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PRIMARY SCHOOL ACHIEVEMENT RETRIEVAL SUPPORT SYSTEM

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This report is submitted in partial fulfillment of the requirement for the Bachelor of Computer Science (Database Administration)

FACULTY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
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DEDICATION

To my beloved parents…
thanks for giving me a lot of your support,
both of you are my inspiration and encouragement will
continue to guide me always.

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Azlina Abu Seman

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ABSTRACT

Primary School Achievement Retrieval Support System is a solution for the problems that occur in management of student and grading information. This system is supports decision making in order to make grading information process more efficient. It has the capability to calculate student marks automatically and able to produce suggestion so that help teachers manage the grading system easily and smoothly. This system also developed to keep track the previous record as references. The methodology that has been used to develop this system is Waterfall which is a part of Software Development Life Cycle. Primary School Achievement Retrieval Support System will be used Microsoft SQL Server 2005 integrated with Microsoft Access 2003, Microsoft Visual Studio 2005, Internet Browser and Microsoft Project. The minimum hardware requirements needed are at least 512 MB RAM and 80 Gb hard disk. All of the requirement analysis is described using Data Flow Diagram. The architecture of this system is design with 3-tier architecture and the technique that is used in database design is normalization.

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ABSTRAK

Primary School Achievement Retrieval Support System merupakan satu penyelesaian kepada masalah yang berlaku di dalam pengurusan markah dan maklumat pelajar. Sistem ini menyokong proses pembuatan keputusan agar proses maklumat pemarkahan akan dapat dilakukan dengan lebih efisyen. Ianya mempunyai kebolehan untuk mengira markah pelajar secara automatic dan berupaya untuk memberikan cadangan kepada pengguna berdasarkan kepada proses yg dilakukan sebelumnya untuk membantu guru menguruskan markah dengan lebih mudah dan lancar. System ini akan dibangunkan untuk menyimpan rekod-rekod yang lepas sebagai rujukan. Metodologi yang digunakan untuk membangunkan system ini adalah air terjun yang merupakan sebahagian daripada Kitaran Hayat Pembangunan Sistem. Primary School Achievement Retrieval Support System menggunakan perisisan Microsoft SQL Server 2005 yang akan digabungkan bersama Microsoft Access, Microsoft Visual Studio 2005, Interner Browser dan Microsoft Project. Keperluan perkakasan paling minimum yang diperlukan ialah memori 512 MB dan cakera keras 80 Gb. Semua analisa keperluan bagi system ini diterangkan melalui gambajah aliran data. Rekabentuk system ini menggunakan rekabentuk 3-tier dan menggunakan teknik pernormalan di dalam merekabentuk pangkalan data.

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LIST OF ABBREVIATIONS

3NF	Third Normal Form
SDLC	System Development Life Cycle
DFD	Data Flow Diagram
ERD	Entity Relationship Diagram
PSARSS	Primary School Achievement Retrieval Support System
SMP	Sistem Maklumat Pelajar
DSS	Decision Support System
LAN	Local Area Network
PPD	Pegawai Pendidikan Daerah
HTML	Hyper Text Markup Language
SQL	Structured Query Language

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CHAPTER I

INTRODUCTION

1.1 Project Background

Sekolah Kebangsaan Serkam Darat has been chosen to be pilot study in developing Primary School Achievement Retrieval Support System. It is a primary school that situated at Serkam, Melaka. It is a new school and has student from preschool to standard 6. Because of the number of student is increased from year to year, this school has problem to manage the storage data easily especially for grading report.

Primary School Achievement Retrieval Support System will be developed for primary school to make grading information management process easily. Currently, the manual system using Microsoft Excel and does not support database providing to record data. By using this current system, the student achievement report depends on when teachers compute the grade but sometimes, teachers take a long time to finish that process. This system does not support to view student previous achievement report and it is difficult to analyze the grade. Teachers need to identify themselves the future classes for student based on their result.

Primary School Achievement Retrieval Support System is computerizes system; develop to make the process of grade management more efficient and systematic. The function of this new system is to compute student's grade. This decision support system can be use to sort student into their class using the achievement information. By using

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the grading information, teachers also can analyze student achievement. This system will use database to record data and will keep track student achievement report. This system also can view the current and previous grading information and can be used to retrieve data immediately.

By using this system, parent also can use this system to view their children achievement report. This is very important to parent to know the progress of their children. With knowing the progress of their children, parent can give the moral support to them. This achievement report is also important to analyze student achievement and make some improvement in their learning.

1.2 Problem Statements

From the analysis that has been made, some problem has been stated from using the current system. The problems are as the following:

i. Performance of the current system is slower
   The student achievement process is slow because it depends on when the teacher compute the grade. Sometime teachers take more time to complete the process.

ii. Does not support to keep track previous grading report
   Only the current grading information can be viewed by using this system because it does not keep track the previous achievement information.

iii. Does not support to analyze student achievement report
   The current system could not analyze student achievement information and produce statistic.

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iv. The current system is not efficient

Current system is not efficient because it could not sort the students into their classes automatically. So, all the processes are done by teachers manually.

v. Difficult to retrieve student information

The current system is difficult to retrieve student grading report immediately.

