DESIGN AND IMPLEMENTATION OF AN INTEGRATED HUMAN RESOURCE
AND PAYROLL MANAGEMENT SYSTEM

A CASE STUDY OF DOUBLE ‘M’ INTERNATIONAL LTD

BY

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INTERNATIONAL UNIVERSITY

APRIL, 2013
DECLARATION

I MWANGI JEMIMAH MURUGI, BIT/42627/92/DF declares that this report is my original work and has not been presented for examination in any other University.

Signature

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Date 25/04/2013
APPROVAL

This is to certify that this research report entitled "DESIGN AND IMPLEMENTATION OF AN INTEGRATED HUMAN RESOURCE AND PAYROLL MANAGEMENT SYSTEM" was conducted under my supervision and guidance and submitted to the College of Applied Sciences and Technology with my approval.

Signature

MR. BRIANS KOMAKECH

Supervisor

Date 25 APRIL 2013
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Introduction

The Integrated Human Resource and Payroll Management System is a system that is developed to manage employees' information and their financial records in companies and other institutions. The purpose is to make sure that the employees are punctual in reporting to work and paid in accordance to their performance. The administrator is the only person who can sign up new employees, delete employees, change passwords and provide new ones and make any changes to the database. The system is easy to use and reliable, it allows employee to clock in and clock out thus efficient in tracking employees attendance and working time. Besides, the system can store the records for employees such as their personal details information. Currently, there is no proper system to monitor the employees' information and salary records at Double 'M' International Ltd, the company still uses the paper-based system to keep track of the employees' records thus this system has been developed to overcome the problems stated above and provide an effective way to monitor the company employees' information and financial records.

Background

Double 'M' International Ltd is one of the leading companies in Kigali, Rwanda that specializes in sales and service of Fire fighting and protection equipment, safety and security equipment, electrical and mechanical installations, plumbing, refrigeration and air conditioning. Therefore it has quite a number of employees'. Due to the large number of employees' the researcher found out that it's very hard to keep accurate track of the employees' records and also the process involved for the employees' to access their records is very hectic and slow because it's in two different systems (Human Resource system and Finance system) thus the researcher saw the need to develop a computerized Integrated Human Resource and Payroll System.

The Integrated Human Resource and Payroll Management System is basically developed for large companies such as my case study and other organizations which contain a large number of employees. The purpose is to make sure that the employees record both general and payrolls are all under one system.

With this system, the managers will save their time in keeping track of the employees. This system provides an easy to use and reliable employee record tracking and reporting system.
Besides, the company under study (Double ‘M’ International Ltd) still uses the paper-based system to keep track of the employees’ records therefore as a solution, the system has been developed to overcome these problems and provide an effective way to access the employees’ records under one system. It will provide a user-friendly interface to make the system easy to use.

**Statement of the Problem**

After visiting the company, the researcher found out that there is no proper computerized system to monitor the employees’ records. The researcher found out that the human resource department and the finance department was still using paper-based system to keep track of employees’ records. This basically is a very tiresome, time consuming, not secure and definitely not an accurate system therefore the researcher came up with the idea of designing and implementing a system that will integrate those two systems and make it more efficient.

**Objectives**

**Main Objective**

To Design and implement an Integrated Human Resource and Payroll Management System.

**Specific Objectives**

- Develop a user friendly interface, through which the users of the system will interact with the system.
- To design a database and a graphical user interface that will help in automating the employees’ records.
- To design a system that will save time, be less tiresome and secure.
- To design a computerized system for the company so as to make the company look more current

**Research Questions**

This study addressed the following research questions that were derived from the gaps uncovered in the review of the literature.

- Was it possible to design and develop an Integrated HR and Payroll Management System that was efficient, time saving, more reliant, current, and computerized which could easily enable the employees’ to trace their details/records?
- Was it possible to design a database and a graphical user interface that would help in automating the employees’ records?
Was it possible to develop a user friendly interface, through which the users of the system would interact with the system?

Was it possible to develop a computerized system for the company so as to make the company look more current?

Scope

Geographical Scope

This research primarily focused on designing an Integrated Human Resource and Payroll Management System for Double ‘M’ International Ltd Kigali Rwanda. The solution was to design a fully working system which would enable Human Resource Manager and Finance keep employee’s full details/ records in one system.

Content Scope

The study addressed what was involved in a Human Resource and Payroll System process of Double ‘M’ International Ltd. and the impact it had on both the employees and the employers.

