employee for leave, he/she should inform the HRD by

submitting a report, which will contain the details about the approved leave. For some types of leave the HR Manager sends the application to the Human Resource Department for approval. Then the HRD takes their decision and let the HR Manager know the result by an official letter. Then the HR Manager informs the applicant.

Therefore, an employee cannot but wait for a long time to know the decision of the competent authority. Sometimes, the HRD sends a backup officer to departments to know if they approve the leave of an employee for the stated period of time.

Furthermore, the HR Manager is supposed to send an annual report informing the leave status of a calendar year to the HRD. Each department maintains a register for the leave associated affairs which are maintained by the leave supervisor. The HR Manager uses this register to prepare the annual report.

As the annual leave report is nothing but the summary of the leave register for a particular year, it is not that much helpful for taking any managerial decision. There is no opportunity to analyse the report and find out the scopes for improvements as the HRD is not getting any instant data from the report. They are getting present year's leave status in the following year. As a result, the top management is not being able to utilize the report in a proper manner.

Therefore, the existing Leave Management System in Al-Hikmah University is a time consuming one. It needs to be more optimized and more synchronized which will lead the management to have a more proficient system to support the total employee management scheme.

3.4 Problems of the Existing System

The current Leave Management System in Al-Hikmah University has some drawbacks. The main drawbacks are:

i. Employees need to submit leave application one month ahead from the date of commencement of the leave applied for. Consequently, the employees cannot get the leave if it is immediately needed.

ii. The leave register only contains the record of the granted leave. There is no pending leave list. So, if an employee failed to get the permission for leave, he/she has to apply again for the next time.

iii. There is no priority assigned for the types of leave. As a result, it may happen that a less deserved person is getting the authorization in place of the person who actually needs the leave.

iv. Data flow from the departments to the HRD requires many days and gets delayed.

v. The HRD is getting present year's leave report in the following year. As a result, they are not getting any current data from the report.

vi. The proper synchronization is absent in this system.

vii. The HR Manager may not be totally transparent in case of the approval of leave. He/she may misuse the power as it is hard for the HRD to trace what is going on in the university.

3.5 Overview of the Proposed System

Considering the existing problems of the Leave Management System, I have come up with a web based solution, which may simplify the work of the HR Manager along with the Human Resource Department. The proposed system will help the competent authorities to formulate a decision regarding a leave request. The proposed system will be initiated if an employee fills up the leave request form and submits it.

The system will verify the eligibilities of the employee for the type of leave he/she has applied for. If the applicant is eligible then the information will be added to the pending leave list. The system will sort the pending leave list on basis of the priority of the type of leave. If more than one employee requests for the same type of leave, the system will use the employee priority to sort the pending leave list. It is the duty of both the HR Manager and the HRD to check the pending leave list frequently.

The system will not allow the HR Manager to grant any leave request if the available expertise of a department becomes less than the minimum expertise required for the smooth operation of that department. If the manager still needs to grant the leave request, he/she should recall an employee who is already on leave so that the available expertise remains adequate.

Furthermore, the proposed system will avail both the HR Manager and the HRD with instant report generation. So the HRD will be able to see the leave status of a branch whenever they want and thus the proposed system will be helpful to take managerial decisions.

3.5.1 Requirement Specification

It is very important to give a general insight into the analysis and requirements of the system to be developed. The software and hardware requirements for the development of the system are listed below:

3.5.1.1 Software Requirements:

i. WINDOWS OS (XP / 2000 / 200 Server / 2003 Server/ 7 /8/10)

ii. WAMPSERVER

iii. ADOBE DREAMWEAVER (CS3 or above)

iv. Web Browser (e.g. Google Chrome).

3.5.1.2 Hardware Requirements:

i. RAM 512MB and Above

ii. HDD 20 GB Hard Disk Space and Above.

iii. Internet Facilities.

3.5.2 System Users

There are basically three (3) types of user in the proposed leave management system, the users are:

i. **Administrators:** These are the people that have privileges to add all the Employees and register them in the organization and check the information of the Employee and their leave status and type.

ii. **Leave Supervisors / HR Manager:** These are the people that have privileges to approve or reject leave requests.

iii. **Employee:** These are the people who are neither administrators nor supervisors. They have the privileges of making leave request, changing their basic information, changing their password among others.

3.6 Data flow of the New System

Universal Modelling Language diagrams are used to model the structure and functionalities of the leave management system. Universal Modelling Language (UML) is a language for visualizing, specifying, constructing and documenting artifacts of software-intensive systems. It is used for modelling various kinds of systems: enterprise information systems, distributed web based, real-time embedded system etc.

The unified modelling language allows the software engineer to express an analysis model using the modelling notation that is governed by a set of syntactic semantic and pragmatic rules. UML is characterized by nine major diagrams; Class, Object, Use-Case, Sequence, Collaboration, State-Chart, Activity, Component and Deployment diagrams.

A UML system is represented using five different views that describe the system from distinctly different perspective. Each view is defined by a set of diagram, which is as follows.

3.6.1 Use Case Diagram of the New System

Use case Diagrams represent the functionality of a system from a user's point of view. Use cases are used during requirements elicitation and analysis to represent the functionality of the system. Use cases focus on the behaviour of the system from external point of view.

Actors are external entities that interact with the system. Examples of actors include users like administrator, staff etc., or another system like central database. The actors in the electronic leave management are the administrators, leave supervisors and employees:

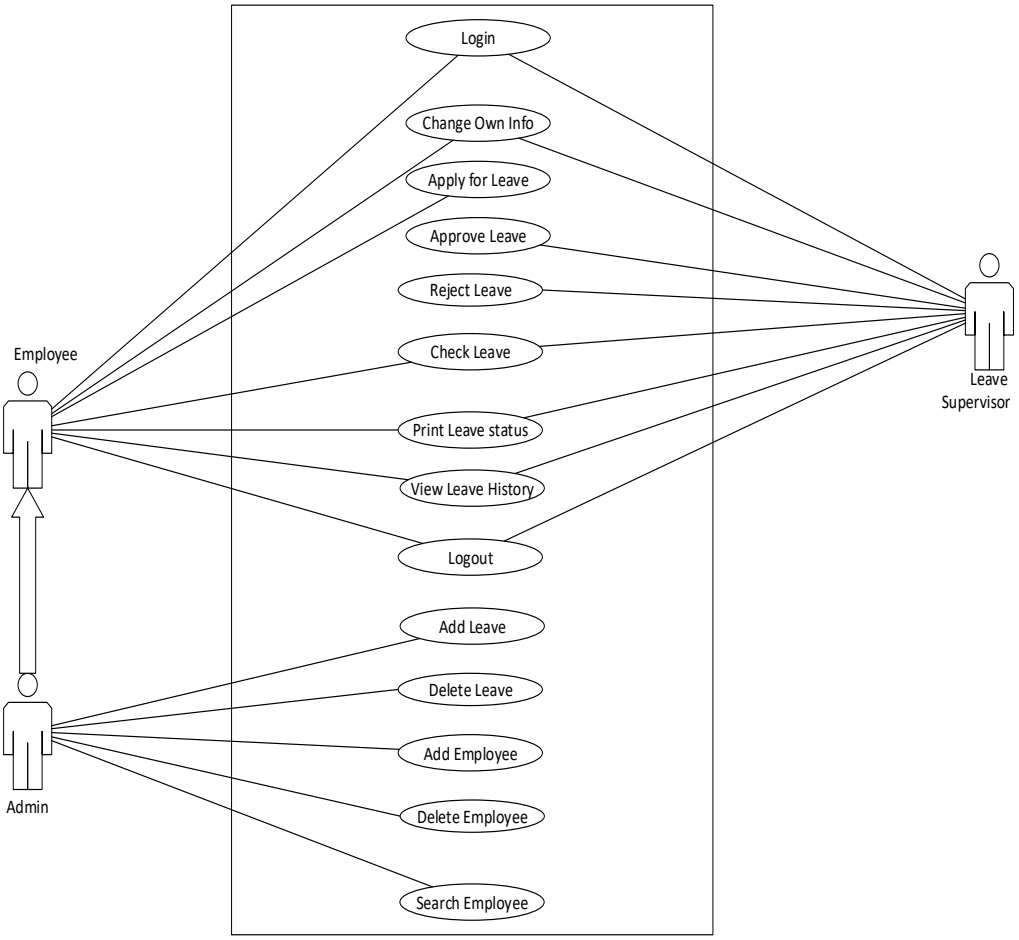

Figure 3.1: Use Case Diagram for the Proposed System Users

3.6.2 Sequence Diagrams of the New System

A sequence diagram in a Unified Modelling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario. Sequence diagrams typically (but not always), are associated with use case realizations in the Logical View of the system under development. Sequence Diagrams are used to represent the objects participating in the interaction in the leave management system horizontally and time vertically.

3.6.2.1 Sequence diagram for Administrator's and employee Login

The sequence diagrams for administrator login and employee login activities of the proposed leave management system are given in Figure 3.2 and 3.3 respectively.

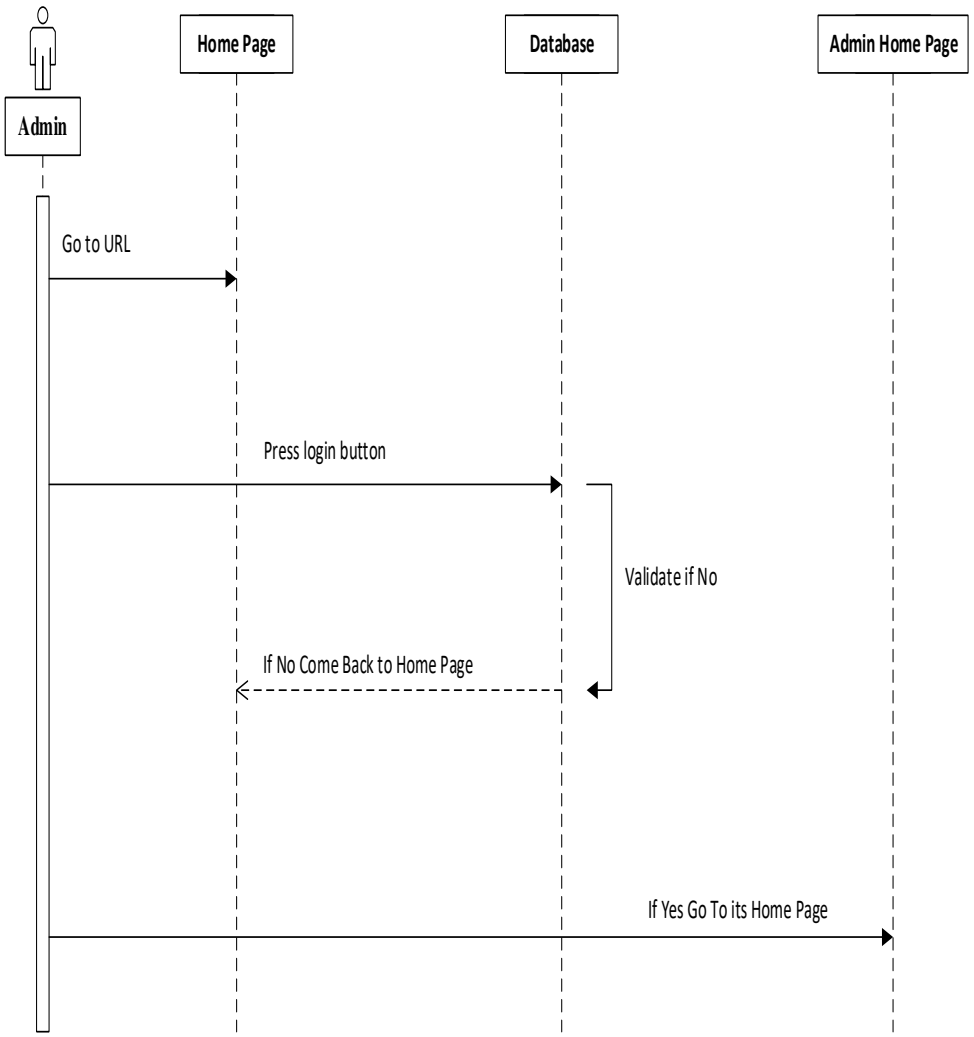

Figure 3.2: Sequence Diagram for Administrator Login

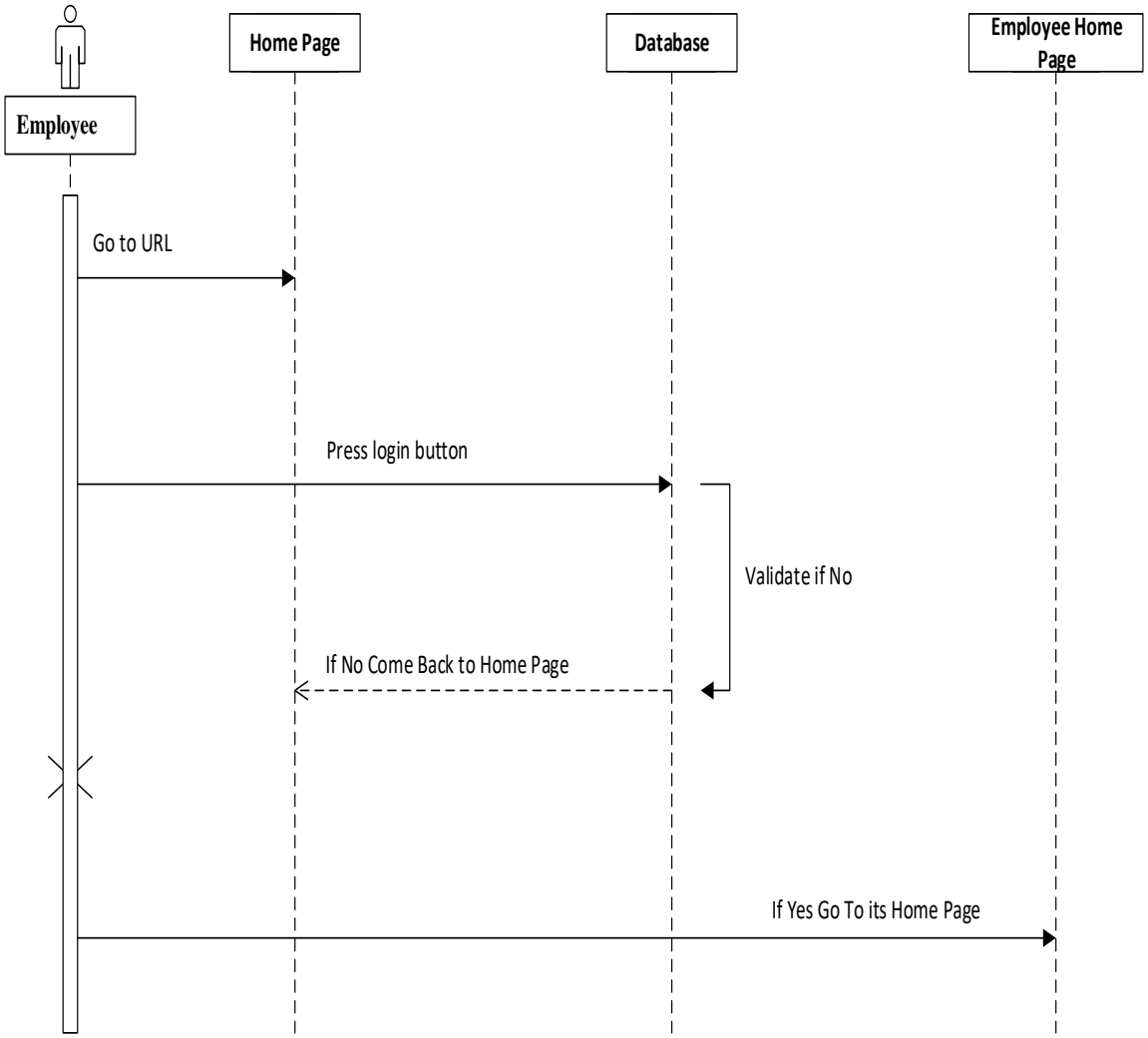

Figure 3.3: Sequence Diagram for Employee Login

Also, Figure 3.4 and 3.5 describe the processes involved in the addition of employee by administrator and approving or rejecting leave by leave supervisor respectively. The diagrams also show how the processes operate with one another and in what order.

