

BORANG PENGESAHAN STATUS TESIS*

JUDUL: LITTLE BELL KINDERGARTEN SYSTEM (LBKS)
SESI PENGAJIAN: 2009 / 2010
Saya LEE EE YOONG
(HURUF BESAR)

mengaku membenarkan tesis (PSM/Sarjana/Doktor Falsafah) ini disimpan di Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan seperti berikut:

1. Tesis dan projek adalah hakmilik Universiti Teknikal Malaysia Melaka.
2. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan untuk tujuan pengajian sahaja.
3. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.
4. ** Sila tandakan(/)

 SULIT

(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)

/ TERHAD

(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)

 TIDAK TERHAD


(TANDATANGAN PENULIS)

Alamat tetap: 48, LEBONG DAMAI 1,
TAMAN ALMA, 14000 B.M
Tarikh: 24/06/2010

(TANDATANGAN PENYELIA)

Nama Penyelia
Tarikh: _____

LITTLE BELL KINDERGARTEN SYSTEM (LBKS)

LEE EE YOONG

**This report is submitted in partial fulfillment of the requirements for the
Bachelor of Computer Science (Software Development)**

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2010**

DECLARATION

I hereby declare that this project report entitled

LITTLE BELL KINDERGARTEN SYSTEM (LBKS)

is written by me and is my own effort and that no part has been plagiarized

without citations.

STUDENT : Lee Date : 24/06/2010

(LEE EE YOONG)

SUPERVISOR : _____ Date : _____

(PUAN HIDAYAH BT RAHMALAN)

DEDICATION

To my beloved parents, your moral support is my greatest divine inspiration. To my friends, your encouragement is the essence of my determination. To Puan Hidayah, my supervisor, your dedication and effort has truly been my core of strength in the quest of completing this application.

ACKNOWLEDGEMENTS

First of all, I would like to thank God for the successful completion of my PSM I. Among my friends who helped with this project, firstly I would like to thanks to Puan Hidayah Binti Rahmalan for giving assistant to complete this project successfully. Thanks a lot to my beloved parents who have been giving me support and motivation throughout my project. Also for my friends who brought me, their continued support for a long time since I was involved in this project. Lastly, thank to all that have been involved during the development duration on this project.

ABSTRACT

Little Bell Kindergarten System is made especially for a better communication between the parents' teachers and also the administrator who is the principal of Little Bell Kindergarten. Nowadays, most of the websites for kindergarten in Malaysia are too common. Most of it are just a planner for users to view the details but cannot do anything on it. As the technology is moving forward, the kindergarten system should move along with the technology. New proposed system has been developed by using an online web based system. Therefore, Little Bell Kindergarten System (LBKS) was proposed.

ABSTRAK

Littel Bell Kindergarten System dibangun khas untuk ibu bapa, guru-guru dan juga untuk pentadbir iaitu guru besar Little Bell. Sekarang, kebanyakan daripada laman-laman web untuk tadika di Malaysia adalah terlalu biasa. Kebanyakannya hanya perancang untuk pengguna untuk melihat butiran tetapi tidak boleh lakukan sesuatu padanya. Sebagai teknologi bergerak ke hadapan, sistem tadika patut bergerak bersama dengan teknologi. Sistem yang dicadangkan baru telah dimajukan dengan menggunakan satu jaringan dalam talian berpangkai sistem. Lantarananya, Little Bell Kindergarten System adalah dicadangkan.

