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JUDUL: Employee Attendance and Remuneration System

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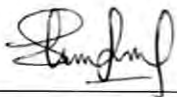
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Employee attendance and remuneration system (EARS) /
Wong Shwu Tyng.

**EMPLOYEE ATTENDANCE AND REMUNERATION SYSTEM
(EARS)**

WONG SHWU TYNG

This report is submitted in partial fulfillment of the requirements for the
Bachelor of Computer Science (Software Development)


FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA

2006

DECLARATION

I hereby declare that this project report entitled
EMPLOYEE ATTENDANCE AND REMUNERATION SYSTEM

is written by me and is my own effort and that no part has been plagiarized
without citations.

STUDENT :  DATE : 20 NOVEMBER 2006
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DEDICATION

Specially dedicated to
My beloved Dad, Mum, brothers and sister who have
encouraged, guided, helped and inspired me throughout the journey of success.

ACKNOWLEDGEMENTS

Getting a finished thesis and implementation of completed system requires the work of much effort. I would like to recognize a few of people who contributed to this thesis and project.

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ABSTRACT

Employee Attendance and Remuneration System or known as EARS is part of Projek Sarjana Muda (PSM) project that delivers the enhancement of the current system in the current market and to provide computerized employee time attendance and remuneration system for the organizations that involve in manual process employee remuneration. EARS features the integration of two separate systems, which are Employee Time Attendance and Employee Remuneration. In the beginning, EARS records the employee time attendance. The recorded time attendance, as the factor to determine the remuneration, is then used to remunerate the employee of the organizations. The factor for employee remuneration is based on the job title and their performance. The integration of two separate systems combines the factors to remunerate the employee. It may decrease the imprecise of recorded time attendance with the real person before the employee remuneration is done. Thus, the fair, precise and accurate remuneration can be generated to the real employee. Besides, it reduces the time and cost for organization to operate a 2-in-1 system rather than two separate systems. EARS also provides definable remuneration formula function that allows the user, Human Resource Department to define their remuneration formula based on their organization's policy, despite of using the existing remuneration formula. Therefore, the EARS increases the remuneration formula based on the user requirements.

ABSTRAK

Employee Attendance and Remuneration System atau dikenali sebagai *EARS* ialah sebahagian projek Projek Sarjana Muda (PSM) yang menyampaikan penambahbaikan sistem semasa yang didapati di pasaran semasa dan menyediakan sistem perkomputeran masa kehadiran dan gaji pekerja untuk organisasi yang menggunakan proses manual dalam mengendalikan gaji pekerja. *EARS* menonjolkan integrasi dua sistem yang berlainan, iaitu Masa Kehadiran Pekerja and Gaji Pekerja. Pada permulaan, *EARS* merekod masa kehadiran pekerja. Masa kehadiran yang direkod adalah faktor dalam menentukan gaji, yang kemudiannya digunakan dalam bahagian pengiraan gaji pekerja dalam organisasi tersebut. Faktor pengiraan gaji pekerja adalah berdasarkan kepada jenis pekerjaan dan prestasi pekerja. Integrasi dua sistem yang berlainan menggabungkan faktor-faktor untuk mengira gaji pekerja. Sistem ini dapat mengurangkan kesalahan rekod masa kehadiran dengan pekerja yang sepatutnya sebelum pekerja tersebut dikira gajinya. Oleh itu, gaji yang adil, berpatutan dan tepat dapat dihasilkan bagi pekerja yang sepatutnya. Selain itu, ia mengurangkan masa dan kos organisasi untuk beroperasi 2-dalam-1 sistem daripada dua sistem yang berlainan. *EARS* menyediakan fungsi mentakrifkan formula gaji yang membolehkan pengguna, Jabatan Sumber Manusia mentakrifkan formula gaji mereka berdasarkan polisi organisasi mereka selain menggunakan formula gaji yang sedia ada. Dengan itu, *EARS* menambahkan formula gaji mengikut keperluan pengguna masa kini.

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LIST OF SYMBOLS

EARS	Employee Attendance and Remuneration System
OS	Operating System
PSM I	Projek Sarjana Muda I
PSM II	Projek Sarjana Muda II
XML	Extensible Markup Language
IDE	Integrated Development Environment
ODBC	Open Database Connectivity
SQL	Structured Query Language
CPU	Central Processing Unit
USB	Universal Serial Bus

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CHAPTER 1

INTRODUCTION

This section will explain project background, problem statement(s), objectives, scopes, project significance and conclusion of the proposed system.

1.1 Project Background

There are so many existing systems that develop to calculate the staff or employee remuneration in nowadays market such as UBS Payroll System, Abra Payroll, Abra Attendance and UBS Time Attendance System. The existing system has its user definable allowances, deductions and multiple overtime rates. However, most of the existing systems do not include the remuneration and time attendance altogether. They are in different package systems in the market.

Therefore, in this proposed Employee Attendance and Remuneration System (EARS), it focuses on computerized employee remuneration calculation and some enhancements are to be made towards the existing system. It is enhanced to be more flexible than the existing system. Besides EARS includes the features available in the

existing system, it also includes with some enhancement features, which the features of integration of remuneration and attendance system.

Remuneration is about the employee's pay calculation and the time attendance records the clock in and clock out activity of employee. The remuneration will be using the definable mathematical formula while the time attendance will be using a device to record the employee attendance. The employee attendance relates to the employee remuneration.