Time Scope

The study was carried out at Double ‘M’ International Ltd and the system applicability relying on systems administrator and Human Resource Manager was installed. It took the researcher six months of which the first two was mainly about research and preparing as well as observing how the current system was running and noted major changes to be implemented. The third and forth one was about organizing and compiling the researched data for errors. It was in the last two month that i documented my study in form of project

Significance of the Project

- This helps the researcher to gain practical skills giving the researcher a clear overview of how to design and implement what was studied theoretically in class.
- It allows easy access, retrieval and management of employees’ details.
- It saves time in accessing and retrieving employees’ details
- It saves costs involved in purchasing, implementing and maintaining two different systems.
• Improves the efficiency and systematic of company for recording and managing employees’ record.

• Provides a paperless environment by using a computerized system that saves a lot of time
LITERATURE REVIEW

Introduction

This chapter describes research and case study regarding the Human Resource and Payroll Systems in the industries. Literature review is the process of reviewing the current state of knowledge about the topic under discussion. The main purposes of literature review was to let the developer perform some study and analysis on the similar previous or current existing system, get a better understanding about the features offered in these system and thus let the developer gather valuable information and ideas from the existing system. There are some research studies and other types of literature that were used to collect the related information for the project. The raw material and resources are based on reviews, theoretical articles, case studies, journal articles, books, Internet (electronics journal), interview and document sampling. The sources such as reviews, theoretical articles, case studies and journal articles offered a relatively concise, up-to-date format for information about the Human Resource and payroll system, and because all reputable journals are referred.

Human Resource System

According Wikipedia website Human Resource Management System (HRMS) refers to the systems and processes at the intersection between Human Resource Management (HRM) and Information Technology. It merges HRM as a discipline and in particular its basic HR activities and processes with the information technology field, whereas the programming of data processing systems evolved into standardized routines and packages of Enterprise Resource Planning (ERP) software. On the whole, these ERP systems have their origin on software that integrates information from different applications into one universal database. The linkage of its financial and human resource modules through one database is the most important distinction to the individually and proprietary developed predecessors, which makes this software application both rigid and flexible. The HR function consists of tracking existing employee data which traditionally includes personal histories, skills, capabilities, accomplishments and salary.

Currently Human Resource Management Systems encompass:

- Payroll: automates the pay process by gathering data on employee time and attendance, calculating various deductions and taxes, and generating periodic pay cheques and employee tax reports.
• Work Time: gathers standardized time and work related efforts.
• Appraisal performance:
• Benefits Administration: provides a system for organizations to administer and track employee participation in benefits programs. These typically encompass insurance, compensation, profit sharing and retirement.
• HR management Information system: is a component covering many other HR aspects from application to retirement. The system records basic demographic and address data, selection, training and development, capabilities and skills management, compensation planning records and other related activities.
• Recruiting: Online recruiting has become one of the primary methods employed by HR departments to garner potential candidates for available positions within an organization.
• Performance Record.
• Employee Self-Service: allows employees to query HR related data and perform some HR transactions over the system. Employees may query their attendance record from the system without asking the information from HR personnel.

Payroll System

Wikipedia website defines a Payroll Management System as a system used to manage all the employees' payroll records. In a company, payroll is the sum of all financial records of salaries for an employee, wages, bonuses and deductions. In accounting, payroll refers to the amount paid to employees for services they provided during a certain period of time.

Payroll plays a major role in a company for several reasons. From an accounting perspective, payroll is crucial because payroll and payroll taxes considerably affect the net income of most companies and they are subject to laws and regulations.

From an ethics in business viewpoint payroll is a critical department as employees are responsive to payroll errors and irregularities: good employee morale requires payroll to be paid timely and accurately.

The primary mission of the payroll department is to ensure that all employees are paid accurately and timely with the correct withholdings and deductions, and to ensure the withholdings and deductions are remitted in a timely manner. This includes salary payments, tax withholdings, and deductions from a paycheck. Handling payroll typically involves sending out pay slips to employees.
HR System with Payroll Integration

The need for an Integrated HR & Payroll solution is more important now than ever due to ever changing legislation, advances in technology and the growing needs of organizations today. Throughout every aspect of employment, HR and Payroll departments rely on integrated data for accurate information, sharing of data between the departments, streamlining workflow and increases efficiency (internet)

Features of HR Management System

- Recruitment and Selection Mode capabilities
- Employee Personal Information management
- Training and Development management
- Performance Management/ Appraisal
- Succession planning
- Job descriptions and specifications
- Leave and attendance
- Separation details management
- Welfare issues
- Communication management
- Payroll manager
- Reporting capabilities
- Staff pension/claims/Benefits management.

