MARKS GRADING SYSTEM FOR SECONDARY SCHOOL

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by

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ABSTRACT

This project involves developing a prototype of the Mark Grading System for Secondary School. Its main goal is to replace the current existing manual system of monitoring the performance of the students at SMK Semera, Asa Jaya, Kota Samarahan. Information that we gathered through observations and interviews during our Practicum in that school has revealed the weaknesses of the current manual system. The findings prompted us to develop one system for use by the staff in that school especially class teachers to reduce their workload. Basically, the system requirements include the ability of the system to calculate total mark, average mark, and allocate positions to students according to total mark they obtained in a specific examination. Besides that the system is also able to print various form of reports as required by the school administration. The system is design by using Visual Basic 6.0 programming language and Microsoft Access 2000 application. The prototype underwent trial period in that school to determine its ability to process students examination result. It was discovered that the prototype had to some extent assist the teachers in processing the student's examination result, which result in better management of the student's performance. Nonetheless, this is just a prototype with lots of room for improvement. The recommendations for improvement of the prototype have been also discussed in this project too.

ABSTRAK

Projek ini melibatkan pembangunan sebuah prototaip yang dinamakan *Mark Grading System for Secondary School* atau Sistem Penggredan Markah untuk sekolah menengah. Matlamat utamanya ialah untuk menggantikan sistem manual yang digunakan sekarang oleh para guru di Sekolah Menengah Kerajaan Semera, Asa Jaya, Kota Samarahan supaya ia lebih sistematik. Maklumat yang diperolehi semasa menghadiri Praktikum dan membuat kajian di sekolah berkenaan, terdapat banyak kelemahan pada sistem manual yang digunakan. Perkara inilah yang telah mendorong kumpulan kami untuk membangunkan sebuah sistem yang lebih efektif dan efisyen untuk digunakan oleh para guru di sekolah. Pada dasarnya, prototaip yang dibangunkan berkebolehan untuk mengira jumlah markah, purata markah dan menentukan kedudukan pelajar dalam sesebuah kelas selepas sesuatu peperiksaan. Di samping itu, prototaip itu juga boleh mencetak laporan-laporan yang dikehendaki oleh pihak sekolah. Sistem tersebut dibangunkan menggunakan bahasa pengaturcaraan *Visual Basic 6.0* dan applikasi *Microsoft Access 2000*. Sistem itu telah diuji di sekolah berkenaan untuk mengenal pasti kebolehannya memproses markah-markah peperiksaan yang diperolehi oleh pelajar. Kumpulan kami mendapati sistem tersebut telah sedikit sebanyak membantu meringankan beban tugas para guru kelas. Namun demikian, sistem yang dihasilkan hanya merupakan sebuah prototaip yang mempunyai kelemahan. Kelemahan-kelemahan ini telah dibincangkan di akhir projek ini.

CHAPTER 1 : AN OVERVIEW

1.1 Introduction

In this era of science and technology, the use of computer has become very widespread and common so that most families in urban areas have personal computers at home; even in a third world country like Malaysia. The introduction of computer has brought tremendous benefits to mankind; such as reducing their workload, overcoming human errors during manual processing, speeding up the work process by shortening processing time and others. This dramatic change in science and technology benefits our society, both large and small organizations, institutions, government agencies and individuals including students.

This computer revolution brings changes, new information and knowledge in various fields like in business and education. The most prominent feature of computer is the way of getting work done. With computer, data can be saved in a systematic way and the retrieval of data and information can be speeded up, faster data processing that can result in more accurate output within a short time. These are the concepts that the group are trying to incorporate in the proposed system to reduce the workload of teachers in schools.

1.2 Problem Statement

The younger generation is considered to be the future nation builders, so it is very important to educate them. If possible to make them all rounders. School is a very important ground to train them as well as to educate them so as to prepare them for nation-building. These make schools become an institution that is very important and full of challenges in our society.

In our national education system, teachers are trained to be all rounders for they have to accomplish tasks both in the academic and non-academic aspects. Teachers, besides being educators, are also playing the role of parents, security officers, clerical staff and counsellors from time to time especially during school hours. These routine and non-routine workloads of teachers have resulted in some negative effects to the teaching profession for example, teachers cannot concentrate on their teaching duty, lack of preparation time for their subjects and not enough time to mark all the homework or exercises done by the students because usually there are more than forty-five students in one class. All these will lower the students' academic performance.

The most serious problem faced is that the younger generation does not want to join the teaching profession unless they have no other choices. This is indeed a very sad situation happening in our education arena, which is considered to be

the most important field to produce healthy and high-quality nation-builders of the future.

One of the routine works of teachers is to process marks and results of students in monthly tests and term examinations. This poses a great burden to teachers especially form-teachers who have to process the overall results. When processing these marks or results, they tend to make many errors unintentionally, especially when a form-teacher has to fill several different copies of forms for each set of results. These forms include teacher's record book, student report cards, students' individual records or blue cards, mark sheets for classroom, mark sheets for filing in the examination section and mark record book for each class which is to be placed in the staff room for the reference of teachers and principle.

Due to this problem, which is frequently faced by form-teachers, the group proposed to design and build a system for secondary schools to assist the form-teachers in processing the marks and results of students. Besides, the group also hoped that after graduation, the group could make use of the system in the schools where they are employed. For this project, the group chose **SMK Semera, Asajaya, Kota Samarahan, Sarawak** as the venue for project development because it does not have any system of such kind at present. Based on the preliminary survey, there are only four units of personal computer for the office and teachers' usage.

1.3 Purpose of study

The main purpose of this study is to develop a prototype, which can be used by the school management and teachers. The group proposed to design and develop the **MARK GRADING SYSTEM FOR SECONDARY SCHOOL,** for SMK SEMERA that will be useful to them. The group also that hope that the school will co-operate with the project team to make this proposed project a success.