1.3 Objectives

There are some objectives that have to achieve for this Primary School Achievement Retrieval Support System as following:

i. To provide capability for processing grading report automatically

For the current system, the grading process is depends on how long teachers take a time to complete it. If teachers do the process slowly, the result need more time to be viewed. So, system to be is developed to make this process is being fast and easy.

ii. To keep track the current and previous student achievement report.

The current system does not keep track all the previous student achievement information. However, system to be is developing to keep track that information. So, the user such as teacher, parent, student and Pejabat Pendidikan Daerah (PPD) can view the current and previous achievement information by using this new system.

iii. To provide capability for analyzing grading information.

With the current and previous achievement information that is keep track by this system could be analyzed to produce statistic such as histogram, bar chart and others.

iv. To provide a useful decision support system and the ability to access information in ways that support strategic decision-making.

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By using the grading and achievement information, this system will sort students into their future class automatically. Teachers no need to process it manually so the management become easily. This system will increase efficiency and capabilities.

v. To make data processing and accessing faster.
System to be is fast in data processing and accessing by using query and index. This is because query and index will help to improve data retrieval and performance speed. Primary and foreign key are created each time to retrieve the data from database.

1.4 Scopes

Scopes of Primary School Achievement Retrieval Support System include the target user, functions of the system, where to implement the system, specific platform and resources.

1.4.1 Target User

This system has three main users. Those are teacher, parent and student.

a) Teacher

Teacher is a user that can do add data, update, delete and search operation. This user also can analyze and generate achievement report using student grading information. Teacher need to approve the decision made by this system.

b) Parent / Student

Parent and student is a user that can only view student grading and achievement information without make any changes of data. Parent will receive the report of student achievement information.

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c) PPD

PPD can view all the grading report of schools in Jasin and also the same function with teacher.

1.4.2 Function of the System

The functions of this new system are:

i. Able to add data, update, delete and search.
   This system can do all the basic operation and also can retrieve data such as grading report that are need immediately.

ii. Able to keep track the current and previous student achievement information.
   This system is developed to record all the previous and current information of student achievement. It is easy to use as reference and analyzing report.

iii. Able to support decision-making.
   This system is able to sort student into the future class automatically using the achievement report.

iv. Able to generate student achievement report.
   Student achievement report can be generated by using this system.

v. Able to produce statistic.
   From the analysis that has been done, the system is able to produce statistic such as histogram, bar chart and others.

1.4.3 Where to Implement the System

Primary School Achievement Retrieval Support System is developed to be used at Sekolah Kebangsaan Serkam Darat which has been chosen as pilot study.

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1.4.4 Specific Platform

The operating system that use for this system is Microsoft Windows XP Service Pack 2. This platform is required to installed Microsoft SQL Server 2005 and Microsoft Visual Studio 2005.

1.5 Project Significance

Primary School Achievement Retrieval Support System is developed to be used at Primary School. These significances of this system are for making data storage management easily. The data such as grading report that have been store in this system will be easily manage in the database. The data will be stored accurately and arrange wisely. This system is very important for decreasing management time. The user of this system such as teacher, parent, student and PPD can search data such as achievement report fast and accurately. For the current system, the process of grade computation is depend on how long the teachers take time to finish it but by using this new system, it can be faster.

Besides, this system is important for security management. This system will determine which user can access the database, which data item that use may access and which data operation (read, add, delete, or update) that user may perform. This system has login module that need user to login the system with username and password. So, it can prevent from unauthorized user. This is also for database back up. Primary School Achievement Retrieval Support System can also support decision-making. This system support decision support system that will increase efficiency and capabilities.

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1.6 Expected Output

Primary School Achievement Retrieval Support System able to support decision making such as sorting student into future classes based on their grading report. Besides, this system can also print student achievement report and support to do analysis.

1.7 Conclusion

Computerize system is very important to manage a lot of data. One of the organizations that use the system is primary school. One reason they use the system is to make achievement information management process more efficient. By using this system, teachers can view students grading report easily. Parent, student and PPD can used this system to trace the current and previous student assessment report. This system is able to support decision making so that it does sort student to the future classes based on their grading report. It also can produce statistic because it has the capability for analyzing grading report. By using this system, it can decrease management time and increased data storage management.

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CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Literature review is a research or analysis based on related or passed research, reference, case study and other finding that should be done to identify the approaches while developing a system. The ways that can be used to do literature review are comparison of case study and analysis of theoretical articles. According to University of Winsonsin [13], a literature review is a critical analysis of a segment of a published body of knowledge through summary, classification, and comparison of prior research studies, reviews of literature and theoretical articles.

Project methodology is an integrated task, techniques tools, roles and responsibilities, and milestones used for delivering the project. Based on Jason Charvat [15], a methodology is a set of guidelines or principles that can be tailored and applied to a specific situation. A methodology could also be a specific approach, templates, forms, and even checklists used over the project life cycle.

2.2 Fact And Finding

Based on passed research, references and case study, the approaches and case study that are related to this project as following:

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