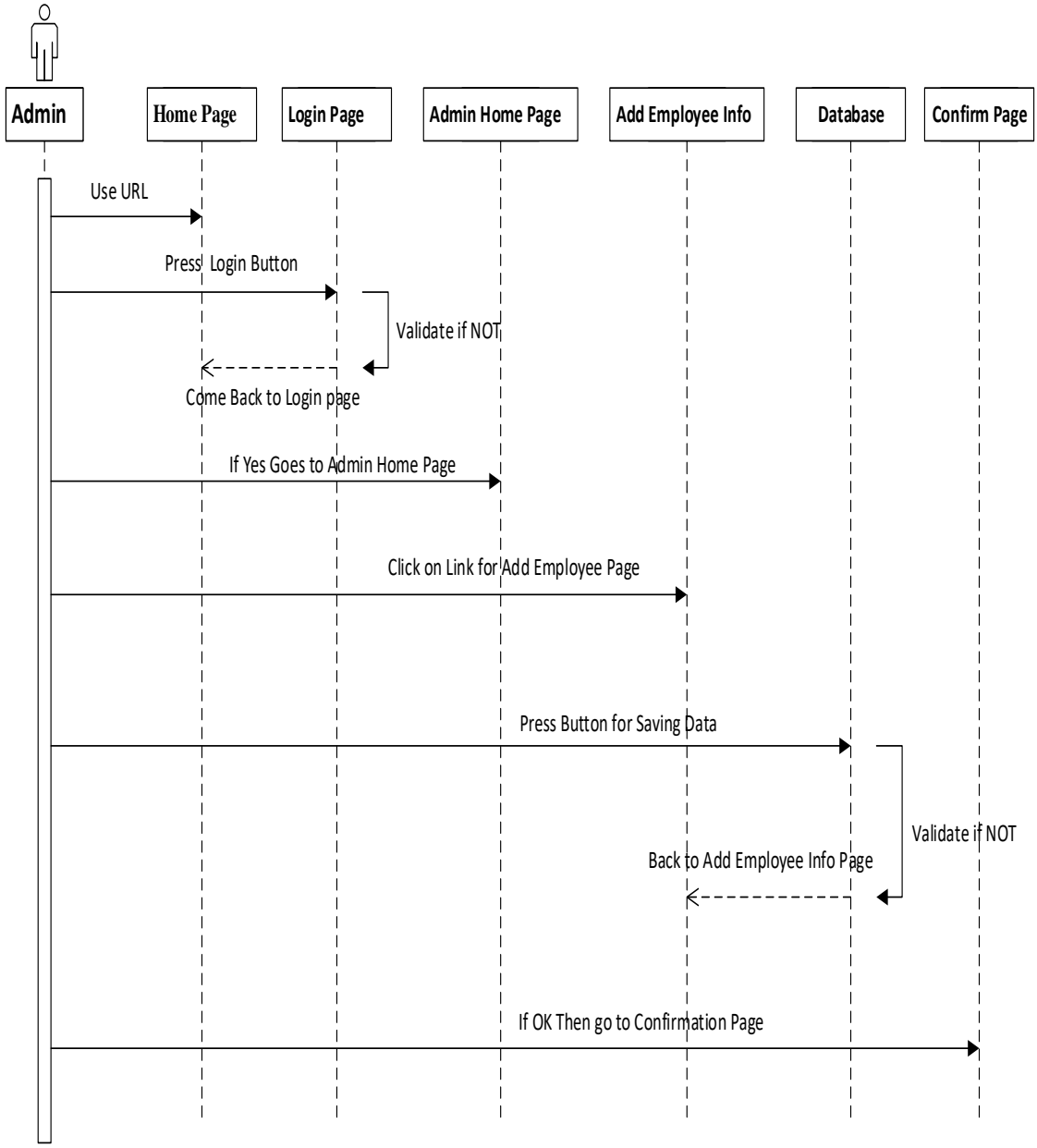

Figure 3.4: Sequence Diagram for Adding Employee

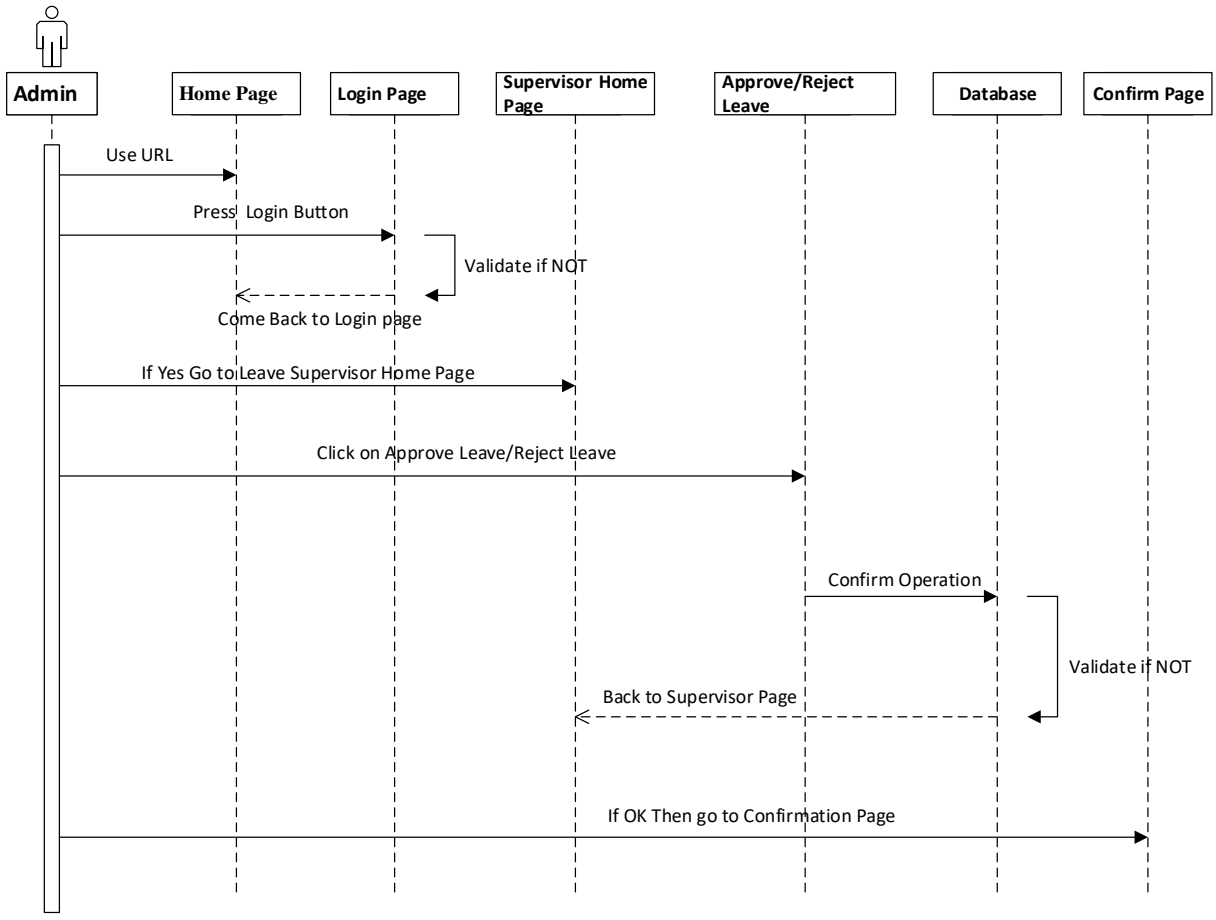

Figure 3.5: Sequence Diagram for Leave Approval/ Rejection

3.7 Choice of Programming Tools and Program Flowchart

There are different high level programming languages like PHP, JavaScript, C, C++, Pascal, and Java used for implementing. I will be using PHP for the implementation of the proposed system. PHP is a script language and interpreter that is freely available and used primarily on Web servers. PHP, originally derived from **Personal Home Page** Tools, now stands for PHP: Hypertext Pre-processor.

PHP was initially started as C Shells for the web programming and performing other small chores. But today it has evolved as an efficient and effective web programming language that is at the same time is easy to understand and implement. Here are some reasons why PHP is being chosen over other tools:

i. **Simple and easy to learn:** PHP scripting is definitely one of the easiest, if not the easiest scripting language to learn and grasp for developers. This is partially due to the similarities PHP syntax has with C and Java. It's clear and easy to understand

ii. **Integration:** PHP is used for so many web applications and actually powers over 30% of the web.

iii. **Frameworks:** Almost every benefit of PHP seems to go back to the fact that the community is so large. The number of PHP frameworks available is even further proof of how strong the PHP community is. Whether it is database access libraries, session management, or code reuse, there will be no problem finding PHP frameworks to give a helping hand.

iv. **Easier to fix problems:** When it comes to web application development, sometimes run into issues and come across the occasional fail. But the benefit with PHP is that problems aren't as difficult to find and fix as they are with other

languages. This is because with each request, PHP cleans up and starts over. So an issue with one request will not necessarily disrupt another.

v. **Object Oriented:** PHP actually has the ability to call Java and Windows COM objects. In addition to this, it can create custom classes. Other classes can actually borrow from those custom classes as well which extends the capabilities of PHP even further.

vi. **Speed:** Since PHP does not use a lot of a system's resources in order to run, it operates much faster than other scripting languages. Hosting PHP is also very easy and lot of hosts provide support for PHP. Even when used with other software, PHP still retains speed without slowing down other processes. Being that PHP is a mature language, it is also fairly stable because all the kinks have been worked out over the years.

