DEVELOPMENT OF INFORMATION SYSTEM FOR GOVERNMENT CHINESE PRIMARY SCHOOL
(CASE STUDY: SJK(C) Convent Datuk Keramat)

TEH HUI PHENG

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Faculty of Computer Science and Information Systems
Universiti Teknologi Malaysia

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To my beloved parents and family members

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ABSTRACT

The primary language used in Chinese primary school is Mandarin. The language in report used internally will be Mandarin but Malay language will be used in reports for Malaysia government which means the reports needed to be generated twice. Consequently, a computerized management information system needed to be built to reduce their workload. Studies are done on government primary education and government Chinese primary school. A case study is done on SJK(C) Convent Datuk Keramat. Besides, existing systems which are mainly developed and used by Western countries are explored and the features of the systems are compared to each other. The information systems in Malaysia are discussed as well. Also, the multilingual systems and the existing website and system in different areas are discussed. The methodology used in this project is Rational Unified Process (RUP). In the project, system is designed as module based system. There are in total 3 main modules in the system which consist of assistant principal module, class teacher module and teacher module. Testing is required to be carried out on the system. In unit testing, every small module needed to be tested. In integration testing, the integration between modules is tested in details. In system testing, the full system will be tested to check the functional of the system. Roll-out strategy used in the project is pilot strategy which required a group of pilot users.

ABSTRAK

Bahasa utama yang digunakan di sekolah rendah jenis kebangsaan Cina adalah bahasa cina. Bahasa Cina digunakan dalam laporan dalam sekolah, manakala bahasa Malaysia digunakan dalam laporan yang perlu dihantarkan kepada kerajaan. Pendek kata, laporan yang sama kandungan hendaklah dibuat dua kali. Oleh itu, satu sistem pengurusan maklumat berkomputer perlu digunakan untuk mengurangkan beban kerja. Dengan ini, kajian terhadap pendidikan rendah dan sekolah rendah jenis kebangsaan cina telah dijalankan. Sebagai contoh, SJK(C) Convent Datuk Keramat telah dikaji. Selain itu, sistem yang dibangunkan serta digunakan oleh negara Barat pada masa kini telah dijelajahkan dan ciri-ciri sistem tersebut telah dibandingkan antara satu sama lain. Sistem yang digunakan oleh Malaysia juga dibincangkan. Tambahan pula, sistem pelbagai bahasa yang terdiri daripada tapak Web dan sistem yang wujud pada masa kini di pelbagai daerah telah dibincangkan juga. Kaedah yang digunakan dalam projek ini ialah Rational Unified Process (RUP). Dalam projek ini, sistem diciptakan sebagai sistem berdasar modul. Ia terdiri daripada tiga modul utama, iaitu modul pembantu guru besar, modul guru tingkatan dan modul guru. Di samping itu, ujian atas sistem ini mesti dijalankan. Dalam ujian unit, sagala modul hendaklah diuji. Manakala dalam ujian integrasi, segala integrasi antara modul diujikan secara teliti. Dalam ujian sistem, kesemua sistem akan diujkan untuk menjamin kegunaannya. Roll-out strategik yang digunakan dalam projek ini ialah strategik pilot yang memerlukan sekumpulan pengguna pilot.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGES
	DECLARATION	**ii**
	DEDICATION	**iii**
	ACKNOWLEDGEMENTS	**iv**
	ABSTRACT	**v**
	ABSTRAK	**vi**
	TABLE OF CONTENTS	**vii**
	LIST OF TABLES	**xiii**
	LIST OF FIGURES	**xiv**
	LIST OF APPENDICES	**xvi**
1	PROJECT OVERVIEW	
	1.1 Introduction	1
	1.2 Background of Problem	2
	1.3 Statement of the Problem	3
	1.4 Project Objectives	4
	1.5 Scopes	4
	1.6 Importance of Project	5
	1.7 Chapter Summary	5

