# STUDENT PERFORMANCE EVALUATION SYSTEM

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# DECLARATION

I hereby declare that this project report entitled

**STUDENT PERFORMANCE EVALUATION SYSTEM**

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

**STUDENT** : _____ Date : _____

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**SUPERVISOR** : _____ Date : 3 July 2009

**(PM NORHAZIAH MD SALLEH)**

## DEDICATION

To my beloved parents, your love and understanding are my greatest inspiration.

To my friends, it is for your support and understanding.

To my lecturers, it is for your guidance and ideas.

## ACKNOWLEDGEMENT

I would like to express my highest gratitude towards my supervisor PM Norhaziah MD Salleh for her patience, idea, support and advice during the completion of the project.

Apart from that, I would like to thank my parents as the representative of my moral supports and motivation throughout my project.

## ABSTRACT

Student Performance Evaluation System (SPES) is a client-server application that enables students to keep track of their academic performance. This application is developed by using Oracle 9i Application Server and Oracle 9i Developer Suite with Oracle 9i DBMS as the database management system. The methodology used to develop this system is Database Life Cycle (DBLC). The targeted users for this system are student, staff, and system administrator. The main objective of this system is to enable students to sets targets for their CGPAs and find out the required grades necessary in order to get the targets. The students thus have to put in efforts to get the grades.

# ABSTRAK

Sistem Pencapaian Penilaian Pelajar adalah aplikasi pelanggan-pelayan yang membolehkan pelajar memberi perhatian terhadap pencapaian akademik mereka. Aplikasi ini dibangunkan dengan menggunakan teknologi Oracle 9i Application Server dan Oracle 9i Developer Suite bersama dengan Oracle 9i DBMS sebagai sistem pengurusan pangkalan data. Metodologi yang digunakan untuk membangunkan sistem ini adalah Kitar Hayat Pembangunan Pangkalan Data. Sasaran pengguna adalah pelajar, staff dan pentadbir sistem. Objektif utama pembangunan aplikasi ini adalah untuk membolehkan pelajar menetapkan sasaran CGPA mereka dan mancari gred yang diperlukan untuk mancapai sasaran CGPA mereka. Oleh itu, pelajar perlu berusaha gigih untuk mendapatkan gred yang diperlukan.

# TABLE OF CONTENTS

**CHAPTER V IMPLEMENTATION**



**CHAPTER VI TESTING**

# LIST OF TABLES

# LIST OF FIGURES

# LIST OF ABBREVIATIONS

| | | |
|---|---|---|
| SPES | - | Student Performance Evaluation System |
| DBMS | - | Database Management System |
| DBLC | - | Database Life Cycle |
| CGPA | - | Cumulative Grade Point Average |
| GPA | - | Grade Point Average |
| UTeM | - | Universiti Teknikal Malaysia Melaka |
| DDL | - | Data Definition Language |
| DML | - | Data Manipulation Language |
| GUI | - | Graphical User Interface |
| DFD | - | Data Flow Diagram |
| IBM | - | International Business Machines Corporation |
| DB2 | - | Database Management System from IBM |
| PSM | - | Projek Sarjana Muda |
| SQL | - | Structure Query Language |
| ERD | - | Entity Relationship Diagram |
| RAM | - | Random Access Memory |
| FTMK | - | Fakulti Teknologi Maklumat dan Komunikasi |

# LIST OF ATTACHMENTS

# CHAPTER I

# INTRODUCTION

## 1.1 Project Background

Student Performance Evaluation System (SPES) is developed to help student to keep track of their academic performance and to maintaining and managing database of SPES. SPES is developed for Faculty of Information and Communication Technology in UTEM and will be used by the system administrator, lecturers and students.

The feature of SPES include entry of student targeted CGPA, suggest target grade for each subject, user access control, backup and recovery, dynamic database creation, dynamic report, and audit trail. Entry of student targeted CGPA allow student to enter their target CGPA for specific semester and the system will suggest target grade for each subjects in order to achieve the targeted CGPA.

User access control enable system administrator to prevent unauthorized user from accessing and manipulating the database by implementing user password and privileges. Backup and recovery enable system administrator to protecting database against data loss and reconstructing the data should that loss occur. Dynamic database creation allows system administrator to maintain database integrity by use of DBMS features such as domains and data types, and constraints such as referential, unique constraints, and check constraints. Dynamic report allow system administrator to

generate report based on their need. Audit trail enable system administrator to keep track the user activity in database such as time of login and logout from database.