3.7.1 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 3.6

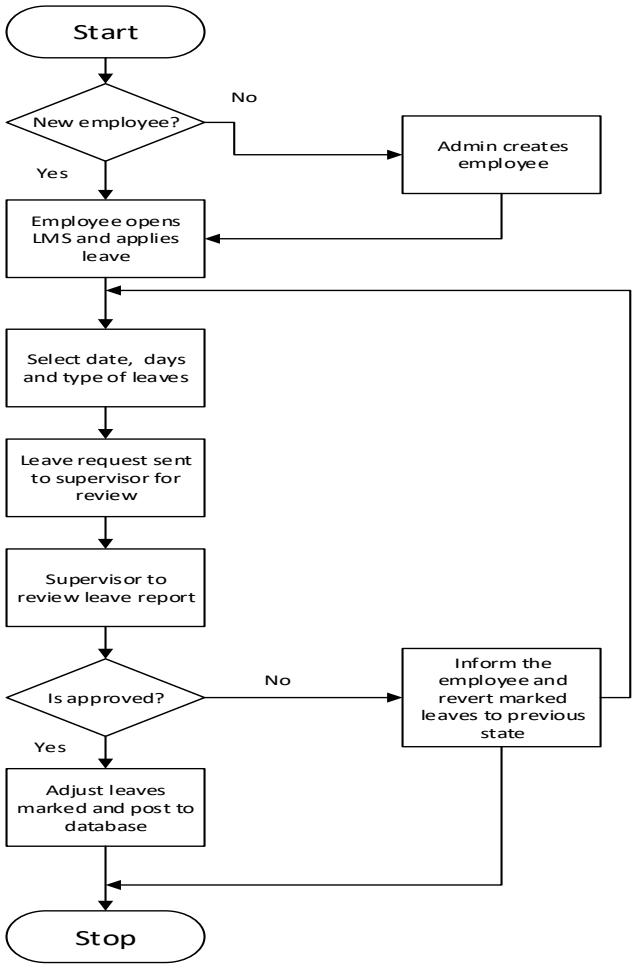

Figure 3.6: Program Flowchart of the System

CHAPTER FOUR

SYSTEM DESIGN AND IMPLEMENTATION

4.1 Database Table Structure (Methodology)

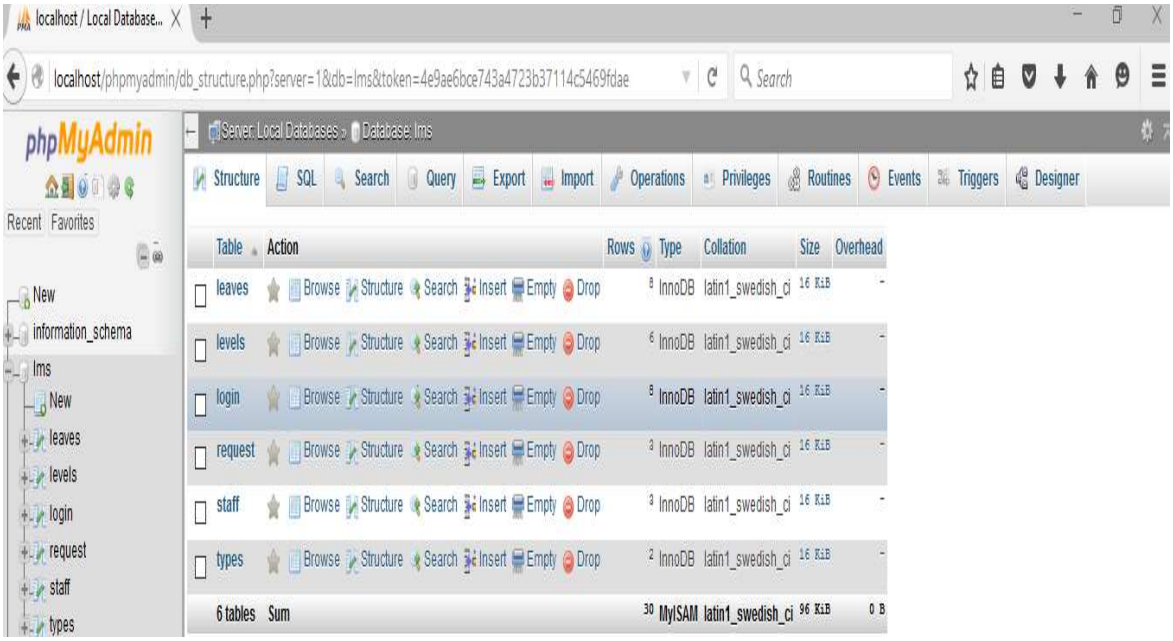

Figure 4.1: Overall Database Structure for the System

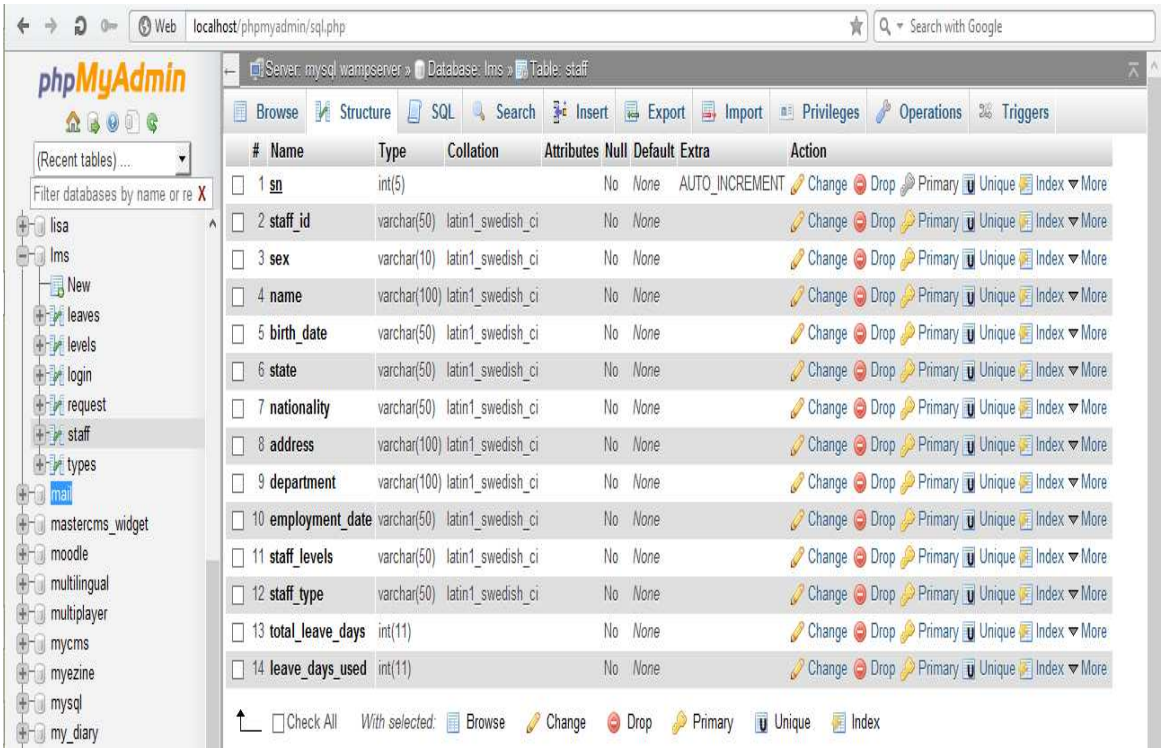

Figure 4.2: Database Structure for the Staff

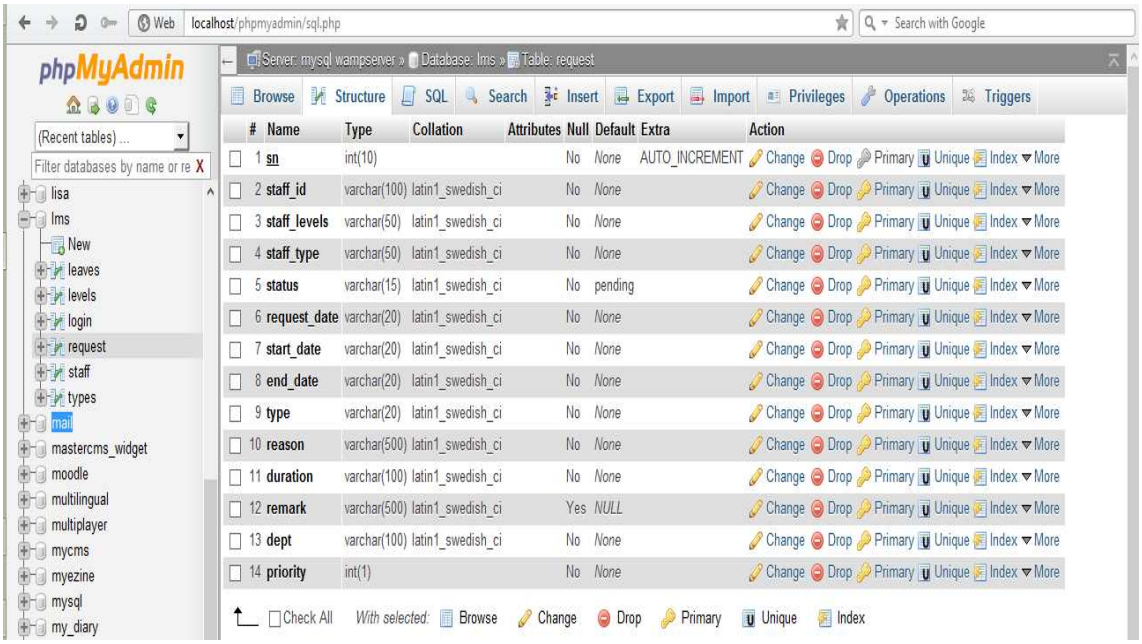

Figure 4.3: Database Structure for Leave Request

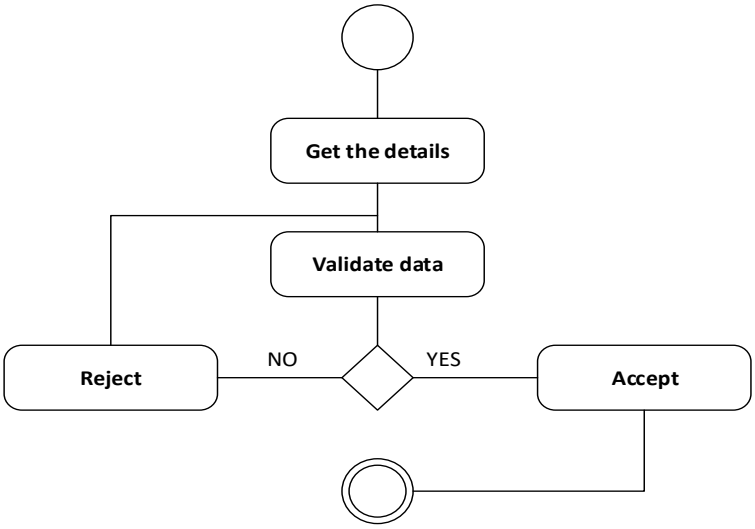

Figure 4.4: Activity Diagram for User Login

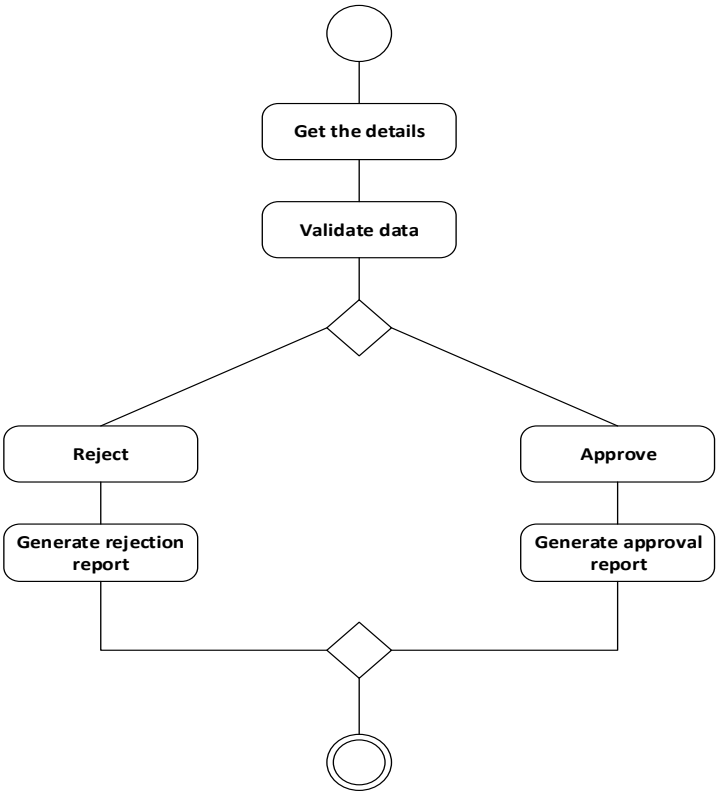

Figure 4.5: Activity Diagram for Leave Request by Employee

4.2 The Input Design or Results

Data flow diagrams are also used to describe and analyse movement of data through the leave management system. The data flow diagrams for new employee registration and for leave application are given in Figure 4.6 and Figure 4.7 respectively.