TABLE OF CONTENT

CHAPTER	SUBJECT	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENT	iv
	ABSTRACT	v
	ABSTRAK	vi
	TABLE OF CONTENT	vii
	LIST OF TABLES	xiii
	LIST OF FIGURES	xvi
	LIST OF ABBREVIATION	xviii
	LIST OF ATTACHMENT	xx
CHAPTER I	INTRODUCTION	
	1.1 Project Background	1
	1.2 Problem Statement	2
	1.3 Objective	3
	1.4 Scopes	4

1.5 Project Significance	5
1.6 Expected Output	6
1.7 Conclusion	6
CHAPTER II LITERATURE REVIEW AND PROJECT METHODOLOGY	
2.1 Introduction	7
2.2 Fact and Finding	8
2.2.1 Domain	8
2.2.2 Existing System	9
2.3 Project Methodology	11
2.3.1 Object Oriented Analysis and Design (OOAD) phases	11
2.3.1.1 Inception Phase	12
2.3.1.2 Elaboration Phase	13
2.3.1.3 Construction Phase	13
2.3.1.4 Transition Phase	13
2.4 Project Requirements	13
2.4.1 Software Requirements	14
2.4.2 Hardware Requirements	14
2.4.3 Other Requirements	15
2.5 Project Schedule and Milestone	15
2.6 Conclusion	17
CHAPTER III ANALYSIS	
3.1 Introduction	18

3.2 Problem Analysis	19
3.2.1 Analysis of Current System	19
3.2.2 Analysis of LBKS	20
3.3 Requirement Analysis	21
3.3.1 Data Requirement Analysis	21
3.3.2 Functional Requirement	24
3.3.2.1 System Model	26
3.3.2.2 Activity Diagram	27
3.3.3 Non-Functional Requirement	33
3.3.4 Other Requirement	34
3.3.4.1 Software Requirement	34
3.3.4.2 Hardware Requirement	35
3.3.4.3 Network Requirement	35
3.4 Conclusion	36
 CHAPTER IV DESIGN	
4.1 Introduction	37
4.2 High-Level Design	37
4.2.1 System Architecture	38
4.2.2 User Interface Design	39
4.2.2.1 Navigation Design	41
4.2.2.2 Input Design	43
4.2.2.3 Output Design	46
4.2.3 Database Design	51
4.2.3.1 Entity Relationship Diagram	52
4.2.3.2 Data Dictionary	53

4.2.3.3 Normalization of LBKS	61
4.3 Detailed Design	66
4.3.1 Software Design	66
4.3.2 Physical Database Design	72
4.4 Conclusion	77
 CHAPTER V IMPLEMENTATION	
5.1 Introduction	78
5.2 Software Development Environment	79
Setup	
5.2.1 Software Architecture Setup	81
5.2.2 Hardware Architecture Setup	82
5.2.3 Database Development	82
Environment Setup	
5.2.4 Team-ke Server Environment	85
Setup	
5.3 Software Configuration Management	85
5.3.1 Configuration Environment Setup	86
5.3.2 Version Control Procedure	87
5.4 Implementation Status	88
5.5 Conclusion	89
 CHAPTER VI TESTING	
6.1 Introduction	90
6.2 Test Plan	90
6.2.1 Test Organization	91

6.2.2 Test Environment	91
6.2.3 Test Schedule	92
6.3 Test Strategy	93
6.3.1 Classes of tests	94
6.3.1.1 Output Correctness Test	94
6.3.1.2 Documentation Test	94
6.3.1.3 Reliability Test	94
6.3.1.4 Stress Test	94
6.4 Test Design	95
6.4.1 Test Description	95
6.4.1.1 Login Test Description	95
6.4.1.2 Register Test Description	97
6.4.1.3 Forgot Password Test Description	97
6.4.1.4 Update Information Test Description	98
6.4.1.5 Forum Test Description	99
6.4.1.6 Adminisrtator Management Test Description	100
6.4.1.7 Blog Test Description	104
6.4.1.8 Contact Us Test Description	107
6.4.1.9 View News and Announcement Test Description	107
6.4.2 Test Data	110
6.5 Test Results and Analysis	110

6.6 Conclusion	113
----------------	-----

CHAPTER VII PROJECT CONCLUSION

7.1 Observation on Weaknesses and Strengths	114
7.2 Proposition of Improvement	115
7.3 Contribution	115
7.4 Conclusion	116
REFERENCES	115
APPENDICES	117