2 LITERATURE REVIEW

2.1 Introduction 6

2.2 Framework of Literature Review 6

2.3 National Education Philosophy 8

2.4 Malaysian Primary Education System 8

2.4.1 Government Chinese Primary School (SJK (C)) in Malaysia 9

2.4.1.1 SJK(C) Convent Datuk Keramat 11

2.5 School Information System 12

2.6 Existing School Information System (Worldwide) 13

2.6.1 School-wide Information System (SWIS) 13

2.6.2 School Information System (SIS) 14

2.6.3 TIES Student Information System (TIES SIS) 15

2.6.4 EKHO School Management System Software (EKHO SMS) 16

2.6.5 The Alpha School System (TASS) 17

2.6.6 Chancery SMS 18

2.6.7 Comparison between Existing Systems 18

2.7 Existing Student Information System (Malaysia) 19

2.7.1 Sistem Maklumat Murid (SMM) 20

2.7.2 System Maklumat Murid Bersepadu: Sistem Penganugerahan Murid (SisPeM) 21

2.8 Multilingual System/Website 22

2.9 Existing System/Website 24

2.9.1 AirAsia Website 24
2.9.2 Point Of Sale Software (IntelliFlow System) 25
2.9.3 Wikipedia Website 27
2.9.4 Friendster Website 28
2.9.5 eBay Website 30

2.10 Microsoft Office InfoPath 2007 31

2.11 Justification of Literature Review 31

2.12 Summary 32

3 METHODOLOGY

3.1 Introduction 33

3.2 Project Methodology 34
3.2.1 RUP Methodology 34
3.2.1.1 RUP Phases 35
3.2.1.2 Advantages of RUP 36
3.2.1.3 Disadvantages of RUP 37

3.3 Phases in System Development 38
3.3.1 Inception Phase 38
3.3.1.1 Interview 38
3.3.1.2 Research and Literature Review 39
3.3.2 Elaboration Phase 39
3.3.3 Construction Phase 40
3.3.4 Transition Phase 40