The figures show the flow of data between the system administrator, employee, supervisor and the leave management system.

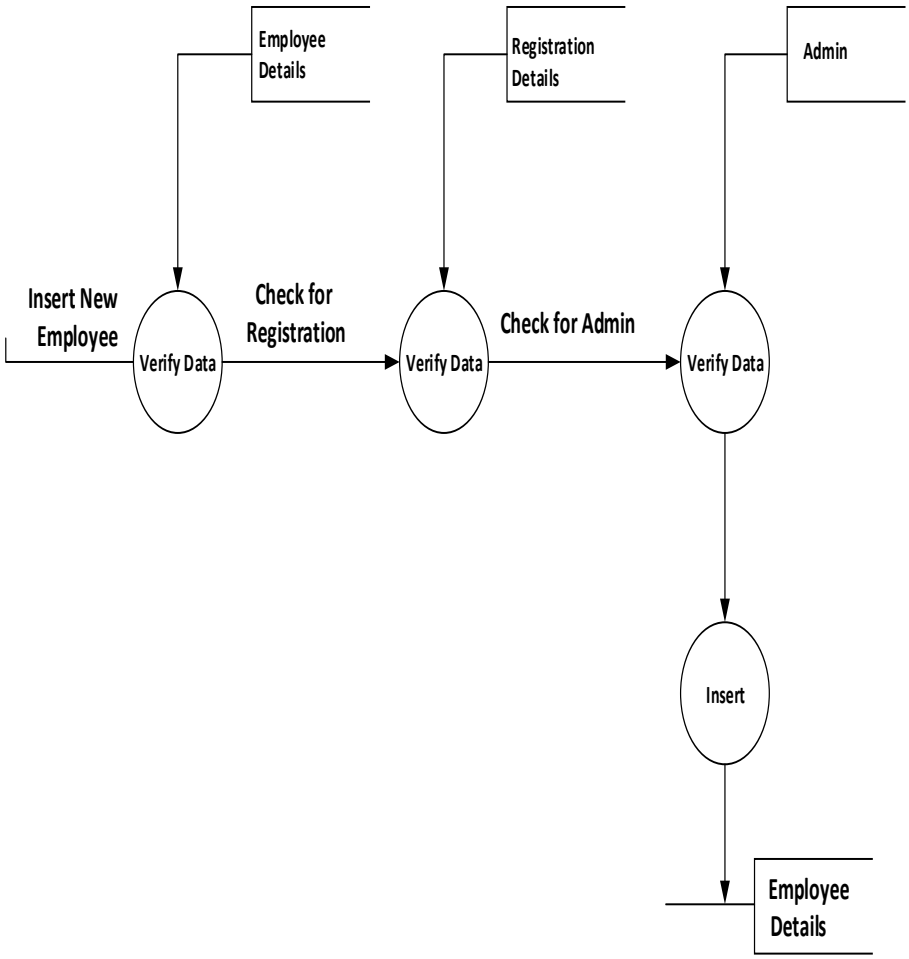

Figure 4.6: Data Flow Diagram for New Employee Registration

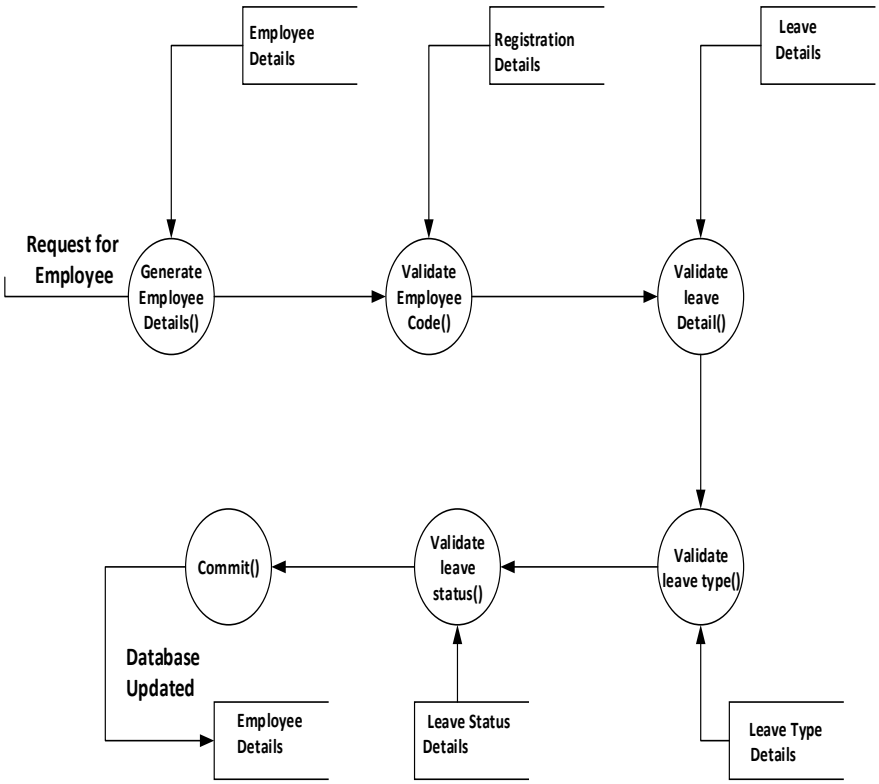

Figure 4.7: Data Flow Diagram for Employee Taking Leave

4.3 Output Design

The system after careful analysis has been identified to be presented with the following modules. The modules involved are:

i. General home page
ii. Administrators module
iii. Leave manager or supervisor module
iv. Employee module
v. Authentication module
vi. Report Module

4.3.1 System Home page:

This is the first page that the user sees when the Leave Management application is launched. It directs the user as to what is the next thing to do. It shows the general homepage which contain general information about the system and a link that allow users to login into their pages.

4.3.2 Administrator Module:

In this module the Administrator has the privileges to add all the Employees and register them in the organization's database. He can also check the information of the Employee as well as the status of the leave and the type of leave they have taken, search could be done based on the employee and report can also be generated based on employee.

4.3.3 Leave Manager Module:

This module allows the leave manager to check the information of the employee in his department as well as the status of the leave and the type of leave they have taken, leave approval or rejection can then be made by manager.

4.3.4 Employee Module:

In this module employee has the privileges to use his username and password to login into the system. He can then make leave request, view status of existing requests and update his personal information.

4.3.5 Authentication Module:

This module contains all the information about the authenticated user. User without his username and password cannot gain access into the system. Normal staff cannot access the features of leave managers and leave managers is protected from performing administration's functions.

4.3.6 Reports:

This module contains information about leave requests, employees on leave, including leave status and start and end dates of leave as well as available leave types.

