

**THE DEVELOPMENT OF FOREIGN WORKER MANAGEMENT SYSTEM
(FWMS)**

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FOREIGN WORKER MANAGEMENT SYSTEM

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**This report is submitted in partial fulfillment of the requirements for the
Bachelor of Computer Science (Database Management)**

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2009**

DECLARATION

I hereby declare this project report entitled
FOREIGN WORKER MANAGEMENT SYSTEM

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

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DEDICATION

To my beloved parents Md Said bin Hj Yunus and Hasiah binti Zainuddin, who give me full support morally and economically, motivate and inspire me during the hard time to complete this project.

To my supervisor, Dr Abdul Samad bin Shibghatullah who guide, assist and advice me all the way through this project.

To all my friends, who always give me the moral support and been there whenever I am in need.

ABSTRACT

Foreign Worker Management System (FWMS) was developed for Risda Plantation Sdn Bhd which allows the officer and the system administrator to manage the foreign worker management record. FWMS is using Microsoft Visual Studio 2005 as the programming language and Oracle9i as the Database Management System (DBMS). The methodology that is used in the development of FWMS is Iterative Waterfall Model and Structured Analysis and Design Method (SSADM) as the database methodology. The methodology is used in making sure to develop FWMS successfully. FWMS is focusing on the role of user as the system provides many features that were done by the Database Administrator (DBA). The System Administrator will be responsible as the role of DBA. The roles of DBA that will implement in the FWMS is database backup and recovery, grant or revoke object or system privileges. Those features will be done through interface of the FWMS. As other features provided by this system are to **insert**, update, delete, and view foreign worker information and to calculate compensation for the system. The expected output from the development of FWMS is that this system will be used at Risda Plantation Sdn Bhd.

ABSTRAK

Sistem Pengurusan Pekerja Asing (FWMS) telah dibangunkan untuk digunakan oleh Risda Plantation Sdn Bhd yang akan membenarkan pegawai risda dan pengendali sistem untuk menguruskan rekod pekerja asing. FWMS telah dibangunkan menggunakan Microsoft Visual Studio 2005 sebagai bahasa pengaturcaraan dan Oracle9i sebagai sistem pengurusan pengkalan data (DBMS). Kaedah yang telah digunakan dalam pembangunan FWMS adalah Iterative Waterfall Model dan Structured System Analysis dan Design Method (SSADM) sebagai kaedah untuk pengkalan data. Kaedah ini telah digunakan untuk memastikan pembangunan FWMS berjaya. FWMS banyak menumpukan peranan pengguna kerana sistem ini menyediakan banyak ciri yang dilakukan oleh pengurusan pengkalan data (DBA). Pengendali sistem akan bertanggungjawab sebagai DBA. Peranan DBA yang akan dilaksanakan dalam FWMS adalah sandar dan pemulihan pengkalan data, penghasilan laporan, membenarkan atau membatalkan objek atau keistimewaan-keistimewaan sistem. Ciri-ciri ini akan dilaksanakan menerusi antara muka FWMS. Antara ciri-ciri lain disediakan dalam sistem ini adalah untuk menyisipkan, kemaskini, memadamkan dan melihat maklumat pekerja asing dan untuk melakukan pengiraan pampasan. Hasil yang dijangkakan daripada penghasilan FWMS ialah, sistem ini bakal digunakan oleh Pejabat Risda Plantation Sdn Bhd.

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CHAPTER I

INTRODUCTION

This chapter contains project background, problem statement, objective, scope, project significant, expected output of the system and the conclusion of this chapter. Project background describes briefly about the organization and the project that will be developed. The problem statement will state the problem that encountered in the existing system or current system. For the objective, it is about the aim for the development of the system in order to solve the problem in the existing system while the scope covers a target user and module of the system. Project significant will describe the benefit system for the user. Meanwhile expected output will describe the final output of the system. The conclusion summarizes this chapter an introduction of next chapter.

1.1 Project Background

Risda Plantations Sdn Bhd (RPSB) enrolled on 1 August 1996 with RISDA holds equity 70 percent while Koperasi Pekebun Kecil Getah Nasional Berhad (NARSCO) holds equity 30 percent. RPSB's establishment would be to continue replanting programmed smallholder rubber and oil palm by commercial under estate approach. RPSB also managed agro business projects and implement development works, care, farm produce collection by contract by market agro business farm produce

and projects. In order to develop their company, RPSB has many foreign workers that work in their farm. This organization doesn't have a proper foreign worker information and salary system.

RPSB is currently storing all its data in Microsoft Access and Microsoft Excel. However, Microsoft Access is a database solution for small scale projects or companies and can only store a small amount of data. For companies like RPSB, a more powerful database solution is needed. Looking into this, a new system known as The Development Foreign Worker Management System is proposed which uses Oracle9i as its database system.

Oracle9i includes everything needed to develop, deploy and manage Internet applications. It is a robust, reliable, available and secure architecture and is a one development model which has easy deployment options. Oracle offers a comprehensive high-performance Internet platform for e-commerce and data warehousing. Moreover, Oracle can scale tens of thousands of concurrent users and can handle any type of data including text, spatial and images as well as traditional structured data.

The proposed system not only has common functions like ADD, UPDATE, DELETE and SEARCH, but also has BACKUP and RECOVERY functions. This will make the management of the company's systems as well as its database more easier and managable.

This system also includes security features to its database through the implementation of privileges or roles where certain users are permitted or denied access to certain data in the database. Also, trigger is also used to maintain the integrity of one table that might rely on another table in RPSB's database.