3.4 Justification of Chosen Methodology 41
3.4.1 Unified Modeling Language (UML) 41

3.5 Hardware and Software Requirements 42

3.6 Project Schedule 43

3.7 Chapter Summary 43

4 SYSTEM ANALYSIS AND DESIGN

4.1 Introduction 44

4.2 Organizational Analysis 44

4.2.1 SJK(C) Convent Datuk Keramat (SJK(C) CDK) Structure 45

4.2.2 Current System in SJK(C) Convent Datuk Keramat 47

4.3 Proposed System Architecture 49

4.3.1 Functional Modeling 49

4.3.1.1 Use Case Diagram 50

4.3.1.2 Use Case Description 50

4.3.1.3 Activity Diagram 51

4.3.2 Structural Modeling 51

4.3.2.1 Class-Responsibility-Collaboration (CRC) Card 52

4.3.2.2 Class Diagram 52

4.3.3 Behavioral Modeling 52

4.3.3.1 Sequence Diagram 53

4.3.4 Module Design 53

4.3.4.1 Assistant Principal Module 55

4.3.4.2 Class Teacher Module 56

4.3.4.3 Teacher Module 58

4.3.5 Database Design 59

4.3.5.1 Relational Schema 59

4.3.5.2 Database Table 60

4.4 Input User Interface 61

4.5 Output User Interface 64

4.6 Chapter Summary 69

5 SYSTEM IMPLEMENTATION AND TESTING

5.1 Introduction 70

5.2 System Implementation 70

5.2.1 Database Development 71

5.2.2 User Interface Development 73

5.2.2.1 Coding Approach 73

5.3 System Testing and Evaluation 76

5.3.1 Unit Testing 77

5.3.2 Integration Testing 77

5.3.3 System Testing 80

5.3.4 User Acceptance Testing 80

5.4 User Manual 80

5.5 Chapter Summary 80

6 ORGANIZATIONAL STRATEGY

6.1 Introduction 81

6.2 Roll-out Strategy 81

6.2.1 Pilot Roll-out Strategy 82

6.3 Expected Organizational Benefits 82

	6.4 Chapter Summary	84
7	DISCUSSION & CONCLUSION	
	7.1 Achievements	85
	7.2 Constraints & Challenges	87
	7.3 Aspirations	88
	7.4 Chapter Summary	88
	REFERENCES	89
	APPENDIX A	93
	APPENDIX B	95
	APPENDIX C	97
	APPENDIX D	99
	APPENDIX E	101
	APPENDIX F	103
	APPENDIX G	105
	APPENDIX H	107
	APPENDIX I	117
	APPENDIX J	123
	APPENDIX K	130
	APPENDIX L	132
	APPENDIX M	141
	APPENDIX N	147

LIST OF TABLES

TABLES	TITLE	PAGE
2.1	Comparison between existing systems	18
3.1	Minimum Hardware Requirement	42
4.1	Use Case of the System	50
4.2	Assistant Principal Module	55
4.3	Class Teacher Module	56
4.4	Teacher Module	58
4.5	Rational Schema	59
4.6	Input Data Specification	61
4.7	Output Specification	65
5.1	Integration Testing Example for User Modules	78
6.1	Expected Organizational Benefits	83
7.1	Achievements done based on objectives done	86

LIST OF FIGURES

FIGURES	TITLE	PAGE
2.1	Framework of Literature Review	7
2.2	User Interface SMM	21
2.3	Chinese Version User Interface	25
2.4	English Version User Interface	26
2.5	Chinese Version User Interface	27
2.6	Chinese Version User Interface	28
2.7	Chinese Version User Interface	29
2.8	Chinese Version User Interface	30
3.1	Phases of life cycle on develop software and work flow of RUP (Ambler, 2002)	36
4.1	Example Organizational Chart of Penang government Chinese Primary School (SJK(C) CDK)	46
4.2	Hierarchical of Proposed System - DynaSMS	54
4.3	Input User Interface	64
4.4	Output User Interface	68
5.1	Tables in Database Used	72
5.2	SQL code of Table sturecord	72
5.3	Example of JavaScript in validation	74

5.4	Example of JSP code in System	75
5.5	Example of Java Servlet	76

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	PROJECT 1 GANTT CHART	93
B	PROJECT 2 GANTT CHART	95
C	INTERVIEW QUESTIONS FOR TEACHERS, CLASS TEACHER AND ASSISTANT PRINCIPAL	97
D	FLOW CHART OF CLASS TEACHER GENERATE STUDENT GRADE BOOK	99
E	PROTOTYPE USER INTERFACE	101
F	CONCEPTUAL IT ARCHITECTURE FOR PROPOSE SYSTEM	103
G	USE CASE DIAGRAM OF PROPOSE SYSTEM	105
H	USE CASE DESCRIPTION OF PROPOSE SYSTEM	107
I	ACTIVITY DIAGRAMS OF PROPOSE SYSTEM	117
J	CRC CARDS OF PROPOSE SYSTEM	123
K	CLASS DIAGRAM OF PROPOSE SYSTEM	130
L	SEQUENCE DIAGRAM OF PROPOSE SYSTEM	132
M	DATABASE TABLES	141
N	DYNASMS USER MANUAL	147

CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

Recent developments of information systems have been impacting the education sector. The reason why information systems will be used to manage school administrative flow is it can help to improve the efficiency of school administrative flow. Information system is a must in this information age where almost every organization in all sectors tries to develop information system to upgrade the efficiency of their works in order to survive.

In order to upgrade government school, Malaysian Ministry of Education introduced a plan called Smart School Implementation Plan. The Malaysian Smart Schools Initiative is an innovative national educational effort that exposes students and teachers, as well as administrators, to every aspect of Information and Communication Technology (ICT) at both the administrative and classroom levels (Muhammad Z. M. Zain et al, 2004). To become the government Chinese smart school, information technology is needed to upgrade the school system. Upgrading school administrative to become computerize school information system will be the fundamental. So, development of school information system for government Chinese primary school will be the main aim of this project.