## 1.2 Problem Statements

Currently, the student performance evaluation is done using manual process by filling up a form which is not efficient and leads to several problems such as

a) No suggestion for targeted grade for each subject
   Student needs to set targeted grade for each subject manually in order to achieve their targeted CGPA for a specific semester.

b) Data integrity
   Applications are developed independently in manual file systems leading to unplanned duplicate files. It is also possible that the same data item may have different names in different files, or the same name may be used for different data items in different files.

c) Backup and Recovery
   The data might be discarded easily as the papers may easily become separated from the files. When data is loss, it cannot be recovered back.

d) Report acquisition
   The effort associated with finding meaningful data and statistics using manual file system is difficult.

## 1.3 Objectives

The objectives of SPES are:

a) To suggest student targeted grade for each subject in order to achieve their targeted CGPA.

b) To prevent unauthorized user from accessing and manipulating the database in the system.

c) To maintain the data integrity and data consistency.

d) To perform backup and recovery procedure.

e) To generate dynamic report with meaningful data and statistics.

## 1.4 Scopes

The scope for the SPES can be determined from various aspects.

### 1.4.1 Scopes of SPES Features

#### 1.4.1.1 Database Element Modules

The database element modules for the SPES are listed in the Table 1.1 as follows:

**Table 1.1: Database element modules and the brief descriptions**

| Modules | Brief Description |
|---|---|
| **User Access Control** | Prevent unauthorized user from accessing and manipulating the database. |
| **Dynamic Database Creation** | Using DBMS features such as domains and data types, and constraints such as referential, unique constraints, and check constraints to maintain database integrity. |
| **Dynamic report** | Generate report based on need of system administrator |
| **Backup and Recovery** | Protecting database against data loss and reconstructing the data should that loss occur |
| **Audit Trail** | Keep track the user activity in database |

### 1.4.1.2 SPES Modules

This is the main modules for the SPES apart from the database element modules as the support to these system modules. Hence, the system modules for the SPES are listed in the Table 1.2 as follows:

**Table 1.2: SPES modules and the brief descriptions**

| Modules | Brief Description |
|---|---|
| **Login** | Login is a necessity as the abstract security to form the security system barrier tough to be breached. |
| **Subject Registration** | Subject registration is needed to enable user to use the function generate targeted grade for each subject. |
| **Generate targeted grade for each subject** | To suggest student targeted grade for each subject in order to achieve their targeted CGPA. |
| **Report** | Various statistic reports can be generated for analysis of purposes. |

### 1.4.2 Scope of System Users

SPES developed for Faculty of Information and Communication Technology in UTEM and will be used by the system administrator, lecturers and students.

a. Administrator

The administrator has all privileges to access the SPES as to maintain and managing the system and database functionality.

b. Lecturer

Lecturers can view the student's past results to give suggestion or advice to a particular student to improve his/her result.

c. Student

Students can enter their targeted CGPA for a particular semester and the system will display a list of suggested targeted grade for each subject in order to achieve their targeted CGPAs.

## 1.5 Project Significance

As stated in the objectives, SPES help student to analyze and develop a study plan to achieve their targeted CGPA by knowing the minimum grade needed for each subject. The system also help lecturer to give suggestion or advice to their student to improve their academic performance.

The system help system administrator to prevent unauthorized user from accessing and manipulating the database by implementing user password and privileges. Beside that, the system also help system administrator to maintain database integrity and consistency by use of DBMS features such as domains and data types, and constraints such as referential, unique constraints, and check constraints. Backup and recovery features help system to protecting database against data loss and reconstructing the data should that loss occur. The system can generate report of audit trail which help system administrator to keep track user activities in the database.

## 1.6 Expected Output

The expected output of this system is to help student to improve their academic performance by developing strategic study plan based on the suggested grade for each subject that generated by the system. Beside that, the system is expecting to help system administrator to maintaining and managing the database. This is done by using the features that the system provided which includes multilevel user control, backup and recovery, dynamic database creation, dynamic report and audit trail.

## 1.7 Conclusion

As the conclusion, this chapter describes about the project background, problem statement of current system, objectives of the system to be developing, scope of the system to be developing, the significance of the system to be developing, and expected result of the system to be developing.

The next chapter will discuss about literature review and project methodology.