KINDERGARTEN MANAGEMENT SYSTEM

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EXECUTIVE SUMMARY

Nowadays, the management system plays important roles in every field such as hospital, school, library and kindergarten. All daily activities can run smoothly with using a systematic management system. Kindergarten Management System is an online system that will contribute to improvements in the management of kindergarten. This system is designed for Aik Kuan Kindergarten to help administrator and teachers in the management of kindergarten. Although the kindergarten is using government online system to manage students and employees data, but the kindergarten still lack of management in student attendance, fees and notification.Kindergarten Management System consists of five modules including Student Registration, Employee Registration, Student Attendance, Student Fees, and SMS Notification. Administrator can use this system to register information of students and managing employees' profile. Teachers can record the student attendance and download monthly attendance reports. Teachers can also download the receipt of fees payment through this system. Teachers can inform late fees payment and administrator can send announcements to parents through SMS using GSM modem. This system can make easier administrator and teachers to retrieve and manage the data in kindergarten. With using SMS alert, the parents can get information of kindergarten faster and easily. Thus, by using this system can benefit to administrators, teachers and parents.

RINGKASAN EXECUTIVE

Pada masa kini, sistem pengurusan telah memainkan peranan yang penting dalam setiap bidang seperti hospital, sekolah, perpustakaan dan tadika. Semua aktiviti harian boleh berjalan dengan lancar dengan menggunakan sistem pengurusan yang sistematik. Sistem Pengurusan Tadika adalah satu sistem dalam talian yang akan menyumbang kepada peningkatan dalam pengurusan tadika. Sistem ini direka untuk Tadika Aik Kuan untuk membantu pentadbir dan guru-guru dalam pengurusan tadika. Walaupun tadika tersebut telah menggunakan sistem dalam talian kerajaan untuk menguruskan maklumat pelajar dan pekerja, tetapi sistem pengurusan kerajaan masih kekurangan dalam pengurusan kehadiran pelajar, yuran dan pengumuman maklumat. Sistem Pengurusan Tadika ini mengandungi lima modul termasuk Pendaftaran Pelajar, Pendaftaran Pekerja, Kehadiran Pelajar, Yuran Pelajar, Pengumuman SMS. Pentadbir boleh menggunakan sistem ini untuk mendaftarkan maklumat pelajar dan menguruskan profil pekerja. Guru boleh merekod kehadiran pelajar dan memuat turun laporan bulanan kehadiran pelajar. Guru juga boleh memuat turun resit bayaran yuran melalui sistem ini. Guru-guru boleh memaklumkan pembayaran lewat yuran dan pentadbir boleh menghantar pengumuman kepada ibu bapa melalui SMS menggunakan modem GSM. Sistem ini boleh memudahkan pentadbir dan guru-guru untuk mengambil dan menguruskan maklumat di tadika. Dengan menggunakan SMS, ibu bapa boleh mendapatkan maklumat daripada tadika lebih cepat dan mudah. Oleh itu, dengan menggunakan sistem ini boleh memberi manfaat kepada pentadbir, guru-guru dan ibu bapa.

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PART 1

INTRODUCTION

1.1 Introduction

Nowadays, the management system plays important roles in every field such as hospital, school, library and kindergarten. All data will be managed in systematically. With implement management process in systematic, all daily activities can run smoothly. Furthermore, the relationship between management system and internet are very important. Many organization would like to use the online management system to store their data into server database .This way will make sure the secure data only access by authorized person and it will easy for them to access the data in anywhere. The backup data for each online system will store into database of web server. SMS alert also play important role for communication between the people because most of the notification will send via SMS.

Kindergarten Management System is the online system which will contribute improvement in management in kindergarten. Kindergarten Management System will be applying in Aik Kuan Kindergarten which located at Jenjarom, Selangor. This system is design for Aik Kuan Kindergarten to help the administrator and teachers in management of kindergarten.

The administrator will login to the system to manage the data of kindergarten. The administrator of the kindergarten can use this system to manage the registration of student, profile registration of employees, student fees, student attendance and SMS notification. The administrator also can manage teachers account and post recent activities of kindergarten to remind teachers through this system. The administrator can search or view the information in each module. The administrator can use this system to

send SMS notification to parents. With using SMS alert, the parents can get information of kindergarten faster and easily.