1.2 Background of Problem

As a new generation, information technology is a must to our life. It applies to all people and all sectors. Also, it applies to government primary school. In most of primary school today, there are mostly manual in workflow. In order to same step with the information technology era, primary school's administration workflow must change to paperless environment. Government schools are provided with system that helps in managing students' records. The system is mainly used for data storage. But, there is still no system that can be used to manage school daily duties. In order for Chinese primary school work in paperless environment, they need to seek school information system from the market.

Nowadays, there are lots of school information systems available in the market but they are mostly stand alone systems. Most of the systems today are changed to web-based system because it is easy to access. The user can access it at anywhere and anytime.

Beside, most of the school information systems available in market are in English language which is not so suitable for our government Chinese school because the main language used by government sector is Bahasa Malaysia. The language used internally for government Chinese primary school will be Mandarin. For example, yearly report of the school activities will be done in Mandarin for internal used. But, reports pass to Education Department, Malay language will be used. Therefore, the work in same report needs to be done redundantly. Therefore, a school information system with minimum of 2 languages (Malay and Chinese) is needed for government Chinese primary school.

Furthermore, all students' information will be wrote in record book which provided by school when registered. Therefore, school is required to provide a lot of places to keep those record books. The probabilities to lose students information are

higher because no backup is made. The information will be lost if got any natural disaster such as flood. Moreover, it is hard to search for a particular student information because there are lots of files and not systematic.

To develop a web-based school information system with 3 languages is hoping to help government Chinese primary school's administration workflow become smoothly and systematic in paperless environment.

1.3 Statement of the Problem

Based on the problem background discussed in section 1.2, the main problem query required to pay attention is:
"How information system helps SJK(C) Convent Datuk Keramat staff such as teachers, class teachers and assistant principals manage school daily duties and student information?"

Besides, there are few problem queries have to investigate in order to support the main query.

i. Will the information system that will be developed help the school management become more systematic and easy?
ii. How information system make the school daily process become smoother through Internet?
iii. What type of reports is required in order to make the school staff easier in management process and summary of the processes?
iv. How to communicate with school staff when making decision based on prototype interface?
v. How to design and develop an information system which can support Chinese characters by using Unicode?

1.4 Project Objectives

In order to reach the aim of this project, several objectives need to be achieved. Below are the objectives of project:

i. To study on government education system and existing school information systems available in the market.
ii. To design IT architecture for a system to be used in SJK(C) Convent Datuk Keramat.
iii. To use Microsoft Office InfoPath as a prototype interface.
iv. To develop a web-based school information system with 3 languages (English, Malay and Chinese).

1.5 Scopes

There are several scopes of project stated in this section. The scopes of project are stated as below:

i. This project is focus on development of a web-based school information system with 3 languages (English, Malay and Chinese) for SJK(C) Convent Datuk Keramat.
ii. The platform used to develop the school information system is NetBean 5.0 with database MySQL.
iii. This system can be used to manage student attendance, subjects taken, student grade book, subject grade book, analysis and reports.
iv. Those reports can be printed in 3 types of languages which are English, Malay and Chinese.
v. The main target of the system is primary school’s teacher, class teacher and assistant principal.

vi. Survey on the administration workflow will be done based on SJK(C) Convent Datuk Keramat in Penang by using interview technique.

1.6 Importance of Project

The project will be focused on developing a school information system for government Chinese primary school since there is not yet had a school information system with 3 languages (English, Malay, Mandarin) available. Beside, this system will be a web-based system because of the easy access and efficiency. As a case study, this project will be focus on SJK(C) Convent Datuk Keramat in Penang. Therefore, the survey of this project will be done with SJK(C) Convent Datuk Keramat in Penang. With the survey, it is hoping to gather more accurate data about the flow of the school management. Furthermore, this project is hoping to develop a multilingual system that can fully support school management and provide a paperless environment to school.

1.7 Chapter Summary

The main subjects of this work have been introduced including the problem background, problem statement, objectives, scopes and justification of this project. The literature review of problem background, education system in Malaysia, available school information system and comparison for available system will be discussed in details in next chapter.