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JUDUL: PAYROLL SYSTEM

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(TANDATANGAN PENULIS)

Alamat tetap : 656, PEKAN LAMA,
08000 SUNGAI PETANI, KEDAH.

Tarikh : 18/10/2004


(TANDATANGAN PENYELIA)

SYARIEFFANUR HISHAM
Nama Penyelia

Tarikh : 20/10/2004

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PAYROLL SYSTEM

LIM WEI JIUN

This report is submitted in partial fulfillment of the requirements for the
Bachelor of Information and Communication Technology (Software Development)

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA**

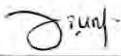
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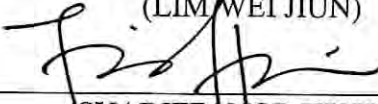
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STUDENT :  Date : 18/10/2004
(LIM WEI JUN)

SUPERVISOR :  Date : 20/10/2004
(SYARIFFANOR HISHAM)

DEDICATION

To my beloved parents for their selfless love and my brothers for their advice and support. I would like to thank my supervisor for her dedication and help.

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I would also like to thank to my beloved parents and brothers that constantly giving me support and motivation until at the end of my project.

ABSTRACT

The Payroll System project is developing for small company or medium scale industries. The system is very useful for the payroll transaction. It can make the work for payroll administrator more easily and the system is systematic than using the manually. The Payroll System can solve much problem face by the payroll administrator for examples the calculation for the salary will automatic calculate by the system. In addition, it can improve the time efficiency and provide user friendly environment and paperless. From the Payroll System, it also improves the payroll administrator work performance. Furthermore, it provides shorter time for information retrieval and easier way to maintain the detail. From the analysis review, some of the problem occurs in the current system. For example, the companies and industries need a system that can control all the payroll transaction. The system must secure to protect the data seeing by unauthorized user. The system also must have the function to print the pay slips and various reports. Moreover, the system can automatic calculate the salary and user friendly. It must have the function to maintain employee information, backup data, searching, keep history record and save the processing time. The methodology that use in the Payroll System project is Model-driven development (MDD) technique. The Model-driven development (MDD) techniques emphasize the drawing of models to help visualize and analyze problems, define business requirements, and design information systems. The Model-driven development techniques divided to seven phases that is preliminary investigation, problem analysis, requirement analysis, decision analysis, design, construction and implementation. The scope for the Payroll System will divided to six main parts. That is normal pay, *Zakat*, loan, insurance, *Tabung Haji* and *A.S.N*. The normal pay will keep all the payroll transaction and print the pay slips for employee. The *Zakat* will keep the *Zakat* details and print the particular data. Besides, the loan will keep the loan details for the employee who needs to pay for the loan such as car loan, house loan and computer loan. The insurance also will keep the insurance details that buy by the employee and the total amount has to pay. The *Tabung Haji* and *A.S.N* will keep the *Tabung Haji* and *A.S.N* details. Payroll administrator also can control the user authority which some user will not allow to use some function in the system such as save, update, delete, view and print. As the conclusion, it has many advantages for payroll administrator by using the Payroll System to control all the payroll transaction.