Teachers will login to system to view recent activity of the kindergarten. Teachers can view the student registration and employee profile registration information. Other than that, teachers also can take student attendance, manage student fees and send SMS notification. Teachers can take student attendance of their class via online. The student attendance records will directly store and save into the database of this system. This system able to generate the student attendance monthly report and allows teachers to download the report.

Each teacher will collect the student fees of their class from parents before 15th of each month. When the parents pay the fees, the system will generate the fees receipt and allow teachers to download and print out the fees receipt. For the parents who haven't pay fees after 15th of the month, teacher will send SMS notification to the parent through this system.

The parents will receive the SMS notification from kindergarten. The parents can get the SMS notification in short time. The parents also can review the SMS notification by open the message inbox in their hand phone.

1.1.1 Problem Statement

Aik Kuan Kindergarten is the kindergarten which located in Jenjarom, Selangor. The management of this kindergarten is using manual system such as filled in the form for student registration. After that, the administrator will login to government online system to register the student information of kindergarten. The government online system will save the student information. The administrator also uses the government online system to register the new employee for the kindergarten. The employee information will save in the database of the government online system. The administrator needs to print out all students and employees data in hard copy as the backup data for the kindergarten. Although the kindergarten is using government online system to manage students and employees data, but the kindergarten still lack of management in student attendance, fees and notification.

The teachers will take student attendance record of their class and keep the record in file folder. There always need more space to store the student attendance data in file folder. The student attendances records of the kindergarten only store in hard copy and they don't have any backup data store in database of software application.

The teachers for each class will collect the student fees from parents in every month. Teacher need to write the name of student, amounts of the fees in monthly in the every pages of receipt book when the parents paying the fees. After that, the teacher will record the receipt number beside the column of student name list in student attendance book. This is not a systematic way for teacher to collect the student fees. If some of parents haven't paid the fees after 15th of the month, the teacher needs call the parent to remind them.

The way for administrator to pass notification to parents is through the student notice book. Sometimes, the parents will forget the content of the notice when the notice book is return back to teachers. The parents cannot review back the content of notice when they forget the content of the notice and this will let them difficult to follow up the announcement made by administrator.

1.1.2 Objectives

There are three objectives to be achieved in this project:

i. To design and implement an automated Kindergarten Management System
ii. To provide SMS notification in Kindergarten Management System via GSM modem
iii. To generate student attendance monthly report and student fees receipt in Kindergarten Management System

1.2 Existing System

1.2.1 Sistem Maklumat Prasekolah Kebangsaan (SMPK)

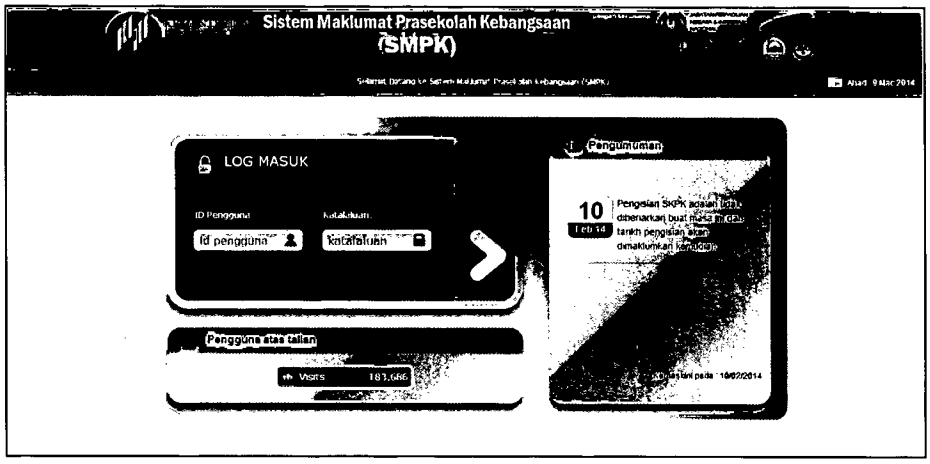

Figure 1.1: Sistem Maklumat Prasekolah Kebangsaan (SMPK) Login Page

SMPK is the government web based system which only for authorized people to login [1]. This system is currently use by the all preschool include Aik Kuan Kindergarten. This system is responsible to store the data of the registered preschool. This system consists of class module, student module, teacher module, and report module. In class module, the user can view, edit or add the class information. In the student module, the user can register the students for the preschool and update the student's information. In teacher module, the user can add new teacher and update the teacher's information. In report module, this system will generate the report and user can print out.