Information System

Information Systems (IS) is an academic/professional discipline bridging the business field and the well-defined computer science field that is evolving toward a new scientific area of study. An Information Systems discipline therefore is supported by the theoretical foundations of information and computations such that learned scholars have unique opportunities to explore the academics of various business models as well as related algorithmic processes within a computer science discipline. Typically, Information Systems or the more common legacy information systems include people, procedures, data, software, and hardware (by degree) that are used to gather and analyze digital information. Specifically computer-based Information Systems are complementary networks of hardware/software that Overall, an IS discipline emphasizes functionality over design. (wikipedia.com)
Silver et al. (1995) provided two views on (IS) and IS-centered view that include software, hardware, data, people, and procedures. A second managerial view includes people, business processes and Information Systems.

There are various types of Information Systems, for example: Transaction Processing Systems, Office Systems, Decision Support Systems, Knowledge Management Systems, Database Management Systems, and Office Information Systems. Critical to most Information Systems are Information Technologies, which are typically designed to enable humans to perform tasks for which the human brain is not well suited, such as: handling large amounts of information, performing complex calculations, and controlling many simultaneous processes.

Silver et al. (1995) says: Information Systems are implemented within an organization for the purpose of improving the effectiveness and efficiency of that organization. Capabilities of the information system and characteristics of the organization, its work systems, its people, and its development and implementation methodologies together determine the extent to which that purpose is achieved.

**Conclusion**

The above literature enabled the researcher to know the appropriate application to employ in the system and also to avoid from designing what others have at hand.

The literature also provided guidelines for the researcher on how to go about with the intended system.

With conducting the literature review, there was more understanding on the research topic such as the related information, the trends of current system, necessary features and additional features, requirements based on the user's needs and demands, minimum system requirements, and others.

The information seeking not only widened my area of knowledge for the research field, but also gave me some ideas and opinions as reference in order to create more creative and user-friendly software system. Through the literature review, a clear view was obtained for the research topic and better understanding was gained for the developed software system. The process of doing research helped to determine the methodology that was used in this project.
METHODOLOGY

Introduction

This chapter reviews the methods, techniques and the tools that were used to accomplish the development of the Integrated HR and Payroll System. It also provided an oversight of the methods for collecting and analyzing the data that was used to determine the users and their requirement of the system.

Population

The research took place in two departments (Human Resource and Finance) of Double ‘M’ International Ltd. The table below shows number of employee’s in each department.

<table>
<thead>
<tr>
<th>Department</th>
<th>No of employees’</th>
</tr>
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<tbody>
<tr>
<td>Human Resource</td>
<td>20</td>
</tr>
<tr>
<td>Finance</td>
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Sample

The study was based on primary data and data collection techniques involving use of interviews as main instruments to enhance and give quality to the findings. Interviews are a useful tool through which data can be acquired by reading the perceptions and feelings while collecting data although at times they yield minor biases, which is an implication that not all information will be proven accurate. The study ensured that interviews were impressive to eliminate suspicious tendencies. Secondary data was also relied upon by reviewing literature of previous writers on the same study and included textbooks and Internet.

Data Collection Techniques

Interviews

Interviews were carried out in the company focusing on capturing information both in the verbal answers and also through non-verbal communications such as facial expression, body language etc

Observation

An observation was carried out in order to observe and learn how the company runs and successfully manages its employees’.
The Internet

The internet has today become one of the widely used research tool and my project’s reference was no exception. There are a lot of posted materials on the internet that are relevant to the hypothesis of the HR and Payroll Management System.

Previous Researchers Work

There was no assumption that the topic at hand had not been handled before. Hereby, there was the need to revise other researchers’ opinion on the topic as well as appreciate their findings as well as improvising possibly a better algorithm they could have taken.

Analysis

Problem

The researcher found out that it was very hard to keep accurate track of the employees’ records and also the process involved for the employees’ to access their records was very hectic and slow because it was in two different systems (Human Resource system and Finance system)

Having clearly understood the problem, collected and analyzed data and hence identified the system requirements, the next important phase was all the key issues identified previously were carefully considered.