ABSTRAK

Payroll System ialah satu projek yang dibangunkan untuk kegunaan pejabat atau industri kecil dan sederhana. Sistem ini sangat berguna dalam proses membayar gaji. Sistem ini lebih menyenangkan kerja pentadbir jika dibandingkan dengan sistem secara manual. Sistem ini dapat menyelesaikan masalah pentadbir. Contohnya dalam mengira gaji pekerja. Sistem ini akan mengira gaji secara automatik. Selain itu, sistem ini dapat menjimatkan masa pentadbir dan mempunyai antaramuka sesuai serta menjimatkan kertas. Dengan adanya sistem ini, prestasi kerja pentadbir akan meningkat. Tambahan pula, sistem ini dapat memaparkan maklumat dengan cara yang mudah dan cepat. Dalam analisis yang dibuat, terdapat beberapa masalah yang dikenalpasti dalam sistem yang digunakan sekarang. Sebagai contoh, pejabat dan industri memerlukan satu sistem yang dapat menjalankan semua proses membayar gaji. Sistem yang dibangunkan mestilah selamat diguna dan dapat mencetak pernyataan gaji pekerja dan laporan. Selain itu, sistem ini juga perlu mengira gaji secara automatik dan mempunyai fungsi mengekalkan maklumat pekerja, buat salinan maklumat, mencari, menyimpan maklumat sejarah dan dapat menjimatkan masa. Kaedah yang digunakan untuk membangunkan *Payroll System* ialah *Model-driven development (MDD)*. *MDD* ialah teknik melukis model untuk menganalisis masalah, mendapatkan keperluan dalam perniagaan dan merekabentuk sistem maklumat. Terdapat tujuh fasa dalam kaedah *MDD* iaitu fasa penyiataan, fasa mengenalpasti masalah, analisis keperluan, analisis keputusan, merekabentuk, pembinaan dan perlaksanaan. Skop untuk *Payroll System* ini dibahagikan kepada enam bahagian. Iaitu bayaran biasa, zakat, pinjaman, insurans, tabung haji dan *A.S.N*. Bayaran biasa digunakan untuk menyimpan semua proses membayar gaji dan mencetak pernyataan gaji pekerja. Zakat digunakan untuk menyimpan maklumat zakat dan mencetak maklumat zakat. Selain itu, pinjaman digunakan untuk menyimpan maklumat pinjaman sekiranya seseorang pekerja dikehendaki membayar pinjaman kereta, pinjaman rumah atau pinjaman komputer. Bagi insurans pula, sistem ini juga digunakan untuk menyimpan maklumat insurans yang dibeli oleh pekerja. Tambahan pula, tabung haji dan *A.S.N* juga digunakan untuk menyimpan maklumat masing-masing. Pentadbir dapat mengawal seseorang daripada menggunakan sistem ini. Sebagai contoh pentadbir dapat mengawal pengguna lain daripada menyimpan, menukar, melihat atau mencetak maklumat. Akhir kata, *Payroll System* sangat berguna kepada pentadbir dalam proses membayar gaji pekerja.

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LIST OF ACRONYMS

ACRONYMS	WORD
IT	Information Technology
RAD	Rapid Application Development
MDD	Model-driven Development
KP	Knowledge-Pro
FPPS	Federal Personnel or Payroll System
NBC	National Business Center
HR	Human Resources
POD	Payroll Operations Division
NFC	National Finance Center
GAO	Government Accounting Office
OMB	Office of Management and Budget
JFMIP	Joint Financial Management Improvement program
T & A	Time & Attendance
SDM	Systems Development Method
LCO	Life Cycle Objectives
LCA	Life Cycle Architecture
IOC	Initial Operational Capability
<i>KUTKM</i>	<i>Kolej Universiti Teknikal Kebangsaan Malaysia</i>
RAM	Random Access Memory
CPU	Central Processing Unit
UML	Unified Modeling Language
OT	Overtime
<i>A.S.N</i>	<i>Amanah Saham Nasional Berhad</i>
<i>PSM</i>	<i>Projek Sarjana Muda</i>

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CHAPTER I

INTRODUCTION

1.1 Preamble / Overview

This chapter will briefly describe the project preliminary investigation and problem analysis phase. The topic that include in this chapter is overview of the project, problem statements, objective, scope, contributions and expected output of the project.

From the research, many of the companies and industries did not have their own Payroll System. The Payroll System is very important for the companies or industries where it can make the work for payroll administrator more easily and the system is systematic then using manually. Therefore, the Payroll System will develop where it can use by the small company or medium scale industries.

The Payroll System has many functions where it is very useful for payroll administrator. The main function for the Payroll System is it can automatic help payroll administrator to calculate the salary and print the pay slips. In addition, the Payroll System also has function to save, update and delete the record. Payroll administrator can backup the database to avoid any data missing from the system. Furthermore, the Payroll System has the user authority function to make the system more secure.

The more detail description of the Payroll System project will describe in the sub topic of this chapter.

1.2 Problem statements

Based on the research, the companies and industries that do not have the Payroll System will make the payroll transaction more difficult. The entire employee's salary has to calculate it as manually. If the system is not systematic, it will make the searching for particular detail more difficult. In addition, the pay slips for the employee also have to write it as manually or type using the typewriter. This problem will make the payroll transaction become slow.