LIST OF TABLES

TABLE	TITLE	PAGE
2.1	Strengths and weaknesses of Sunshine Kidsland	10
2.2	Strengths and weaknesses of Jolly Kids day care	10
2.3	Software Item Compilers and Operating System	14
2.4	General Tool	14
2.5	Hardware and Firmware Item	15
2.6	Project Milestone	16
3.1	LBKS Functional Requirements	24
3.2	Non-functional requirements of LBKS	33
3.3	Software requirements of LBKS	34
3.4	Hardware and Firmware Item	35
3.5	Network Item	35
4.1	Input designs for LBKS	43
4.2	Table Admin	53
4.3	Table Admin Photo	53
4.4	Table Contact	54
4.5	Table News	54
4.6	Table Parent Comment	55
4.7	Table Announcement	55
4.8	Table Registration	56
4.9	Table Forum_Question	57

4.10	Table Profile Image	57
4.11	Table Forum Answer	58
4.12	Table Blog	58
4.13	Table Blog_Content	59
4.14	Table Gallery	59
4.15	Table Comment	60
5.1	Implementation Environment	79
5.2	Hardware Setup	82
5.3	LBKS Product Version	87
5.4	Implementation for Each Module	86
6.1	Responsibilities of Personnel in Testing Process	91
6.2	LBKS Testing Test Schedule	92
6.3	User Login Test Description	95
6.4	Admin Login Test Description	96
6.5	Register Test Description	97
6.6	Forgot Password Test Description	97
6.7	Update Information Test Description	98
6.8	Create New Topic Test Description	99
6.9	Add Answer Test Description	99
6.10	Post Parent Comment Test Description	100
6.11	Delete Parent Comment Test Description	100
6.12	Post News Test Description	101
6.13	Delete News Test Description	101
6.14	Post Announcements Test Description	102
6.15	Delete Announcement Test Description	102
6.16	Post New Topic Test Description	103
6.17	Delete Topic Test Description	103
6.18	Upload Photo Test Description	104
6.19	Delete Photo Test Description	104
6.20	Create New Blog Test Description	104
6.21	Upload Profile Image Test Description	105

6.22	Upload Photos Test Description	105
6.23	Delete Photo Test Description	106
6.24	Add New Post Test Description	106
6.25	Edit Post Test Description	107
6.26	Post Comment Test Description	107
6.27	Delete Comment Test Description	107
6.28	Contact Us Test Description	108
6.29	View News Test Description	108
6.30	View Announcements Test Description	109
6.31	Number of Test Data in Testing	110
6.32	Test Result	111

LIST OF FIGURES

TABLE	TITLE	PAGE
2.1	Sunshine Kidsland process	9
3.1	Use case diagram of manual system	19
3.2	Entity Relationship Diagram of LBKS	21
3.3	Use case diagram of LBKS	26
3.4	LBKS Login Activity Diagram	27
3.5	LBKS User Registration Activity Diagram	28
3.6	LBKS User Update Profile Activity Diagram	29
3.7	LBKS User Manage Blog Activity Diagram	30
3.8	LBKS User Manage Forum Activity Diagram	31
3.9	LBKS Flash Games Activity Diagram	32
4.1	LBKS System Architecture	38
4.2	Registration's Interface	39
4.3	Contact Us's Interface	40
4.4	Create New Topic in Forum's Interface	40
4.5	Add Answer in Forum's Interface	41
4.6	Navigation Design for LBKS	42
4.7	Null class name text field alert box	42
4.8	Error message box	43
4.9	Update Profile Interface	46
4.10	Forum Main Page Interface	47