The advantage of this system is the user only need to key in the IC number of teacher to add the teacher. The user can choose to key in the Mykid number or birth certificate number to add students. The system will get the information of the students and teachers from JPN record and the basic data will listed out. This is convenient for user no need to key in the basic information of students and teachers. Besides that, the data can be summarised and generate into the report for user to print out.

The limitation of this system is this system only can manage the student and teacher information. Furthermore, this system lack of other modules to help the

preschool to manage other information such as student attendance record, student fees and etc.

1.2.2 Kindergarten Management System (KIMSYS)

Figure 1.2 Kindergarten Management System (KIMSYS) Home Page

KIMSYS is web-based system or online system that tailors made for the kindergarten management. KIMSYS is one of the products developed under Kreatiwi Solution [2].

This system is suitable use for the kindergarten that have branch. There have five modules provided in this system. For the students module, the student records can be filtered by intake, name, branch, program, status, and billing status. There also have student chart that to show the student records in every branch. The system also provides student report to show the summary of student records from every branch.

For the staff module, the record can be filtered by IC No, Staff No, Religion, Mobile, Tel, Branch, Job Title, and Employee Type & Role. There also have staff charts that to show the staff records in every branch. The system also provides staff report to show the summary of staff records from every branch.

For the administration module, there have academic transcript, calendar, enrolment, family records, and attendance records. In the attendance record, it allow user click on the respective branch, program and data to key in student attendance.

The academic module have program records, grade setting, subject records, marking paper, question bank, and timetable records. In the subject records, the subject can be assigned to the created programmes. In the timetable records is easily create and edit timetable without have to manually design using word or excel software.

In the billing module, there have program billing, individual billing, batch billing. The system is able to generate bill on individual and all latest bill to every active student according to branch, program.

The advantage of this system is for the people who manage their kindergarten don't have to install it to their PC or laptop to use it. KIMSYS can be access with any web browser such as Internet Explorer, Mozilla, Chrome, Opera from any device such as PC, Laptop, Tablet and Smartphone. This system helps simplify daily operational tasks involved in managing students, staff, academic, administration and billing. This system also easily for the kindergarten have branch. The system will manage the data of kindergarten branch. This system provides the paperless solution for the kindergarten management. All records will be stored in database in secured server.

However, this system is not free for the kindergarten. There will have charge based on the number of active student records which included in their packages. The kindergarten need to pay on monthly basis as long as they use this system and services.