Furthermore, if the detail for the employee keeps it as document, this document maybe will see by other person. The entire document has to keep in the secure place to avoid see or steal by others people. All of this problem can be a burden for the payroll administrator because many works have to do by the payroll administrator before the pay slips can give to employee.

Therefore by develop this Payroll System all of this problem can be solve. Some suggestion has been made to solve the problem that face by payroll administrator. For example, user has to insert their user name and password every time uses that system. This will make the system more secure. The payroll administrator also can control the user authority to make sure the detail is secure and only can use by the authorize user.

Moreover the percentage to make mistake is low because all the calculation is automatic calculate by the system. The detail is kept in the systematic way where it can make the user easy to search. Payroll administrator only has to make the searching by employee id, employee name and others. The pay slips for employee will also automatic generate by the system. Payroll administrator can print out the pay slips anytime they want, the pay slips will display all the detail for the calculation of employee's salary.

If payroll administrator wants to update or delete the detail, it is also the easy way to do it. This is because payroll administrator only has to search the employee's detail and changes direct from the system then click the update button. Same as the

delete the employee's detail, payroll administrator just has to find the employee's detail then click the delete button.

1.3 Objective

The benefit of the project is like below:

a. To eliminate of manual system

The Payroll System will help to reduce man-hours per job and reduce the risk of lost information.

b. To provide support for an efficient Payroll System

The Payroll System will help the payroll administrator to manage the employee's salary in an efficient way and increase work performance.

c. To provide automatic calculation of salary

The Payroll System will automatic calculate the overtime, deduction and allowances according to the data insert by administrator.

d. To improve the time efficiency

User can retrieve and view the records of the employee's detail by make the searching from the system or generate the various reports.

e. To provide user-friendly environment and paperless

The system will be more user friendly with windows based application. The system will eliminate the time-consuming and potentially inaccurate method of handwritten notes and manual cour

f. To improve performance

The payroll administrator work performance will be improved since using computerized system can save a lot of time.

g. To provide shorter time for information retrieval

The information can be retrieve in a shorter time compare to the manual recording system. It will also reduce the data input time.

h. To provide the easier way to maintain the detail

Payroll administrator can maintain the employee's detail in the easier way by just update and delete using the system.

1.4 Scopes

The Payroll System is focused on small and medium scale industries. The main user for Payroll System is payroll administrator. This system is using Windows operating system to run it. The scope for the Payroll System will divided to seven main parts. That is Payroll, *Zakat*, Loan, Insurance, *Tabung Haji*, *A.S.N* and User Authority.

a. Payroll

- i. For this part the system will keep the particular employee detail such as employee id, name, EPF No and so on to calculate the salary for the employee. The company detail also will keep in the system.
- ii. The system wills also automatic help payroll administrator to calculate the payroll for every month. The calculation for the salary will include the deduction for the *A.S.N*, *Tabung Haji*, *Zakat*, Loan, Insurance, EPF and SOCSO.
- iii. The deduction for the salary only for the related item. For example if the employee did not have to pay for the loan. the particular employee's salary will not deduct for the loan.

- iv. Other than deduction, the salary will adding if the particular employee has allowance such as medical allowance, dressing allowance and others.
- v. For the executive staff it will calculate the basic pay and the non-executive staff will calculate the basic pay and the over time for the employee when calculate the salary.
- vi. The payment for the executive staff and non-executive staff is different, so the pay slips details also will be different.
- vii. The pay slips will automatic generate for the employee and payroll administrator can print the pay slips anytime.

b. *Zakat*

- i. This part will keep the particular employee detail for *Zakat*.
- ii. The employee can choose to pay the *Zakat*. Employee has to pay one of that only.
- iii. The employee detail such as amount deduction for *Zakat* has to keep in the database.
- iv. This detail is very important when calculate the salary because the salary will deduct from the *Zakat*. The payroll administrator will help the employee pay for the *Zakat*.
- v. The detail of the *Zakat* can update and delete by the payroll administrator. When the amount for the *Zakat* change the deduction for the salary will automatic change.