Detailed system analysis was then carried out on these issues to examine the system in terms of inputs, outputs, and the processes involved.

Since most of the errors emanate from this area, a well planned system design was carried out to eliminate all the problems encountered.

Data Analysis

This was done through reviewing the Human Resource and Finance Management Systems, analyzing the interviews conducted and getting related literature to broaden the researchers’ knowledge and experience in order to assign system requirements and design to solve the record maintenance related problems.

Proposed Solution

Due to the numerous excessive uses of paperwork resources, lack of security and the time wasted while serving employees’ and other related problems there was need to design and develop a system which could curb these weaknesses.
The system runs a Database Management System (DBMS) accessible from a well designed graphical user interface. It furnishes a genetic solution to the problems of the persistent data storage, data integrity, security, and the overall speed of operations.

**Programming Languages (s) and Tools**

The researcher used VB.NET for designing the interfaces whereas MySQL to develop the database for employee information. Visual Basic .NET (VB.NET) is an object-oriented computer programming language that can be viewed as an evolution of the classic Visual Basic (VB), which is implemented on the .NET Framework. MySQL is the world's most used Relational Database Management System (RDBMS) that runs as a server providing multi-user access to a number of databases. It is named after developer Michael Widenius' daughter, My. The SQL phrase stands for Structured Query Language.

**Design**

Design is for validation of performance of the system in data processing, software and user interface in order to specify how the system will be protected.

**User Interface**

The user interfaces was designed using the Visual basic 6.0; the interfaces flow as shown below:

```
Logs in  Admin/Employee  Logs out
```

User interface design or user interface engineering is the design of computers, appliances, machines, mobile communication devices, software applications, and websites with the focus on the user's experience and interaction. The goal of user interface design is to make the user's interaction as simple and efficient as possible, in terms of accomplishing user goals—what is often called user-centered design. Good user interface design facilitates finishing the task at hand without drawing unnecessary attention to it. Graphic design may be utilized to support its usability. The design process must balance technical functionality and visual elements (e.g., mental model) to create a system that is not only operational but also usable and adaptable to changing user needs.
Database Design

Logical Design

A logical architecture identifies the software components needed to implement a solution, showing the interrelationships among the components. The logical architecture and the quality of service requirements determined during the technical requirements phase form a deployment scenario. The deployment scenario is the basis for designing the deployment architecture, which occurs in the next phase, deployment design.

When developing a logical architecture you need to identify not only the components that provide services to users, but also other components that provide necessary middleware and platform services. Infrastructure service dependencies and logical tiers provide two complementary ways of performing this analysis.

Database design also includes ER (Entity-Relationship Model) diagrams. An ER diagram is a diagram that helps to design databases in an efficient and efficient way.

Attributes in ER diagrams are usually modeled as an oval with the name of the attribute, linked to the entity or relationship that contains the attribute.

Within the relational model the final step can generally be broken down into two further steps that of determining the grouping of information within the system, generally determining what are the basic objects about which information is being stored, and then determining the relationships between these groups of information, or objects.

Physical Design

Physical Database Design discusses the concept of how physical structures of databases affect performance and includes specific examples, guidelines, and best and worst practices for a variety of DBMSs and configurations. Something as simple as improving the table index design has a profound impact on performance. Every form of relational database, such as human resource system, Enterprise Resource Management (ERM), Data Mining (DM), or Management Resource Planning (MRP), can be improved using these methods.

Testing

Unit testing: focuses on testing each unit of the code
System Testing: is the next level of testing. It focuses on testing the system as a whole.
This article attempts to take a close look at the System Testing Process and analyze: Why System Testing is done? What are the necessary steps to perform System Testing? How to make it successful?

Implementation

Through implementation, validity of the security system will be done followed by an installation of the necessary software and system maintenance. And thereafter will come up with the concept of data security to improve its integrity in order to protect the position of the company.

Maintenance

System maintenance is used to describe various forms of computer or server maintenance required to keep a computer system running properly.

The maintenance will include:

Data backup: Creating a redundant copy, so as if anything should happen to the original file, you have recourse to the backup.

Malware management: Includes managing viruses, worms, Trojans by ensuring that the antivirus is up-to-date and secure at all times.