1.2.3 Sistem eTabika

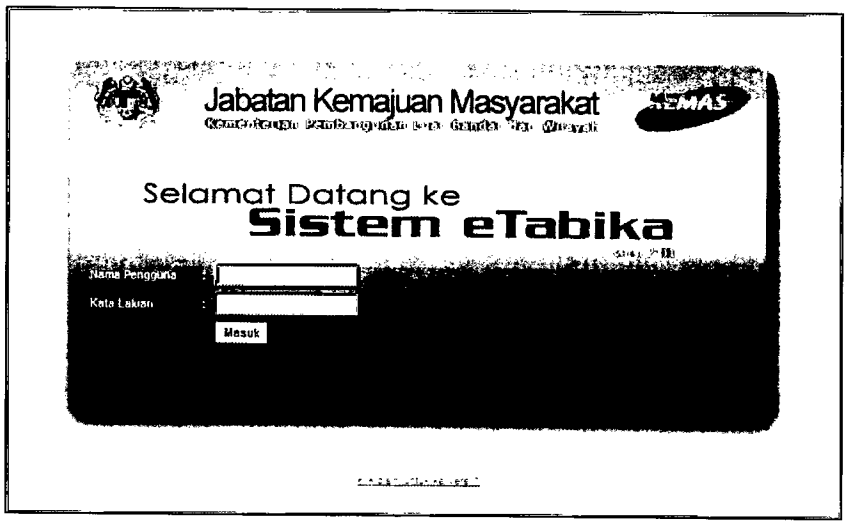

Figure 1.3 Sistem eTabika Login Page

eTabika is the web based system and it is also the data storage system which created as instrument of better data storage, accurate, timely, effective, easily stored and systematic compared to manual system [3]. This system consists of six components. The components can become the complete references for Program in Early Childhood Education KEMAS. The components include students and class registration, student information, parent information, buildings, equipment, and employee information.

This system is only allows for authorized person to access the data. The authorized person which include headquarter of KEMAS Malaysia, director of state KEMAS, assistant of director of state KEMAS, officer of district KEMAS, preschool supervisor, and teacher of TABIKA.

The benefit of this system is all the data can be store in database and will update to headquarter of KEMAS Malaysia. The data is handle and checked by many level of authorize person to make sure the accuracy data for the system.

However, there has low security for data protected because the data have pass through many people in order to check data accuracy.