c. Loan

- i. This part is only for particular employee who has to pay for the loan such as car loan, house loan and computer loan.
- ii. The amount to pay for the loan is also important when calculates the salary.
- iii. The salary for the particular employee also will deduct from the loan.
- iv. The detail for the loan can be update or delete by the payroll administrator. For example the loan already finish pay by the employee then that particular data can be delete from the database to make sure that it will not continue deduct the employee's salary.

d. Insurance

- i. This part will keep the detail of the insurance employee buy for.
- ii. It will also keep which and what insurance bought buy the employee.
- iii. This will easy for the payroll administrator to calculate the salary and also help the employee to pay for their insurance.
- iv. The detail for the insurance can be update or delete by the payroll administrator. This is because maybe employee has finish paid all the payment then the salary for the employee will not deduct from insurance. For that situation, the detail can be deleting from the database.

e. *Tabung Haji*

- i. This part also keeps the particular employee detail for the *Tabung Haji*.
- ii. The amount for the deduction also has to keep for easy to calculate the salary.
- iii. The detail also can update by the payroll administrator if got any changes.

f. *A.S.N*

- i. This part also same as other, it will keep the employee particular detail for the *A.S.N* and also for the amount to make the deduction to the salary.
- ii. The detail also can be update by the payroll administrator if got any changes.

g. User Authority

- i. All the data can be save, delete or update for authorize user only.
- ii. The payroll administrator has to insert the password every time login to the system.
- iii. Payroll administrator can control the user authority which some user will not allow to update, view or delete the detail.
- iv. This will make the system more secure because the salary for each employee is confidential detail.

1.5 Contributions

The project for the Payroll System is very important in automatic calculation of the salary including deduction and allowance. This will make the payroll administrator more easily when pay the salary to the employee because the salary already calculates by the system.

Furthermore, the pay slips for the employee also automatic generate by the system. From the advanced of the system, payroll administrator no needs to write the pay slips as manually or type using the typewriter. Payroll administrator just have to choose which pay slips want to print and the system will automatic help payroll administrator to print it.

In addition from the Payroll System, payroll administrator can check the employee detail by employee id or employee name. This is also the easy way to search such particular employee detail. This is because if the payroll administrator wants to check the employee detail, the detail of the employee can get faster.

The Payroll System will also allow user to make some changes to the detail. User not just can save the new detail but also can update and delete the detail if the user has the user right to do it. This is also the important features that must include in the Payroll System because maybe the detail for particular employee is wrong then the correction must be making immediately. If the changes are related to the calculation of salary then the payment for the salary will be wrong. In addition, if the employee already resigns then the particular detail has to delete from database. This is because if the detail not delete from the database the pay slip will also generate for that employee.

The Payroll System is also very secure to use because every time the user want to use the system, the user have to insert the user name and password. Either one of the user name or password is invalid the user will not allow to use the system. This is to make sure that unauthorized user will not allow using the system. All the detail in the Payroll System is the confidential detail that it only can see by the authorized user.

By develop the Payroll System, the work process become faster and the performance for the payroll administrator also can improve. This is because all the process will use the computerized Payroll System. The Payroll System will help to reduce man-hours per job and reduce the risk of lost information. In addition, using the Payroll System will also reduce the cost because it no needs many staff to handle the payroll transaction. By using the Payroll System, all the process will become faster than manually and it will save a lot of time. Moreover, the system will also cause the paperless. Payroll administrator no needs to keep the employee's detail in the document or fail. It will save space to keep the document and fail.

1.6 Expected output

The expected output for the Payroll System consists of 15 modules, which are login, add/update employees, personnel reports, *A.S.N*-contribution, *Tabung Haji*-contribution, *Zakat*, Loan, Insurance, company details, payroll, edit overtime rate, edit allowance table, edit deduction table, backup database and user authority.

The modules provide many features that can solve the problem face by payroll administrator. From the modules, Payroll System is expected that can help payroll administrator to calculate the salary. Payroll administrator no needs to calculate it as manually because all the salary will automatic calculate by the system. Another expected outcome for Payroll System is it can allow payroll administrator to search, save, update, and delete the details. The Payroll System also expects has the function to allow payroll administrator to print out the pay slips and report.

This is some expected output from Payroll System, it can decrease the payroll administrator's burden and the payroll transaction will become more systematic.