File system maintenance: Should involve checking that sufficient free space is available, checking the file system for errors and managing them e.t.c

Conclusion

Therefore the development of the Integrated Human Resource and Payroll Management System has provided security to employees’ records, ease of access and retrieval of the records; it has also saved time and is be fast in producing employees’ reports.
SYSTEM ANALYSIS AND DESIGN

Introduction

Having clearly understood the problem, collected and analyzed data and hence identified the system requirements, the next important phase was all the key issues identified previously were carefully considered. Detailed system analysis was then carried out on these issues to examine the system in terms of inputs, outputs, and the processes involved. Since most of the errors emanate from this area, a well planned system design should was carried out to eliminate future system failures. This chapter therefore entails the various steps involved in system design during the system design and the system development.

Document Review

This was done through reviewing the company’s current records pertaining Human Resource and Payroll Management and getting related literature to broaden the researchers’ knowledge and experience in order to assign system requirements and design to solve the record maintenance related problems.

The current Human Resource and Payroll Management System at Double ‘M’ International Ltd was a manual system. All the transactions performed at the company were noted down on files which were then archived together in a safe place.

Strength of the Current System

• It cannot be affected by power failures.
• All transactions performed can be retrieved relatively easy.
• It is very easy to implement.

Weakness of the Current System

• A lot of paper work is needed hence higher maintenance cost.
• The manual system is relatively slow and cannot satisfy the growing number of population.
• Inconsistency of data as it is moved from one location to another.
• Possibility of data loss if the original files are misplaced since there are no backup copies.
Analysis of the Proposed System
Due to the numerous excessive use of paperwork resources and the time wasted while serving clients there was need to design and develop a system which could curb this weakness.

The proposed system runs a Database Management System (DBMS) accessible from a well designed graphical user interface. It furnishes a genetic solution to the problems of the persistent data storage, data integrity, security, and the overall speed of operations. It provides backup facility to facilitate recovery.

Benefits of the Proposed System
- It is relatively cheap to maintain since no other hardware or equipment needs to be bought after it has been implemented. Although the initial price of implementation may be high because of buying new hardware, the overall price of maintenance is minimal.
- It operates at a much faster rate than the manual system since all the data is stored under one location and accessing it using the computer is fast.
- Since all the data is stored in less than one database, data inconsistency is eliminated when moving the information because you will only have to move the database.
- The new system will support backup of its data. This will increase the systems reliability by enabling data recovery in case of a disaster.

Requirement Analysis
A company database needs to store information pertaining to its employees, its payroll, its logins, data and the media it contains e.g. employees, users' e.t.c. Employees will be identified by their employee's idno and the users by their user name. In order to allow multiple copies of the same employee, each media employee will have a unique ID number so that they can be stored under the same address.

System Design

E-R Model
It is clear that the physical objects from the previous section- the users and media details correspond to entities in the entity-relationship model, and the operations to be done on those entities-holds, follow-ups and so on- correspond to relationships. However, a good design will minimize redundancy and attempt to store all the required information in as
small space as possible. To achieve this, a detailed ER diagram was designed as shown below.

Fig

Flow charts
This is a diagram that represents the sequence of operations in a process. There are different ways of specifying processes in a system including:

• Structural English

• Decision tables

• Flow charts

The researcher however, preferred the use of flow charts over the other methods. This is mainly due to the simplicity of flow charts.

This system consists of several individual processes that when integrated together, they form a coherent system. Below are some of the processes that are found in this project.
Start

Login

User authenticated?

Yes

Enter employee details

Yes

Employees in the database

Yes

Assign user to the employees

Yes

Manage employee

Yes

Stop

No

Return unauthenticated user message

Update the data properly

Fig 17
Database Design

This system provides a suitable communication link between the user and the database. To ensure for an efficient system, it is important to design a database that is free from data redundancy and errors.

Graphical User Interface Design

The first step in designing the GUI was to choose a means of accessing the database. After evaluating various options, I settled on using VB.NET. The simplicity of VB.NET as compared to other programming languages was an important factor to consider, as it allowed me to develop a suitable user interface using the additional plug-ins and the simple syntax that it has. By using VB.NET we could separate the application logic from the DBMS as well as from clients. In addition to simplifying operations on the database, it also makes extending the functionality of our system easier. When adding a new feature or improving an existing one, we will not need to change the entire database; it will only be necessary to modify the VB.NET portion of the code associated with it.
IMPLEMENTATION, TESTING AND EVALUATION

Introduction

Once the design was complete, the development entailed two broad phases: back-end and user interface. The back-end comprised database application whereas the user interface comprised the application that the users would use to interact with the database for the database. MySQL was used to design databases while VB.NET was used to develop the user interface.