Since backup and recovery is also important, this system is also included with BACKUP and RECOVERY functions. This is where, RPSB's manager is able to backup their database either daily, weekly or monthly. This is so that, whenever there is a case

of database crash, RPSB's data can be retrieved and restored from the backup files stored at other locations.

In this report, the problems faced in the current system, the objectives of the proposed system, the scope of the proposed system, and its significant are discussed in this chapter. Further details about the proposed The Development Foreign Worker Management System (FWMS) will discussed in this chapter.

1.2 Problem Statement

In this Development Foreigner Worker Management System (FWMS), there are number of problems that have been identified and will affect FWMS from time to time. The problems occurred from the database aspect, security aspect, backup and recovery and other aspects. The problems are:

i. Manual System

Currently, the company using the manual system in managing all data, managing all salary record and leave application. There is filing system in managing all of the data entries, and the pay slip. This system is not systematic and less secure.

ii. Data Redundant

The current system will cause data redundant, data losing, and inconsistency. Besides this problem; it will makes lack of data integrity. The data must be maintained as multiple users can access it and can change the data.

iii. Security

Current system will make lack of security because there is no limitation of using the system, according their level of user. Everybody knows the password because there are no password encryption and no privileges of using the system.

iv. Backup and Recovery

No backup and recovery. This is because too difficult to backup and recovery data for current system. This problem occurred because of data is not computerized and difficult to control the system especially the data.

v. Generate Report

Reporting has become an important feature of a system nowadays as every organization want to see the statistic or the summary for the operation done. Most of the system will have a static reporting system where the user can see the report but only for the field that already stated before. The users are not allowed to choose the field they want the report to have.

vi. Database Trigger

Most of the systems also do not used database trigger in their operation. So, usually the systems do not perform data access restriction and logging.

1.3 Objective

In Development RPSB Foreigner Worker Management System (FWMS), there are some objectives that expected to be achieved and will solve all the problems that have been identified. The listed objectives hope can be achieved in the end of this project. The objectives are:

i. To Make Faster in Data Processing

This system hope can make faster in data processing and accessing. With computerized system, there are easy to access the data, modify and key in the data on the time. This will decrease the cost of processing time.

ii. **To Have Data Integrity**

The data integrity in a relational database is maintained as multiple users' access and changes the data. Whenever data is shared, there is need to ensure the accuracy of the values within database tables.

iii. **To Make System Secure**

This system has to make a secure system by using password encryption and an authorized user only can access the data. The database will also be encrypted to make sure there are no data alterations that have been done by unauthorized user.

iv. **To Backup and Recover Data**

This system can backup and recovery data. . This is because the data are tended and have high risk to lose. With the database backup, the database can be maintained and keep the data safely.

v. **To give generate report dynamically**

Through FWMS the DBA is given the opportunity generate dynamic report where the DBA can select the desire parameters for the report generated.

1.4 Scope

Development RPSB Foreigner Worker Management System (FWMS) have its system scopes. The scopes are divided into target users and the modules to be developed. The scopes are to make sure that the user will be clearer with the system.

1.4.1 Scope of the users

The system will be used by two (2) levels of user. These both users will get the password and can access the system following their level. The users are:

i. RPSB Administrator

Risda Plantation Administrator user have right to access all the data in the system. Other accessing the data, this user can also import the data from the database, make data backup and recovery, managing the information about foreign worker, managing pay slip and so on. This user can access or modify the system especially on the internal database, the code of program.

ii. RPSB Staff

Risda Plantation Staff can only access the worker information and make worker salary from this system. This user can view foreign worker information but this user cannot modify anything record especially on the internal database and the code of program.

1.4.2 Scope of System Module

There are six (6) modules of the system. The modules are including record management, stored procedure, database trigger, grant and revoke privilege, data backup and recovery, and make dynamic report. The modules are:

i. Record Management

User will insert a new worker, update the data or delete the data of the worker and search some data that related to the branch, farm, worker, passport and leave details.

ii. **Salary Calculation**

In this module, the user can calculate the monthly salary of foreign worker with hour of work and collection of farm product. After calculate, this system will print the pay slip to worker for their reference.

iii. **Grant and Revoke Privilege**

User access control is an important feature to ensure security to a system, without it anyone can access the system and may cause serious damage. The user control is done through the DBA granting suitable privilege to a user through user interface and revoking it if the privilege is not suitable for the user.

iv. **Data Backup and Recovery**

User can use to make the backup and recovery every day, so that it can save much time and because the data are tended and have high risk to lose, with the database backup, the database can be maintained and keep the data safely.

v. **Dynamic Report**

User can enter their own parameter to view the report such as choosing the number of worker and the age. It will show the result of worker in what age are the highest numbers.

1.4.3 Scope of Technology

There are several technologies that are used to develop FWMS which are software and hardware requirement. The scopes are listed as below:

1.4.3.1 Software

i. **Operating System**

- **Microsoft Windows XP Professional Service Pack 2**

- ii. Database Server
 - Oracle 9i for Windows

- iii. Programming Tool
 - Microsoft Visual Studio .Net 2005

- iv. Basic Software
 - Microsoft Office 2003
 - Microsoft Project 2003
 - Microsoft Visio 2003

1.4.3.2 Hardware

- i. Processor
 - Intel Core 2 Duo

- ii. Memory
 - 1Gb and above

- iii. Hard Disk
 - 120Gb and above

1.5 Project Significant

In Development RPSB Foreigner Worker Management System (FWMS), there are some benefit that expected from this system. The benefits of the project are: