MYKID'S CARE PORTFOLIO

POTRIYEN SELVA A/L SUBBUODAYAR

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

© Universiti Teknikal Malaysia Melaka

MYKID'S CARE PORTFOLIO

POTRIYEN SELVA A/L SUBBUODAYAR

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

FALCULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

UNIVERSITY TEKNIKAL MALAYSIA MELAKA

2014

© Universiti Teknikal Malaysia Melaka

DECLARATION

I hereby declare that this project report entitled

MYKID'S CARE PORTFOLIO

Is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT: _____ _____ Date: _____

(POTRIYEN SELVA A/L SUBBUODAYAR)

SUPERVISOR: _____ Date: _____

(Dr. MASSILA KAMALRUDIN)

© Universiti Teknikal Malaysia Melaka

DEDICATION

To my beloved parents, who have been supporting me and loving me since starting of my studies. Also, to my friends, I grateful to have their encourage and guidance during the period of my studies in UTeM. Finally, the thesis dedicated to all of my lecturers and especially my supervisor, Dr. Massila Kamalrudin, I appreciate the inspirational guidance and advice that given by you all to make me become a better student and achieve success in this project.

© Universiti Teknikal Malaysia Melaka

ACKNOWLEDGEMENTS

First of all, I would like to thank to my supervisor, Dr. Massila Kamalrudin, for giving me a chance to be one of the students under her supervision. She has been giving me a lot of guidance, comment and ideas throughout the whole project duration. Apart from that, I would like to thank to UTeM for accepting me as the student and providing all the facilities which is required. Besides that, I would also like to thank to my family for giving me moral support for my entire university life.

© Universiti Teknikal Malaysia Melaka

ABSTRACT

Portfolio is considered as an instrument to record and evaluate the achievement, performance and ability of a student in school. With the growth of technology in social network, e-learning portfolio has becoming a trend to enhance parent-teacher communication in education field. In traditional education system, teachers are facing problem on sharing the latest information of the student to their parents or guardians, but in this modern world digital devices and apps have become ubiquitous in the lives of thousands of people around the world. This project aims to develop an e-portfolio with ubiquitous computing to provide teachers and parents an intermediate to connect to each other through internet with Smartphone device. A pilot study is conducted to identify the problem faced by parents and guardians, the analysed result is used to develop a Smartphone application which integrated with website. Thus, this application is instrumental in enhancing the communication and relationship between educators and parents and monitoring the child development

© Universiti Teknikal Malaysia Melaka

ABSTRAK

Portfolio dianggap sebagai alat untuk mencatat dan menilai pencapaian, prestasi dan keupayaan pelajar di sekolah. Dengan pertumbuhan teknologi dalam rangkaian sosial, portfolio bagi e-pembelajaran telah menjadi aliran untuk meningkatkan komunikasi ibu bapa dengan guru dalam bidang pendidikan. Dalam sistem pendidikan tradisional, guru selalu menghadapi masalah untuk berkongsi maklumat terkini pelajar kepada ibu bapa atau penjaga mereka, tetapi dalam dunia yang moden ini peralatan digital dan aplikasi telah bergabung ke dalam kehidupan beribu-ribu orang di seluruh dunia. Kertas ini bertujuan untuk membangunkan satu portfolio bagi e-pembelajaran dengan mengambil kira unsur kehidupan untuk menyediakan guru-guru dan ibu bapa perantaraan untuk berkongsi maklumat melalui internet dengan peranti telefon pintar. Kajian perintis telah dijalankan untuk mengenal pasti masalah yang dihadapi oleh ibu bapa dan penjaga, hasilnya akan digunakan dalam membangunkan aplikasi telefon pintar. Oleh itu, aplikasi ini akan memainkan peranan penting dalam mengeratkan hubungan antara pendidik dan ibu bapa dan memantau pembangunan kanak-kanak.

© Universiti Teknikal Malaysia Melaka

TABLE OF CONTENTS

CHAPTER	SUBJECT		PAGE
	DECLARATION		ii
	DEDICATION		iii
	ACKNOWLEDGEMENTS		iv
	ABSTRACT		v
	ABSTRAK		vi
	TABLE OF CONTENTS		vii, x
	LIST OF TABLES		xi, xii, xiii
	LIST OF FIGURES		xiv, xv
	LIST OF ABBREVATION		xvi
	LIST OF ATTACHMENT		xvii
CHAPTER I	INTRODUCTION		
	1.1	Project Background	1
	1.2	Problem Statement	3
	1.3	Objective	3
	1.4	Problem Scope	4
	1.5	User	4
	1.6	Modules	5
	1.7	Project Significant	6
	1.8	Expected Output	7
	1.9	Conclusion	7

© Universiti Teknikal Malaysia Melaka

CHAPTER II	**LITERATURE REVIEW AND METHODOLOGY**		
	2.1	**Introduction**	**8**
	2.2	**Fact and Finding**	**9**
		2.2.1 Domain	**9**
		2.2.2 Existing system	**10**
		2.2.2.1 Introduction to portfolio	**10**
		2.2.2.2 Why E-Learning Portfolio	**11**
		2.2.2.3 Web based E-Foliotek	**14**
		2.2.2.4 What is Ubiquitous ?	**16**
		2.2.3 Technique	**19**
	2.3	**Project Methodology**	**19**
	2.4	**Project Requirement**	**21**
		2.4.1 Software Requirement	**21**
		2.4.2 Hardware Requirement	**22**
	2.5	**Project Schedule and Milestones**	**22**
	2.6	**Conclusion**	**23**
CHAPTER III	**ANALYSIS**		
	3.1	**Introduction**	**24**
	3.2	**Problem Analysis**	**24**
	3.3	**Requirement Analysis**	**25**
		3.3.1 Data Requirement	**25**
		3.3.2 Functional Requirement	**26**
		3.3.3 Non- Functional Requirement	**60**
		3.3.4 Other Requirement	**61**
	3.4	**Conclusion**	**62**

© Universiti Teknikal Malaysia Melaka

CHAPTER IV	**DESIGN**		
	4.1	**Introduction**	**63**
	4.2	**High-Level Design**	**63**
		4.2.1 System Architecture	**64**
		4.2.2 User Interface Design	**66**
		4.2.2.1 Navigation Design	**66**
		4.2.2.2 Input Design	**67**
		4.2.2.3 Output Design	**77**
		4.2.3 Database Design	**85**
		4.2.3.1 Conceptual and logical Database design	**85**
		4.2.3.2 Data Dictionary and Normalization	**86**
	4.3	**Detailed Design**	**96**
		4.3.1 Software Design	**97**
		4.3.2 Physical Database Design	**98**
	4.4	**Conclusion**	**105**
CHAPTER V	**IMPLEMENTATION**		
	5.1	**Introduction**	**106**
	5.2	**Software Development Environment setup**	**107**
	5.3	**Software Configuration Management**	**107**
		5.3.1 Configuration environment setup	**107**
		5.3.2 Version Control Procedure	**121**
	5.4	**Implementation Status**	**121**
	5.5	**Conclusion**	**126**

© Universiti Teknikal Malaysia Melaka

CHAPTER VI	**TESTING**		
	6.1	**Introduction**	**127**
	6.2	**Test Plan**	**128**
		6.2.1 Test Organization	**128**
		6.2.2 Test Environment	**128**
		6.2.3 Test Schedule	**129**
	6.3	**Test Strategy**	**129**
	6.4	**Test Design**	**130**
		6.4.1 Test Description	**130**
		6.4.2 Test Data	**140**
	6.5	**Test Results and Analysis**	**145**
	6.6	**Conclusion**	**152**
CHAPTER VII	**CONCLUSION**		
	7.1	**Observation on Weaknesses Strengths**	**153**
		7.1.1 Strengths	**153**
		7.1.2 Weaknesses	**154**
	7.2	**Propositions for Improvement**	**154**
	7.3	**Contribution**	**155**
	7.4	**Conclusion**	**155**
	REFERENCE		**156**
	BIBLIOGRAPHY		**157**
	APPENDICES		**158**

© Universiti Teknikal Malaysia Melaka

LIST OF TABLES

TABLE	TITLE	PAGE
Table 2.1	Table of Comparison	18
Table 2.2	Project Schedule and Milestones	22
Table 4.1	Input rules Login	67
Table 4.2	Input rules Teacher Registration	69
Table 4.3	Input rules announcement	70
Table 4.4	Input rules Food Menu	71
Table 4.5	Input rules Schedule	72
Table 4.6	Input rules Gallery	73
Table 4.7	Input rules for add child	74
Table 4.8	Input rules for evaluate performance	75
Table 4.9	Input rules for evaluate health info	76
Table 4.10	Admin	86
Table 4.11	Child	86
Table 4.12	Teacher	87
Table 4.13	Parent	88
Table 4.14	Announcement	89
Table 4.15	Food Menu	89
Table 4.16	Schedule	90