This chapter generally describes the steps involved in the implementation process. That is, development and implementation of a suitable user interface, program testing, then finally, a description of the system changeover.

Graphical User Interface

To execute the application, you open the folder named: Integrated HR and Payroll Management System, open the folder: Emp IS, open the folder: bin, open the folder: x86, open the folder: Debug, then finally open the application named: Integrated Human Resource and Payroll Management System.

Once the user executes the application, the following flash screen will appear:

![Screen shot]

Fig

The screen just flashes by as an introduction to the system.

After the flash screen, the Employee Time-In System login screen will appear.
The Employee Time-In System Log In screen allows the employees to clock in as well as clock out of the system. This provides the ability to get the time-in data of an employee. Employees should enter a valid password to save their time-in data into the database.

Using Employee id “01” and Password “jem” from the MySQL database, the login information is populated automatically i.e. Name and Time In also noted the button Time In text changes to Time out.

This will enable the employee to login in the morning and login out in the evening as they go home, the information will be stored in the database to enable salary calculation and deduction.
Using the System Administration button at the lower position of this form, the administrator will be able to access the form for the administrator and login to manipulate the employee details and save changes to the MySQL database. The administrator is the only person who is authorized to add, delete and modify the database. This enhances security to the system and company information and prevents other breaches to the system.

Using either Username “jem”, “admin” and password “jem”, ”admin” respectively the main employee management form will be accessed, also a button to the payroll manager is provided to access the employee payments and deductions.

After login the main management form appears. The tabs are provided to move from different areas of the employee, i.e. Employee list (detail view), Employee list (individual view), Log-in details (Individual details), Log-in (All employee) and finally the, About the system tab showing the Title, designer and the company.
The Fig 5.6 provides the ability to view all the employee information in the database and filter the query by ID, Lastname, Firstname and Position.

The Fig 5.7 provides the ability to view individual Employee information in the database and add new employee, edit existing information or delete an employee from the database, as well as change the login password for an employee.
This provides the ability to view all Employee Information, Individual Employee Information in the database, Login Information of an Employee, and About the System.

[NOTE: Moving from one tab to another retains the currently selected record.]

Integrated Human Resource and Payroll System

This provides the ability to view individual Employee Login Information stored in the database. Login Information of the selected Employee in the Employee List Tabs are automatically shown.

Employee Information

ID Number: 01
Name: Jimmy Mwangi
Position: Marketing Manager

Filter Login Dates using:
- All Dates
- Dates(s) selected below

Date: 09/12/2012
Time In: 5:18:37 PM
Time Out: 5:18:55 PM

Fig

The Fig 5.8 provides the ability to view individual Employee Login Information stored in the database. Login Information of the selected Employee in the Employee List Tabs are automatically shown.
The Fig 5.9 provides the ability to view all employee login information in the database based on the filtering login dates selected. Information of the employee is shown based on the selected login record.

The Fig 5.10 provides the ability to view all employee information, individual employee information in the database, login information of an employee and about the system.
Payroll management form.

This is the form that generates the employee working record to calculate pay.

Exiting the application, this is what appears, a prompt to ensure that it's not a mistake and as noted the application can only be terminated from the main form which can only be accessed by the administrator only.
Employees

The Integrated Human Resource and Payroll Management system consist of many Employees who Work in the company.

Adding Employees

The system will enable the administrator to add new employees who comes to work in the company. This is achieved by clicking on the Employee List [Individual View] in the Payroll Manager screen.

To add a new employee, you click on New and fill in the details.

Managing Employees

The system also allows the administrator to manage Employees easily; this means that if an Employee is coming for the second time there is no need of adding him/her for the second time but just a matter of searching and updating its record of Work.

Still using the Employee List [Individual View] the administrator can edit the details of an employee from the system if he/she has changed the details working for the institution, the administrator can delete an employee from the system.
On the same form, the administrator can change an employee password if he/she is not comfortable with the current one. The form also provides a platform for the administrator to access a record quickly by use of the search criteria.

Users

After registering a new employee, it is automatically added to the list of your employees. Since you are its administrator, therefore you are the one responsible and engaged with work on this employee. In that case you have the mandate to edit, update, change password or even delete that employee from the system.
Aims and Objectives

This project turned out to be challenging in many ways. Each stage has presented its own problems to be overcome.