Moreover, the remuneration employee calculation can be defined by the user, which is not containing in the existing system. It enables the user to define their formula of remuneration calculation as an employee may from different category of employee. Therefore, the proposed system is designed to be more flexible to use in various companies or organizations with varieties of category employee. The system is used in Human Resources Department where it needs to remunerate their employee with correct and precise remuneration.

1.2 Problem Statement(s)

Currently, the company is using a manual process of tracking or capturing employee's attendance. Therefore, preparing the employee's remuneration is in the manual form.

Furthermore, the current system in the market provides a separate remuneration system and time attendance system. There is no integration between the employee attendance and employee remuneration. The user has to use two systems separately, which the user collects the employee attendance before the collected records going to the employee remuneration calculation to get the employee final remuneration. It takes longer time to compute.

Moreover, separate system does not ensure either the time attendance is belonging to the right employee when the employee clock in and clock out. Inaccurate time attendance generates inaccurate remuneration calculation. In proposed system, when the employee clock in and clock out their attendance, the remuneration will collect the employee time for later employee remuneration. The time attendance is important for the employee of category hourly, daily, weekly and monthly remuneration. Based on the time, the performance of an employee will determine the bonus, allowance, etc.

Besides, the current system provides inflexible process of calculating remuneration and overtime as most current system has its predefined remuneration formula calculation. The user unable to define their formula remuneration calculation such as the overtime rate, the allowance, etc based on their company's policy.

1.3 Objectives

The Employee Attendance Remuneration System is developed to enhance the existing systems as the existing systems provide fewer features to the user. Therefore, in the coming EARS, it will be enhanced and provide more flexible features to the user of various organization.

Below are the objectives to be achieved in the coming EARS:

- To provide a feature to allow the user to define their remuneration formula calculation besides using the already-definable mathematical formula of the system
- To keep track the employee time attendance as to provide the management the employee's working time
- To integrate time attendance system and the remuneration system

- To reduce the time and cost for organization and ultimately leads to efficiency and effectiveness in controlling and managing employee. The end result of computerized remuneration is similar to the manually calculated employee remuneration

1.4 Scopes

The Employee Attendance Remuneration System consists of five modules, which are Login, Employee, Time Attendance, Remuneration and Employee-Remuneration.

Login module is an interface that allows authorized user to access all the modules of the system. It verifies and validates the pin and password given by the user.

The Employee module consists of the organization's employee records. This module refers to the employee details, the package remuneration that selected by the employee and the payment history that made to the employee.

The Time Attendance module will integrate to the Employee-Remuneration module. It links to the reader technology, a bar code reader, which records the time attendance of employee. Each employee recorded time from reader is kept in database. It will then retrieve by the Remuneration module to calculate the employee remuneration. The Employee Time Attendance does affect to the Employee-Remuneration. The Time Attendance module provides security management and allows tracking movement of employee.

The Remuneration module is based on the mathematical remuneration formula; either it is already-definable in the system or is going to be defined by the user.

The Employee-Remuneration module is a user-friendly system that computes the employee remuneration based on the definable overtime and allowances.

EARS can be used in all company or organizations that have at least an employee. It is targeted to the Human Resource Department user, the Human Resource Manager. It provides the Human Resource Department, which need a computerized system to calculate the employee's remuneration precisely, to manage the employee remuneration efficiently in the end or beginning of each month.

EARS will be developed in Windows platform as most the companies or organizations have the OS. It will be using a Pascal Language or known as Delphi programming language as its tool development and Oracle Database will be its database. The system will be run as a standalone system.

1.5 Project Significance

The Employee Attendance and Remuneration System provides the integration of employee remuneration and time attendance. It provides the Human Resource Department a package of system contains of two systems. It reduces the cost to purchase 2 in 1 system despite of two separate systems. Moreover, the time is also does reduce to handle 2 in 1 system compare to two separate systems.

Besides, Employee Attendance and Remuneration System has a feature to allow the user to define their remuneration mathematical formula despite of using the existing mathematical formula in the system. The user may define their working hour rate, overtime rate, allowance rate, etc, which differ from the system mathematical remuneration.

1.6 Expected Output

Throughout the period of PSM, the Employee Remuneration and Attendance System enable the user to use a system consists of two integrated systems; Employee Remuneration and Time Attendance.

During the period of PSM I, there is no definite completed system. However, it has completed the literature review for the system, analysis and preliminary design for the system.

During PSM II, there will be completed detailed design and the system can be implemented. The completed developed system can be run for the user.

1.7 Conclusion

In Chapter 1, the existing system is identified before proposed the enhanced system. The enhanced system Employee Attendance and Remuneration System is developed to integrate the existing Employee Remuneration and Time Attendance into a complete system. The user no longer to have two separate system operated. It tracks the employee attendance before remunerate the employee. Moreover, the user may define their remuneration mathematical formula besides the existing formula in the system. This feature is developed to enhance the existing feature in the system as to provide the flexibility.

The proposed system is described in term of project background, problem statements, objectives, scopes, project significance, and expected output. The next activity to be developed is to provide the literature review and project methodology, which will be discussed in Chapter 2.

CHAPTER 2

LITERATURE REVIEW AND PROJECT METHODOLOGY

This section will explain the literature review and project methodology of the Employee Attendance and Remuneration System in the forms of introduction, fact and finding (based on topic), project requirement, project schedule and milestones, and conclusion.

2.1 Introduction

Before begin the Employee Attendance and Remuneration System, there are some reviews have to be done towards the existing system. It can be done through searching, collecting, studying and analyzing sources from books, web pages and CD-ROMs. Studies on the existing system are to be made to find out the advantage(s), disadvantage(s) and problem(s) behind the existing system and therefore to develop the enhancement of the existing system.