4.11	Add Topic Interface	47
4.12	Add Answer Interface	48
4.13	User Display Interface	48
4.14	News Interface	49
4.15	Announcement Interface	50
4.16	Entity Relationship Diagram of LBKS	52
5.1	Deployment Diagram of LBKS	80
5.2	Software Architecture for LBKS	81
5.3	Wamp server control panel to start the database service	82
5.4	Launching of Wamp server	83
5.5	Configuration of database connection	83
5.6	Authentication required accessing the database	84
5.7	Database of LBKS	84
5.8	Configuration of FTP server connection	85
5.9	The Sequence of Installation Tools for LBKS	86
6.1	Bottom-Up Testing Module of LBKS	93

LIST OF ABBREVIATION

ADM	-	Admin
CPU	-	Computer Processor
EC	-	Equivalence Class
ERD	-	Entity Relationship Diagram
FR	-	Functional Requirement
FTMK	-	Fakulti Teknologi Maklumat dan Komunikasi
FTP	-	File Transfer Protocol
HTML	-	Hypertext Markup Language
ICT	-	Information and Communication Technology
IEEE	-	Institute of Electrical and Electronic Engineering
LBKS	-	Little Bell Kindergarten System
NFR	-	Non-Functional Requirement
OOAD	-	Object Oriented Analysis and Design
PC	-	Personal Computer
PHP	-	Hypertext Preprocessor
RAM	-	Random Access Memory

RDBMS	-	Relational Database Management System
UML	-	Unified Modeling Language

LIST OF ATTACHMENTS

ATTACHMENT	TITLE	PAGE
1.1	Project Porposal Form	117
1.2	User Manual	122
1.3	Sunshine Kidsland Testimonial	139
1.4	Feedback Form	144

CHAPTER I

INTRODUCTION

1.1 Project Background

This is a project for an online system called Little Bell Kindergarten System. LBKS is made especially for the benefit of the parents and teachers. The target users of this system are teachers, parents and public. This system comprises a web-based application where teachers and parents can communicate with each other. Parents and the public have to register as a member in order to manage their blog. In this website, they can give comments and share their information with each other in their blog and forum.

LBKS comprises a module where teachers can upload their photos in gallery to share with users. It also provides a food menu and the details about the services and facilities so that parents and users can view for it and get to know what actually this system is about. Moreover, it also has a module of parent-child activity that parents and their children can have some flash games together. Children attend kindergarten to learn to communicate, play, and interact with others appropriately. It helps to develop some interest in their children's mind and get interesting on study.

Therefore, with LBKS, it helps the teacher to establish effective two-way communication between the parent and teacher for a successful school year.

1.2 Problem Statement

There are a few weaknesses identified from the current kindergarten system. Among the main problems identified are listed as below:

➤ **Dull system**

The current kindergarten online system is monotonous and dull. Users just can view and gain information for the details from the website. Problems like communication between parents and teachers are less due to working parents. Hence, they have no time to know about how is their children's performance in kindergarten.

➤ **Parent-teacher communication**

It does not provide any function for parents and teacher to communicate this is because some parents feel uncomfortable in kindergarten and talking with teachers. Some parents do not speak English well or come from different cultural backgrounds than the teacher.

➤ **Lack of information**

Current system does not provide a clear and detail information for users. Parents do not know the details of services and facilities like full day care, half day care, before and after school care, their holiday programs, and food menu.

➤ **Do not have activities involving parents and children**

Lack of some parent-child activity for which the home and kindergarten shared job. In teaching and raising children, certain activities are the main job on the home and other activities are the main job of the kindergarten.

1.3 Objective

➤ **To develop a system where parents and teachers can communicate with each other**

Through the website, parents and teachers can communicate publicly with each other easily in order to help the children do well in kindergarten.

➤ **To develop a system that users can manage their own blog and forum**

In order to communicate with each other, parents need to register as a member to manage their own blog and forum.

➤ **To develop a website that provides the information of the kindergarten and public can view for the kindergarten's details**

Full details will be provided for all users.

➤ **To develop a website that provides flash games for parent-child activity**

Some educational flash games due to different ages of children will be providing in this website. Children need to be guided with their parents to finish the games activities.