When collecting information from various sources, as covered by the first objective, I expected a lack of response. What I was not prepared for, however, was the lack of ideas on how to improve the quality on the activities carried out in Human Resource and Accounting Departments. The general consensus of opinion of those who replied seems to be that an Integrated Human Resource and Payroll Management System is not required for the most part, as the people working in this field are not computer literate. The responses I have received, however, has introduced some other problems I had not envisaged, such as system crash supplied with new application. When running more than a few of these simultaneously, difficulties can arise when there is a need to move data between different software systems. Although OLE (object linking and embedding) has been designed with this in mind, it is not always possible to transfer data if the structure is foreign to that recognized by other systems.

Management

The Gantt chart in Appendix B presented in my project proposal detailed the original project plan set in March 2012. It listed the original topics this project had been classified under, and the expected month to start and approximate completion month. When choosing this time-scale, I had to take other considerations, such as course-work, into account. I felt it was important to have a clear plan so I would always know what could be worked on at any given time. On a study of this size it was crucial to know at the start exactly what needed to be done so the work could be paced and pre-researched accordingly.

The topics had been separated as much as possible to allow independent work units to be carried out simultaneously with little need for information from other units. The exception to this rule was the suggestions I had made as to how I believed the company could be improved.

This required that I had information from company sources beforehand, as this was the main basis of the work. Furthermore, it was also essential that my research into the
company system details was carried out alongside it, so the technical knowledge was also available.

Due to the fact that I had placed myself under this working guideline, my project management has been quite successful.

**Further Work**

Certain elements in this project leave scope for further development. With almost any project which includes a software component, a list of future enhancements could be endless. The database was established and is working as expected. All these tests were carried out using sample data.

**System Changeover**

This was the final stage in system implementation. It involved shifting from one information system to another by phasing out the old information system in favor of the new and improved system. This changeover was necessary especially if the two systems cannot co-exist together thereby demanding for the adoption of the better system.

Since Double ‘M’ International used the manual system to archive their information system to another by phasing out the old information system in favor of the manual transfers of important data to the new system by the developer. To do so the user had to do some training on how to operate the system. After transferring all the data from the old system, to the new system, the transition had concluded and the system ready for running.

**Evaluation of the System**

Once the new company application was implemented, it had several positive impacts to the company including: the system controls data redundancy within the company thereby optimizing the performance. The system ensures data integrity within the company since there is only one single database to enhance security.

The company increases the efficiency and effectiveness in its operations, allowing it to feed the needs of the soaring population of citizens. To accomplish this, the system is dedicated and expected to have a recovery plan in place in case of emergency.

To add to its security features, the system only permits authorized users (administrators) to update the data in the database whenever it is necessary. This is achieved by use of passwords and usernames, the system is able to run on real time hence interaction with user will is enhanced.
ABBREVIATIONS AND ACRONYMS

XP: eXtreme Programming
VB.NET: Visual Basic.NET
MS-Access: Microsoft Access
ER: Entity Relationship
DBMS: Database Management System
ERP: Enterprise Resource Management
DM: Data Mining
MRP: Management Resource Planning
HRMS: Human Resource Management System
HR: Human Resource
RDBMS: Relational Database Management System
MySQL: My Sequential Query Language
REFERENCE


APPENDICES

APPENDIX A: SAMPLE PROGRAM CODES

'Slabel3'
Me.Label3.Location = New System.Drawing.Point(16, 40)
Me.Label3.Name = "Label3"
Me.Label3.Size = New System.Drawing.Size(72, 21)
Me.Label3.TabIndex = 6
Me.Label3.Text = "Password:"
Me.Label3.TextAlign = System.Drawing.ContentAlignment.MiddleLeft

If dDS.Tables(0).Rows.Count > 0 Then
dDR = dDS.Tables(0).Rows(0)
Button1.Enabled = True
Button1.Text = "&Time Out"
TextBox4.Text = dDR("time_timein")
'Produces and fills the table from the database

Private Sub TextboxChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles TextBox1.TextChanged, TextBox2.TextChanged
If (TextBox1.Text <> "" And TextBox2.Text <> "") Then
Check_Info()
End If
End Sub

Private Sub Form1_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
sConn = New MySqlConnection("Data Source=localhost;Initial Catalog=eis;User ID=root;Password=")
Label2.Text = Format(Now, "MM MM d, yyyy h:mm:ss tt")
Timer1.Enabled = True
End Sub

The following codes are derived from form1.vb and hold most of the above codes in various sections,