4.4 The Presentation of Results/ Screen Shots

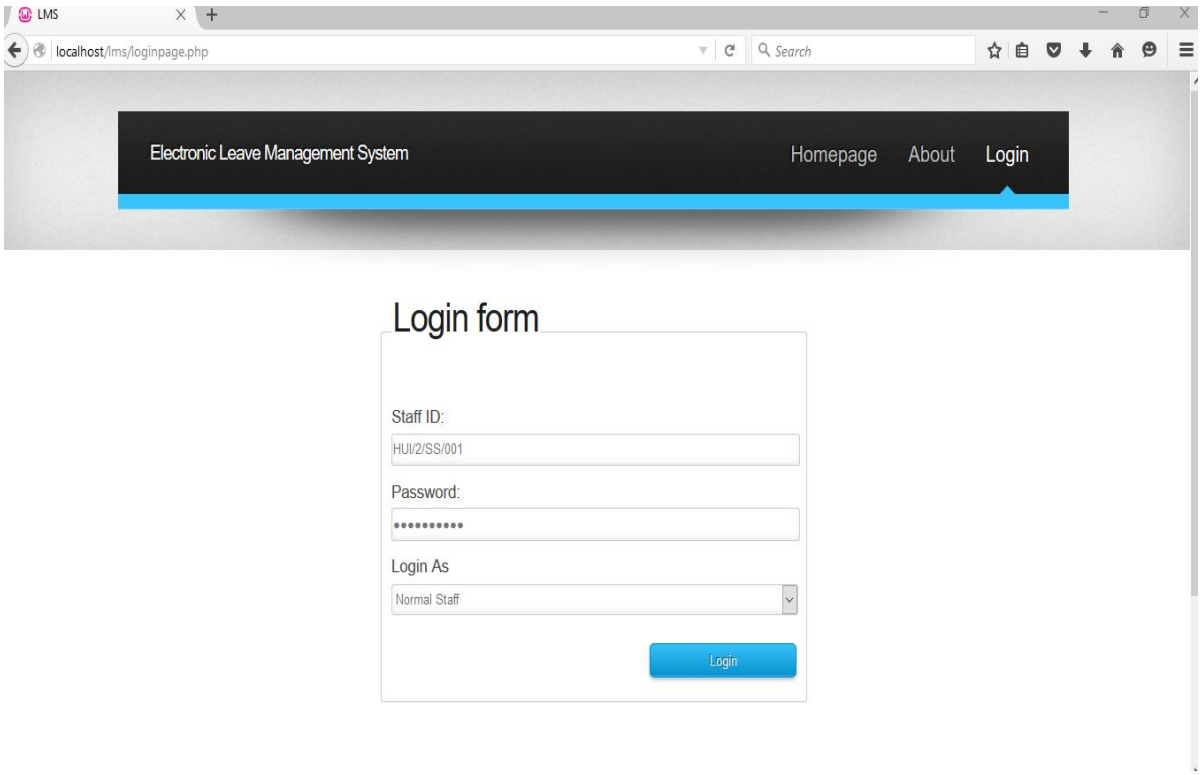

Figure 4.8: Login View

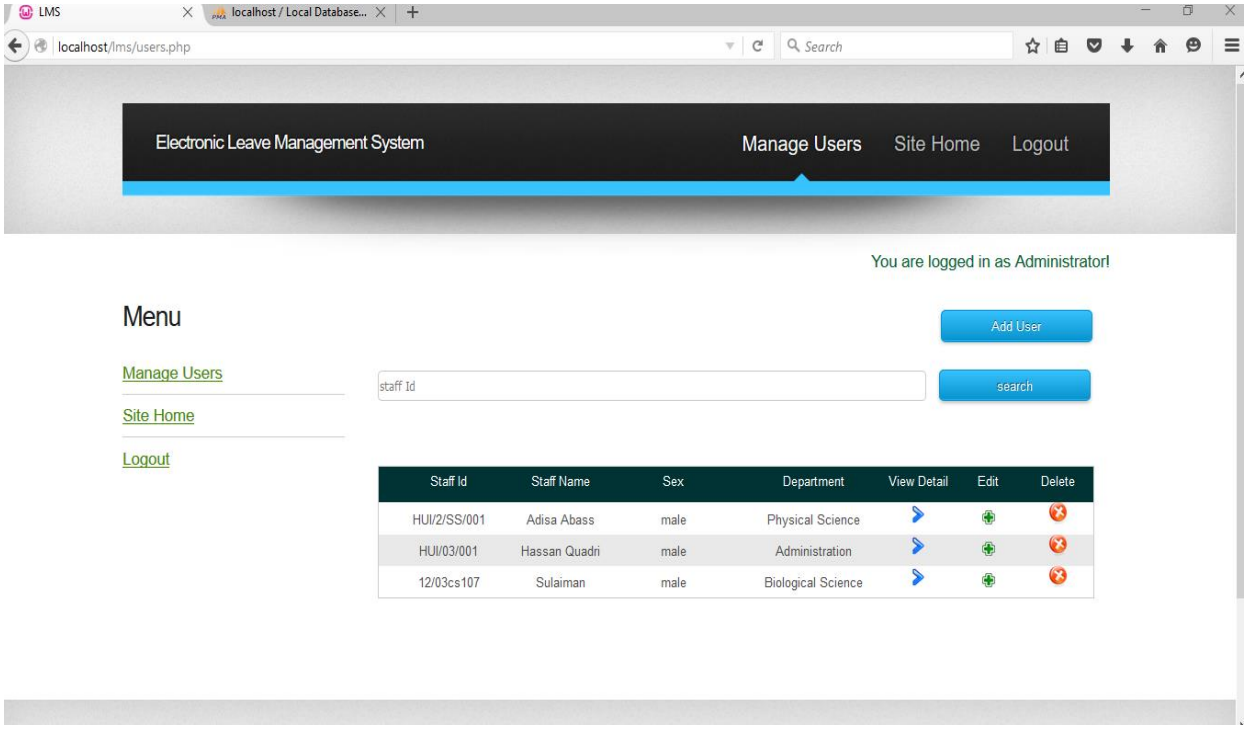

Figure 4.9: Administrator Homepage

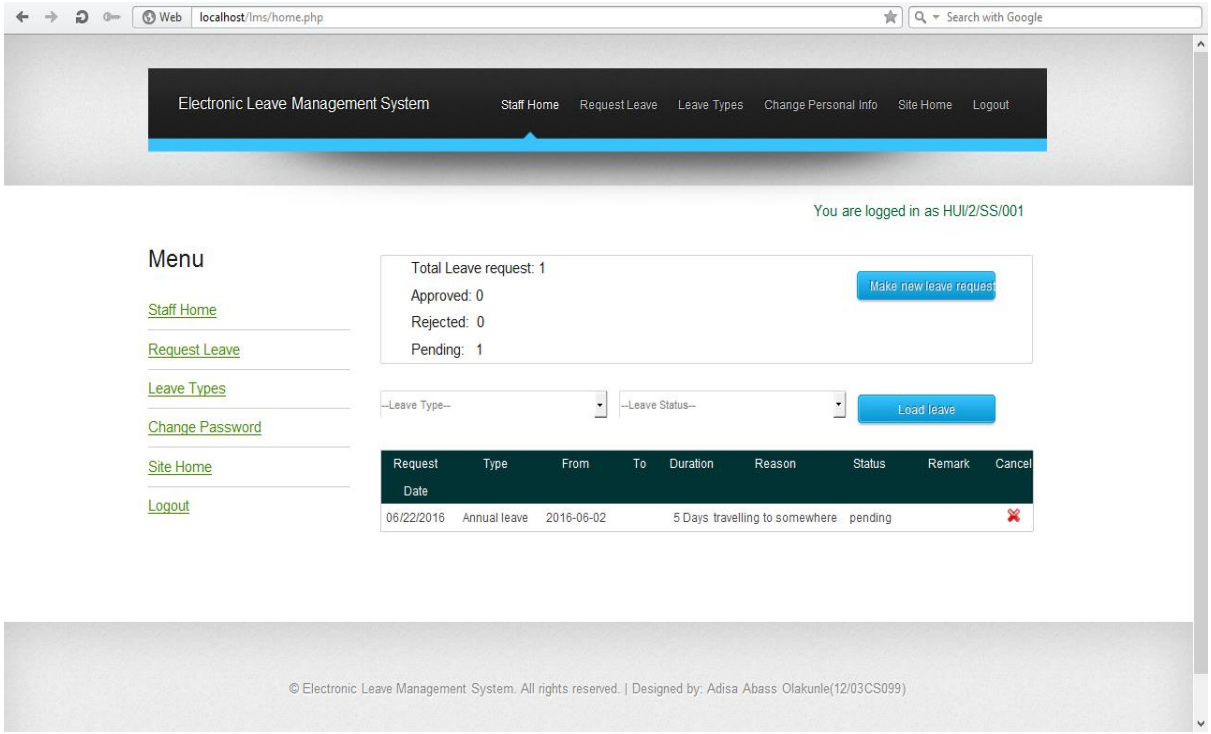

Figure 4.10: Staff Homepage

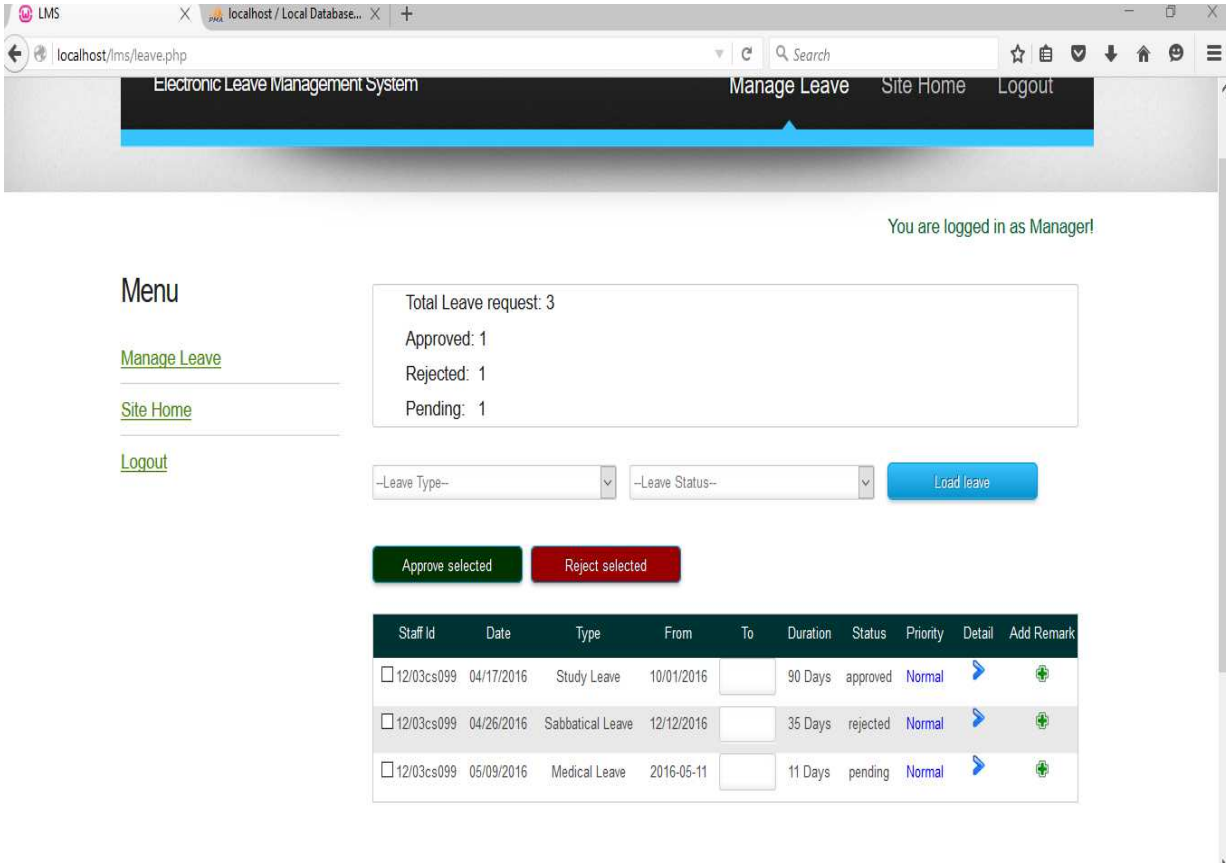

Figure 4.11: Leave Manager Homepage

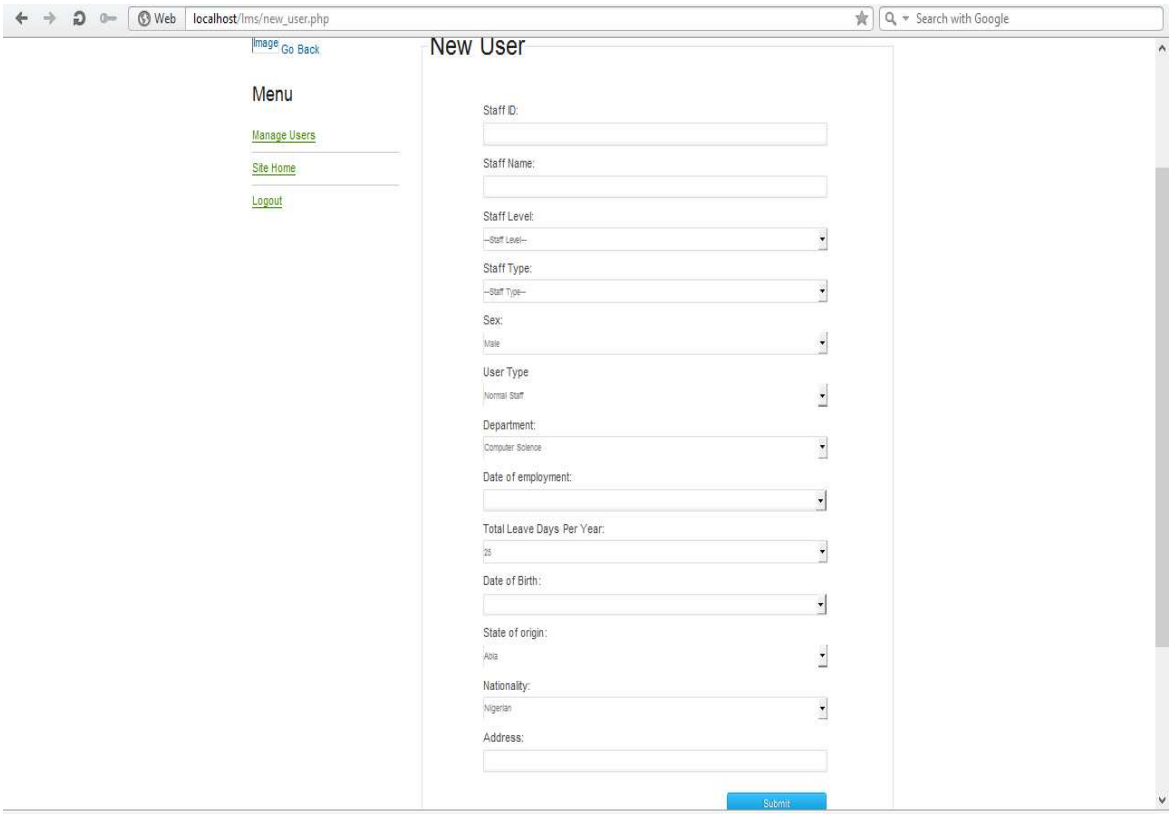

Figure 4.12: Add New Users

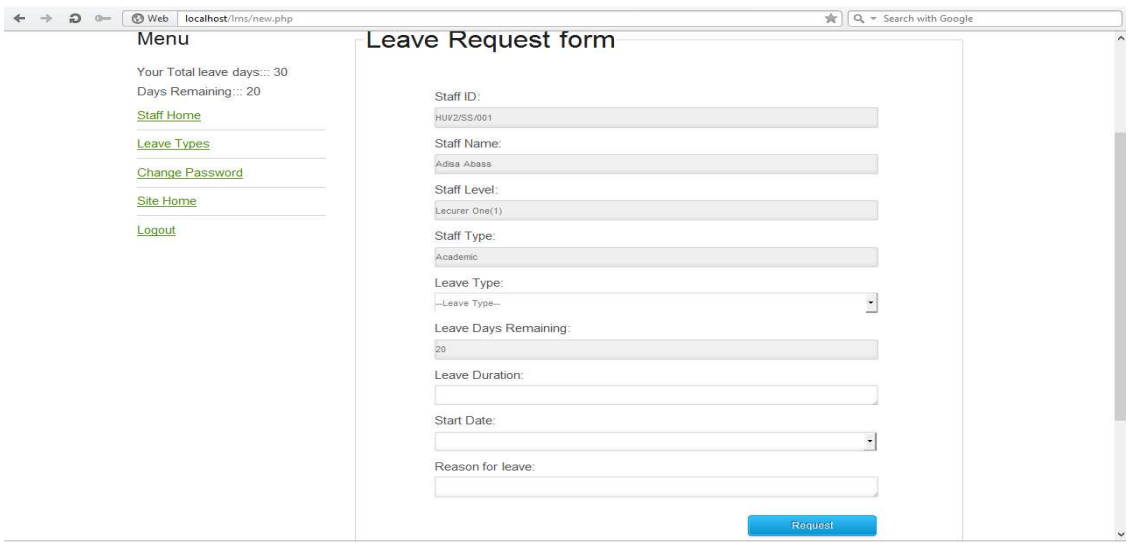

Figure 4.13: Leave Request Form

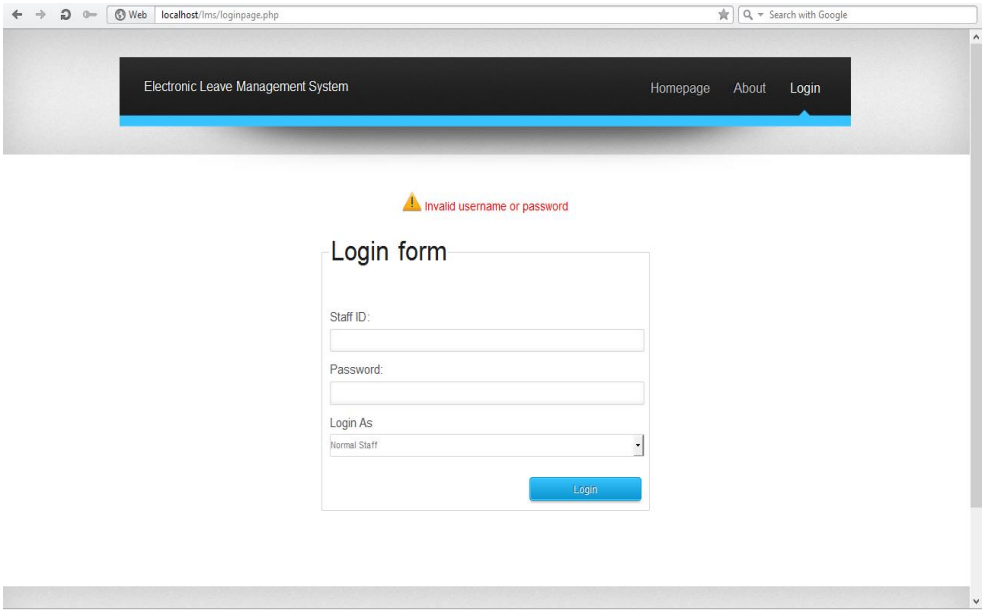

Figure 4.14: Error Login Page

4.5 System Evaluation

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

The most significant software requirements are:

i. Operating System (Windows operating system, Unix, Linux, etc.)
ii. Web browser (e.g. Internet Explorer, Chrome, Firefox etc.)
iii. Wampserver (For local access only).

Besides, the hardware requirements are:

i. Keyboard
ii. 10 Gigabyte hard disk or more
iii. A monitor (VDU)

iv. Minimum of Pentium 2 processor

v. Minimum of 64MB RAM

vi. Internet Connection (Optional, for online access only)

With the provision of the above requirement, a separate directory named 'lms' will be created to house the system files on the www directory of the wampserver (i.e. on local system) or on the server (i.e. If deployed on live server) for easy access.

4.5.1 System Operation/Usages

This section forms the operation guide which assist the users to get around fast with the system without stress. It provides the user with relevant information and other precautions measure to maintain the system.