© Universiti Teknikal Malaysia Melaka

Table 4.17	Gallery	90
Table 4.18	Performance	91
Table 4.19	Health Info	92
Table 5.1	Implementation status	121
Table 6.1	Test Case Register	132
Table 6.2	Login	133
Table 6.3	Test Case Add/update Announcement	133
Table 6.4	Test Case Add/Update Food Menu	134
Table 6.5	Test Case Add/Update Schedule	135
Table 6.6	Test Case Add photo in gallery	135
Table 6.7	Test Case Add/update Performance	136
Table 6.8	Test Case Add/update Health Info	137
Table 6.9	Test case login (Android)	138
Table 6.10	Test case view (android)	138
Table 6.11	Test Data Register	140
Table 6.12	Test Data Create Announcement	141
Table 6.13	Test Data create Food Menu	141
Table 6.14	Test Data Create Schedule	142
Table 6.15	Test Data Add photo	142
Table 6.16	Test Data Create Performance	143
Table 6.17	Test Data Create Health Info	144
Table 6.18	Test Data View	145
Table 6.19	Test Result Register	146
Table 6.20	Test Result Create Announcement	146
Table 6.21	Test Result Create Food Menu	147
Table 6.22	Test Result Create Schedule	147
Table 6.23	Test Result Create photo	148

© Universiti Teknikal Malaysia Melaka

Table 6.24	Test Result Create Performance	148
Table 6.25	Test Result Create Health Info	149
Table 6.26	Test Result View	149
Table 6.27	Usability Testing Result	150
Table 6.28	User Acceptance Testing Result	151

© Universiti Teknikal Malaysia Melaka

LIST OF FIGURES

FIGURE	TITLE	PAGE
Figure 2.1: Technologies used		13
Figure 2.2 Flow of Prototyping		20
Figure 3.1: Use case of existing system (e-portfolio)		25
Figure 3.2 Use case diagram of MyKid’s Care Portfolio		26
Figure 3.3Sequence diagram for login		27
Figure 3.4 sequence Diagram for manage user account		28
Figure 3.5 Sequence Diagram for Create announcement		28
Figure 3.6Sequence Diagram for Create Schedule		29
Figure 3.7 Sequence Diagram for Create Food Menu		29
Figure 3.8Sequence Diagram for Create Photo In Gallery		30
Figure 3.9 Sequence Diagram for Evaluate Health Info		30
Figure 3.10 Sequence Diagram for Evaluate Student Performance		31
Figure 4.1 Architecture Design Diagram		64
Figure 4.2Navigation Diagram		66
Figure 4.3 Login screen for Admin and teacher		67
Figure 4.4 Forget password screen		68

© Universiti Teknikal Malaysia Melaka

Figure 4.5 Approval & Lock screen of admin 68
Figure 4.6Teacher Registration screen 69
Figure 4.7 Announcement page 70
Figure 4.8 Food Menu page 71
Figure 4.9 Class Schedule page 72
Figure 4.10 Gallery page 73
Figure 4.11 Add child page 74
Figure 4.12 kid’s performance page 75
Figure 4.13 Kid’s Health Info page 76
Figure 4.14 Kid’s Health Info Alert 77
Figure 4.15 Kid’s Performance Alert 78
Figure 4.16 Parent account approval notification 78
Figure 4.17 Server connection 79
Figure 4.18 Parent Login page 79
Figure 4.19 Main Menu Screen 80
Figure 4.20 Announcement Page 80
Figure 4.21: Food menu page 81
Figure 4.22 Schedule page 81
Figure 4.23: Monthly Result page 82
Figure 4.24: Health Info page 82
Figure 4.25: Navigation Page 83
Figure 4.26: Kid’s Gallery Page 83
Figure 4.27: Kid’s Temperature Monitoring System via VB data Logger 84
Figure 4.28: Entity Relationship Diagram 85
Figure 4.29: High level Class Diagram 96
Figure 4.30: Detailed class diagram 97

© Universiti Teknikal Malaysia Melaka

LIST OF ABBREVIATIONS

PSM	-	Projek Sarjana Muda
ADT	-	Android Development Kit
MKP	-	MyKid's Care Portfolio
AP	-	Android Phone
SDK	-	Software Development Kit
UML	-	Unified Modeling Language
JDK	-	Java development kit