1.2.4 SchoolSpeak

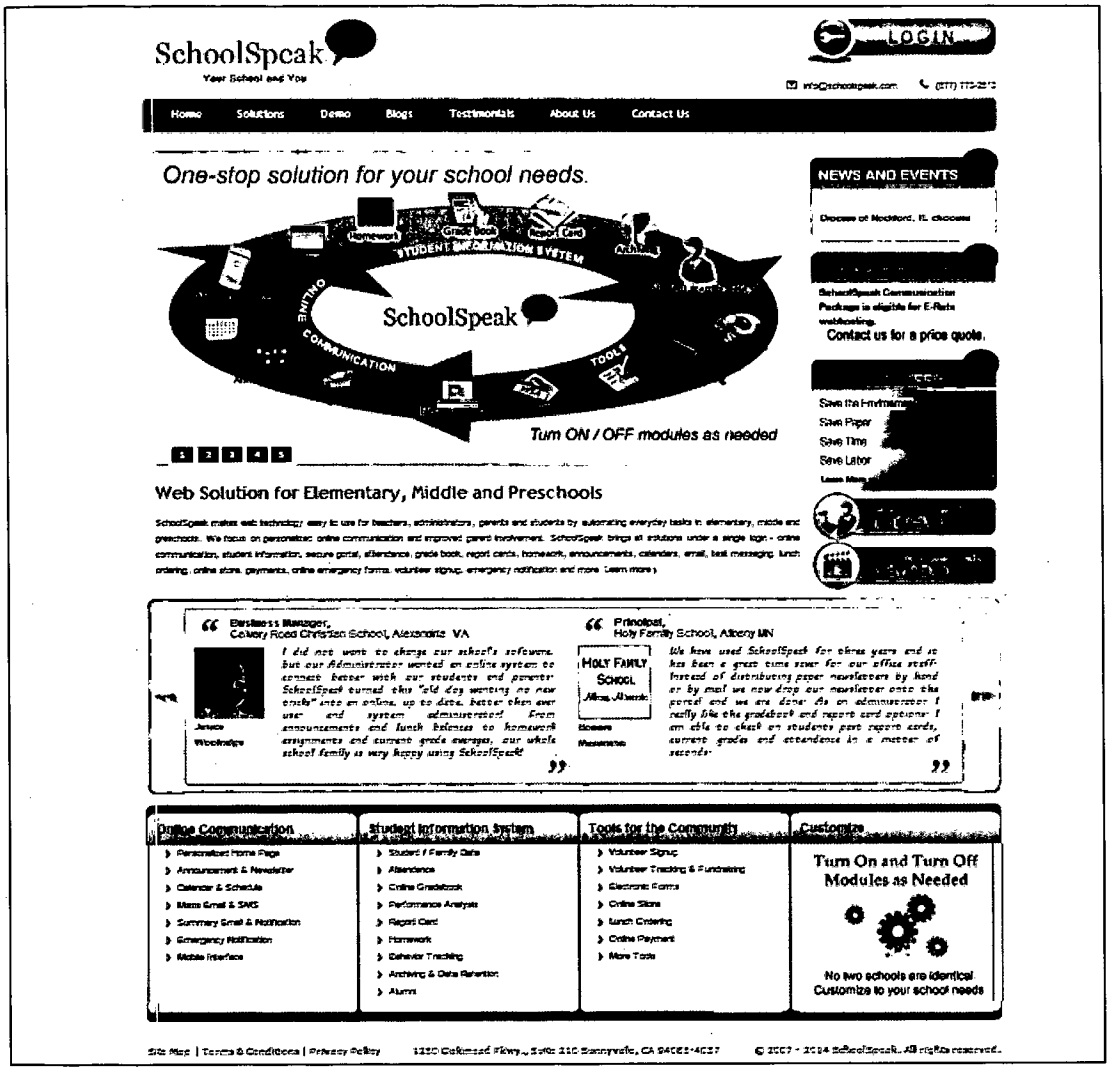

Figure 1.4 SchoolSpeak Home Page

SchoolSpeak is a web based system which makes web technology easy to use for teachers, administrator, parents and students by automating everyday tasks in elementary, middle and preschools [4]. This system focuses on personalized online communication and improves parent involvement. SchoolSpeak brings all solutions under a single login - online communication, student information, secure portal, attendance, grade book, report cards, homework, announcements, calendars, email, text messaging, lunch ordering, online store, payments, online emergency forms, volunteer signup, emergency notification and more.

SchoolSpeak allow other fields added to the students, parent and teacher profile to get more information. The medical, test result, emergency contacts can be added into student's profile. The work details, qualification and skill can be added to parent's profile. The record experience and qualification can be added to teacher's profile. Furthermore, there allow the user to set up alerts on specific fields. For example, an icon alert can be shown if the student has medical condition, such as allergy.

The attendance record can be taken by homeroom teachers or each subject teacher. The system can be run a report on students who come late or absent. The teachers record student's attendance by entering codes such as 'A' for absence and 'T' for tardy. Teachers will mark "All present" by pressing a button.

SchoolSpeak has an integrated email and Text messaging system that helps communicate the whole school, or each class/team. Parents and students can email teachers and other parents and other parents can see email of other parents and teachers.

SchoolSpeak makes it easy to make announcements. The announcements will show on the home page till its expiry date. For example, an announcement about carnival shows up on the home page till the carnival date and automatically disappears the next day.

SchoolSpeak offers quick and convenient credit card payment with electronic forms. It significantly reduces time, labour and error in collecting and recording manual payments and provides detailed reports of payment transactions.

The advantage of this system is there are many modules provided. There is highly configuration solution during send email and SMS. This system helped the schools go paperless in school communication saving significant time, labour and money.

The disadvantage is the email notification sometimes can be overwhelming. For example the parent with multiple children in school to receive many emails from school per day can be overwhelming. The parent needs to set up daily or

weekly summary emails. In payment module of this system is lack of payment for monthly fees of students.

1.3 Current System and Its Limitation

Table 1.1 shows the comparison between existing systems which include SMPK, KIMSYS, Sistem eTabika and SchoolSpeak. The system types, student registration module, employee profile module, student attendance module, student fees module, and SMS notification module have compared.

Table 1.1 Comparison between Existing Systems

	SMPK	KIMSYS	Sistem eTabika	SchoolSpeak
System types	Web based	Web based	Web based	Web based
Student Registration Module	Yes	Yes	Yes	Yes
Employee Profile Module	Yes	Yes	Yes	Yes
Student Attendance Module	No	Yes	No	Yes
Student Fees Module	No	Yes	No	No
SMS Notification Module	No	No	No	Yes
Connection types	Internet Connection required	Internet Connection required	Internet Connection required	Internet Connection required

Based on Table 1.1, all of the existing systems are web based system which requires internet connection in order to access to the system. All of the existing systems support the student registration and employees profiles modules. Only KIMSYS and SchoolSpeak support the student attendance module. The method use for take attendance in each system is different. Only KIMSYS support student fees module and only SchoolSpeak support the SMS notification module.