The objectives of this project are:-

- to identify the elements/requirements which are needed to build this system.
- to design a prototype which meets the requirement of the proposed system needed by SMK Semera, Asajaya, Kota Samarahan, Sarawak.
- to reduce the workload of teachers.
- to speed up the grading process by shortening the time taken for processing the marks of students.
- to overcome error in the calculation of examination marks manually.
- to produce a standardized database for storing the marks of all the students in the school.
- to retrieve the data and information of student's examination performance instantly.
- to prepare and produce the processed results and reports required by the school with ease.

1.4 Scope of Project

This proposed system is based on the requirements of SMK Semera, Asajaya, Kota Samarahan, Sarawak. It will be a stand-alone system for the school. This system is able to process students' marks both for junior secondary levels (Form 1 - 3) and senior secondary levels (Form 4 -5)

The processes that will be handled by the proposed system include: -

- Converting subject's marks into **GRADE.**
- Calculating the **TOTAL** marks of individual students.
- Calculating the **AVERAGE** marks obtained by individual students.
- Determining each of the students' **POSITION** according to their marks.
- Printing the **REPORTS** required by school.

1.5 Research Significance

Information are obtained through interviewing teachers in SMK Semera and gathering of evidence such as the forms filled by teachers in processing marks. It seems the present manual system of marks recording for monthly tests and examinations has really burdened the form-teachers. Developing a mark grading system, will be helpful to them and can help them to devote more time in academic preparation for improving the performance of students.

1.5.1 Teachers

The proposed system would be able to reduce the workload of form-teachers in preparing the reports of students' academic performance for they do not have to fill the different forms and cards for the students' test results. Teachers can easily prepared student performance reports based on requirement of the school. The process will be speeded up and can produce reports with less human errors. This system may be used in secondary schools when adopted.

1.5.2 School

If the school has a mark grading system, the marks of each student will be stored in a database system, so that it can be retrieved easily for monitoring the students' academic performance.

1.5.3 Students and Parents

Students do not have to worry in the calculation of marks and their academic positions in the class. Parents can also obtain their children's results earlier than before so that they can take immediate actions to help improving their children's academic performance.

1.6 Outline of Project Report

This project report has been arranged in two parts; Part I consists of three chapters and Part II consists of four chapters. Chapter 1 is an overview of the

proposed project. Chapter 2 is a review on similar systems used in some schools or found in the Internet and comparing them with the proposed system. Chapter 3 touches on the methodology used to develop the proposed system. Chapter 4 explains how the proposed system is being designed. Chapter 5 is about implementation of the proposed system in SMK Semera. Chapter 6 is about the testing and evaluation of the proposed system which are being carried out in SMK Semera and finally, Chapter 7 is the conclusions of the proposed system and further work that can be carried on the system.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter wereview and discuss on several issues with regards to **MARKS GRADING SYSTEM FOR SECONDARY SCHOOL, SMK SEMERA, ASA JAYA**. Firstly, we touch on the history of the existing system. It encompasses problems faced by the teachers and the school administration. Next, we look at the tasks that are supposed to be accomplished by all class teachers.

It begins with the gathering of all subject marks from subject teachers until writing of reports for the school and students. This will be followed by reviewing the existing systems that are currently implemented by some schools in the country and overseas. Here, we discussed the programming language and databases used in developing the system besides touching on the features and interfaces of the system. We will also make comparisons on the existing systems, which are summarized in a table format. Finally, we will discuss on the Visual Basic 6.0 and Database applications use in developing the prototype.

2.2 History of MARKS GRADING SYSTEM FOR SECONDARY SCHOOL, SMK SEMERA

Our survey on the systems available in SMK Semera, Asa Jaya reveals that the school has some systems that are currently being used. They are Staff

Management System (Sistem Maklumat Staf), Education Management Information System (EMIS) and Student Disciplinary System (SSDM). These systems were provided by Malaysian Education Ministry and were primarily for administrative reasons. However, there are a lot of systems being done manually. These include Examination system.

At SMK Semera, Asa Jaya, examinations are normally held twice yearly, that is at the end of the first term and the second term of a school calendar. This is the time that is considered critical among form teachers. They have to process the student's marks manually. Besides using the traditional procedure, they depend on calculators to do the calculation. While doing this, human errors are bound to happen. This could happen while manipulating the calculator keys. It is even worse as it involve many procedures. However, among them, calculator is the most reliable machine that can assist them in accomplishing their task. Normally, they are given time frames to accomplish the tasks. However, due to some unforeseen circumstances, they may face problems of not having ample time to process the marks.

Besides being burdened with the mark-processing task, another important responsibility they have to deal with is filling different kinds of reports, which are needed by the administration. These reports include student's report cards, class report and analysis report for record purposes. These activities usually

result in a lot of redundancies. All these records have to be stored and kept in suitable location for future references.

2.3 Activities and Procedures Involved in Mark and Grade Processing

There are several procedures the teachers have to comply with in order to ensure the smooth flow of the processes.

Firstly, subject teachers must correct the student's answers class by class. The correct answers are converted to marks in percentage format. This format reflects the final mark that particular student received. At this stage, all subject teachers are not required to convert the mark to grade.

Secondly, all subject teachers must submit the subject marks to the respective class teachers. Here the rate of distribution usually depends on the subjects, format of the paper and the date of the paper being sat. Beside this, the subject teachers are requested to submit an analysis report to their respective section.

Thirdly, all form teachers need to compile and process the marks accordingly. To do this, they have to write all the necessary information. These include students' name, class and the subjects taken, into one master sheet, which is normally their Teaching Plan Book or "Buku Persediaan Mengajar".