After successful booting operation of the computer on which this system is installed on:

i. Start the wampserver by clicking on its icon.

ii. Open a web browser by clicking on its icon.

iii. Type 'localhost/lms/' in the address bar of the web browser.

iv. Press Enter on your keyboard.

After the system's home page has shown, you can navigate to the required page by clicking on the relevant URL and providing the authorization credentials (username and password) when needed.

4.5.2 System Testing

The software engineering process can be viewed as a spiral. Initially system engineering defines the role of software and leads to software requirement analysis where the information domain, functions, behaviour, performance, constraints and validation

criteria for software are established. Moving inward along the spiral, we come to design and finally to coding. To develop computer software, we spiral in along streamlines that decrease the level of abstraction on each turn.

The testing mechanism adopted for the system is unit testing. Unit testing focuses verification effort on the smallest unit of software design, the module. To ensure that the system is well tested, the following activities were performed.

i. All independent modules of the system were exercised at least once.
ii. All logical decisions were exercised on their true and false sides.
iii. All loops were executed at their boundaries and within their operational bounds
iv. All internal data structures were exercised to assure their validity.

Thus, each unit were separately tested and all the inputs validated.

4.5.3 System Security

System security is the protection of computer based resources that includes hardware, software, data, procedures and people against unauthorized use or natural disasters. Various software security techniques were employed to perform validations on data in form of checks and controls to avoid the system from failing. The validation techniques are discussed below:

4.5.3.1 Client Side Validation

Various client side validations are used to ensure on the client side that only valid data is entered. Some of the checks imposed are:

i. JavaScript in used to ensure those required fields are filled with suitable data only. Maximum lengths of the fields of the forms are appropriately defined.

ii. Forms cannot be submitted without filling up the mandatory data so that manual mistakes of submitting empty fields that are mandatory can be sorted out at the client side to save the server time and load.

iii. Tab-indexes are set according to the need and taking into account the ease of user while working with the system.

iv.

4.5.3.2 Server Side Validation

Some checks cannot be applied at client side. Server side checks are necessary to save the system from failing and intimating the user that some invalid operation has been performed or the performed operation is restricted. Some of the server side checks imposed include:

i. Server side constraints were imposed to check for the validity of primary key and foreign key. A primary key value cannot be duplicated. Any attempt to duplicate the primary value results into a message intimating the user about those values through the forms using foreign key can be updated only of the existing foreign key values.

ii. User is intimating through appropriate messages about the successful operations or exceptions occurring at server side.

iii. Various Access Control Mechanisms have been built so that one user may not agitate upon another. Access permissions to various types of users are controlled according to the organizational structure. Only permitted users can log on to the system and can have access according to their category. User- name, passwords and permissions are controlled o the server side.

iv. Using server side validation, constraints on several restricted operations are imposed.

CHAPTER FIVE

CONCLUSION

5.1 Summary

The system has three basic types of users; the Employee, the Leave Manager and the Administrator (Note that an employee can also be the Manager and Admin) each of which would have their respective roles. The system is designed for managing leave application in Al Hikmah University. 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 the employees and register them in the organization. He/ She can also check the information of the employee and their leave status and type.

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.

5.2 Limitations of the system

The system has been identified to have the following limitations:

i. The size of the database increases day-by-day, increasing the load on the database back up and data maintenance activity.

ii. Training for simple computer operations is necessary for the users of the system.

iii. This System being web-based need to be thoroughly tested to find out any security gaps.

5.3 Future Work

i. Interfacing it with other existing systems such as the Al Hikmah University 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 in the university. This would enable collaboration between the departments in the school.

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.

5.4 Conclusion

The aim of this project has been successfully achieved. The leave management system for managing employee leave has been properly designed and implemented. The design was done using UML approach and iterative model. The implementation was done

using Hypertext Pre-processor (PHP), Hypertext Markup Language (HTML) and Cascading Stylesheet (CSS).

Leave Management System is very useful for university to maintain the leave records of the employees. This system not only maintains the leave details of the staff; it also maintains the leave applications of the staff.

The higher authorities may accept or reject the leave applications requested by the staff. Thus this system maintains the excess amount of job done by the university to maintain the leaves.

REFERENCES

Ayres J. (2010). Quick Tips for Better Writing, Criscadian's Active Voice. Available at http://members.aol.com/criscadian/tips.html.

David H. and Kyle L. (1999). Learning with Technology, 2nd ed. Upper Saddle River Print, New Jersey.

Fitzgerald and Avision (1995). A practical guide to software engineering productivity. Chapman and hall boundary row, London, United Kingdom.

Gould S. (1999). English Skills Support, University of Central England. Available at http://lmu.uce.ac.uk/lmu/esu/.

Laws of the federation of Nigeria (1990). Nigeria Labour Act. Available at http://www.nigeria-law.org/LabourAct.htm.

Michigan State University (2013). Writing and Presenting Your Thesis or Dissertation. Available at http://www.clearcf.uvic.ca/writersguide/welcome.html.

Nasiruzzaman C (2005). 'A proposed leave management system for Dutch-bangla bank limited', Unpublished B.Sc. Thesis, Department of Computer Science and Engineering, BRAC University.

Nikolay C., Gérard B. and Yishan Z. (2012). 'The Management of Sick leave in the United Nation'. Proceedings of management report on sick leave, Joint Inspection Unit Geneva.

Sin L. (2007). 'The development of E-Leave system for FTMK'. Unpublished B.Sc. Thesis, Department of Computer Science, Universiti Technikal, Malaysia.

APPENDIX

SOURCE CODE

```
/* Database Class */
<?php
require_once'config.php';
class Db {
        public $handle;
        public $fileType;

        public function __construct() {

                if (!$this->handle = @mysql_connect(SERVER, USERNAME, PASSWORD)) {
                exit('Error: Could not establish  connection to database using ' . USERNAME . '@' . SERVER);
        }

        if (!mysql_select_db(DATABASE, $this->handle)) {
                exit('Error: Could not connect to database ' . DATABASE);
        }
                mysql_query("SET NAMES 'utf8'", $this->handle);
                mysql_query("SET CHARACTER SET utf8", $this->handle);
        }
         function query($sql) {
        $result=array();
        $resource=mysql_query($sql);
        if(@mysql_num_rows($resource)>0){
         while($value=mysql_fetch_assoc($resource)){
```

```
 $result[]=$value;
 }
 return $result;
 }
else return NULL;
}
 private function update($squel) {
    if(mysql_query($squel))
    return true;
    return false;
}
function deactivate($id,$tableName){
$sql= "UPDATE {$tableName} SET status='rejected' WHERE sn='{$id}'";
return $this->update($sql);
}
function activate($id,$tableName){
//var_dump($id); exit;
$sql= "UPDATE {$tableName} SET status='approved', priority='0' WHERE sn='{$id}' ";
return $this->update($sql);
}
function search($term){
$sql="SELECT route_name, route_id FROM routes WHERE route_name LIKE '%$term%'";
return $this->query($sql);
}
function add_user($param){
//unset($param['password2']);
```

```
        $squl="SELECT * FROM  staff WHERE staff_id='{$param['staff_id']}' ";
    if($this->query($squl)!=NULL)
        return false;
        $sql_keys='';
        $sql_val='';
        foreach($param as $key=>$value){
        $sql_keys.=$key.',';
        $sql_val.="'".$value."',";
        }
        $sql_keys=rtrim($sql_keys, ",");
        $sql_val=rtrim($sql_val, ",");
        //$sql="INSERT INTO staff (".$sql_keys.") VALUES (".$sql_val.")";
        //TooPasty
        $sql="INSERT INTO staff (staff_id,sex,name,birth_date,state, nationality,address, department, employment_date, staff_levels, staff_type, total_leave_days, leave_days_used ) VALUES ('{$param['staff_id']}','{$param['sex']}','{$param['name']}','{$param['birth_date']}','{$param['state']}','{$param['nationality']}','{$param['address']}','{$param['department']}','{$param['employment_date']}','{$param['staff_levels']}','{$param['staff_type']}','{$param['total_leave_days']}','{$param['leave_days_used']}' )";
        //var_dump($sql); exit;
        $this->query($sql);
        $pass=explode(" ",$param['name']);
        $sq="INSERT INTO login (username, password, user_type,dept) VALUES ('{$param['staff_id']}','$pass[0]', '{$param['type']}','{$param['department']}' ) ";
    return $this->update($sq);
        }
        function load_users(){
        $sql="SELECT * FROM staff";
        return $this->query($sql);
```

```
}
function update_user($param){
$staffid=$param['staff_id'];
$sql="UPDATE staff SET name='{$param['name']}',sex='{$param['sex']}',birth_date='{$param['birth_date']}', state='{$param['state']}', nationality='{$param['nationality']}', address='{$param['address']}', department='{$param['department']}' ,type='{$param['type']}', employment_date='{$param['employment_date']}', level='{$param['level']}' WHERE staff_id='$staffid' ";
return $this->update($sql);
}
function change($param,$id, $table){
$sql="SELECT * FROM {$table} WHERE id= '$id' ";
//var_dump($sql); exit;
$ret=$this->query($sql);
if($ret[0]['password'] != $param['oldpassword']){
return false;
}else{
$sql="UPDATE {$table} SET password='{$param['newpassword']}' WHERE id='$id' ";
return $this->update($sql);
}
var_dump($ret); exit;
}
function pagination($result, $per_page ,$page, $url = '?'){
//$query = "SELECT COUNT(*) as 'num' FROM books WHERE {$query}";
//$row = mysql_fetch_array(mysql_query($query));
        //var_dump($result);exit;
$total = count($result)
```