1.4 Terminology

KEMAS – Jabatan Kemajuan Masyarakat

SMPK – Sistem Maklumat Prasekolah Kebangsaan

JPN – Jabatan Pendaftaran Negara

KIMSYS – Kindergarten Management System

SMS – Short Message Service

GSM – Global System for Mobile Communications

1.5 Method of Approach

The method used in developing this project is modified waterfall model. It has same phases with traditional waterfall model. The phases involved in modified waterfall model are requirement analysis, design, implementation, testing, and maintenance phases [5]. The main change in modified waterfall model is it allows each phases to overlap.

For example, in design phase, the process can back to requirement analysis phase to change the user requirements. After user requirement is verified, the user interface will be designed. In the implementation phase, if there have some limitation for function of user interface that designed. The design phase will overlap to redesign the more functional interface of system. The process also can back to requirement analysis phase to analysis the user requirement before redesign the interface.

1.6 Scope and Limitations of the Study

- Administrator

  The administrator of the kindergarten can use this system to manage the registration of student, profile registration of employees, student fees, student attendance and SMS notification. The administrator also can manage the teachers account and post recent activities of kindergarten to remind teachers through this system. The administrator can search or view the information in each module. The administrator can use this system to send SMS notification to parents.

- Teachers

  Teachers need to login using username and password given by administrator. Teachers can view recent activity of the kindergarten. Teachers can view the student registration and employee profile registration information. Other than that, teachers also can take student attendance, manage student fees and send SMS notification. Teachers can take student attendance of their class via online. Teachers can download the student attendance monthly report and fees receipt. For the parents who haven't pay fees after 15th of the month, teacher will send SMS notification to the parent through this system.

- Parents

  Parents don't have account to log in the system. Parents will receive the SMS notification sent by administrator. The parents who are late pay for monthly fees will receive the SMS notification after 15th of the month.

1.7 Outline

In this technical project consist of three parts:

Part 1 – Introduction

a) 1.1 Problem Statement & Objectives. In this part we can figure out the purpose of the system

b) 1.2 Existing System. In this part is review of existing system and description the benefit features, and disadvantage in the system.

c) 1.3 Current System and Its Limitation. In this part is comparison between the system and its limitation.

d) 1.4 Terminology. In this part is the study of terms that make the user to understand some of the short form words meaning.

e) 1.5 Method of Approach. In this part is to describe the approach in methodology will be used in this system.

f) 1.6 Scope and Limitations of the Study. This part will discuss about the scope of the project and limitation of target users.

Part 2 - Report Body

a) 2.1 User requirements. This part will describe the detail of user requirements that agreed by users.

b) 2.2 Design Description – The diagrams will be used to represent design architecture, system flow and data flow of system. The user interfaces designed also will describe in this part.

c) 2.3 Development Plan – The methodology, system requirement which included hardware and software requirements and also coding development will be determined.

d) 2.4 Testing Plan – The test cases for admin and teachers will be used to do testing with user.

e) 2.5 Result & Discussion – This part will discuss and analysis the result done in testing.

Part 3 – Conclusion

(a) 3.1 Conclusion and Future Works

(b) 3.2 Limitation of the system – This part will describe the limitation of this system.

(c) 3.3 Advantages of the system – This part will describe the advantages of this system.

(d) 3.4 Suggestion of Future Work – This part will describe the suggestion of future work for this system.

CHAPTER 2

REPORT BODY

2.1 User Requirements

Table 2.1 shows the detail of user requirements which agreed by users.

Table 2.1 User Requirements

No.	User Requirements	Comments
1.	Admin should manage the student registration data.	Admin can add, edit, update or delete the student registration data.
2.	Admin should manage employees profile.	Admin can add, edit, update or delete employees profile.
3.	Teachers can view their profile.	Teachers need to inform admin if need any changes in their profile.
4.	Attendance records should update directly and save in the database of system.	Each teacher handles attendance record of their class.
5.	Teachers can manage the late payment fees notification via SMS.	SMS notification will send to parent after 15th of the month.
6.	Parents can receive the notification via SMS.	The SMS notification must successful send to parents.