© Universiti Teknikal Malaysia Melaka

LIST OF ATTACHMENTS

ATTACHMENT	TITLE	PAGE
APPENDIX A	Gantt Chart	159
APPENDIX B	Usability Testing Question	160
APPENDIX C	User Acceptance Testing Question	164
APPENDIX D	Pilot Study Questionnaire	169
APPENDIX E	Comparison with Competitor	174
APPENDIX F	Comparison with existing system	176
APPENDIX G	Feedback from respondent	178

© Universiti Teknikal Malaysia Melaka

CHAPTER I

INTRODUCTION

1.1 Project Background

As we all realize that kindergarten is the early period of instruction around the globe. Kindergarten and preschool are organization that permits youngsters underneath 6 years of age to learn essential mathematic, fundamental correspondence vocabulary and dialect. Anyway there is constantly one thing that folks and gatekeepers are most worried about, their youngsters' execution and kids' welling condition particularly when youngsters in fever at kindergarten. Scholarly advancement report and converse with educator will be most basic approach to recognize what happening around their kids, yet advancement report just be circulated on specific periods while folks and watchmen perhaps confronting time requirement and dialect hindrance amid the gathering with the instructor.

© Universiti Teknikal Malaysia Melaka

Mykid's Care Portfolio is online application and electronic framework exceptionally intended for educator of Pre-school/ Kindergarten to make it less demanding to report the kids' wellbeing condition, every day advancement and action to folks and watchmen. This application permits instructor to include points of interest of kids' advancement, body temperature and movement into a generally organized structure and send to parent or gatekeeper by means of our android application. Data incorporates the children advancement report, kids current temperature level, every day nourishment menu, advertisement, class timetable and exercises

© Universiti Teknikal Malaysia Melaka

1.2 Problem statement:

On the starting of this project, three vital problem statements have been identified on the current education workflow in the kindergarten are stated as below:

1. **Difficulties for parent or guardian to monitor their children's performance and progress level.**
   Does not have any every day reporting framework to guardian and gatekeeper. They think about what happening around their tyke, for example, movement and homework done by their kid.

2. **Difficulties for parent to monitor their children's body temperature frequently.**
   There no special device or app in market to help parents to monitor their children's body temperature consistently.

3. **Lack of communication between teacher and parent/guardian**
   The parents are not updated on kids study activities.

1.3 Objective (s) of the Project

The objective of this project is to solve the problem mentioned in the problem statement.

1. To create a web based system and an app to reporting kid progress and activity
2. To create an app to help parents to monitor their children's portfolio consistently and efficiently.
3. To tighten the relationship between parent and teacher.

© Universiti Teknikal Malaysia Melaka

1.4 Scope

Mykid's Care Portfolio is an online application that creates in electronic stage for instructor and android application for folks. It is another innovation in instruction which mostly to support educator to upgrade the advancement and data of the youngsters' to their guardians or watchman through the sites and folks can see about their kids' reporting through our application. This framework is utilizing "Android Mysql" as the database to store all the data. The target clients are guardian with youngster concentrating on in kindergarten, instructors or teachers working in kindergarten and director to affirm the enlistment for folks & educators.

1.5 User

There is three type of user can use this application. Which are Admin, Teacher and Parent.

i. Admin (website)
ii. Teacher (Website)
iii. Parent (Android application)

© Universiti Teknikal Malaysia Melaka

1.6 Modules

Module 1: register

This module allows the registration of parents and teachers to create an account in system in order to use functions in the system.

Module 2: Evaluate performance

This module allow teachers to evaluate kid performance based on the 6 criteria set by ministry of education such as

i. Counting
ii. Reading
iii. Writing
iv. Communication
v. Understanding
vi. Creativity

Module 3: Update daily food menu

This module allows teachers and admin to create and updates daily food menu for the kid and the parents able to view the menu type thru the Mykid's Care Portfolio Care app.

Module 4: Create announcement

This module allows teachers and admin to create announcement and classroom news. Parents able to view the news and announcement through the Mykid's Care Portfolio app.

Module 5: Create schedule

Teachers are responsible to create daily schedule for the kids and the parents able to view that thru the app.

© Universiti Teknikal Malaysia Melaka

Module 6: create Gallery

Teachers able to create gallery for the class room activity and any event conducted.

Module 7: Evaluate Kids health info

This module allows admin and teachers to monitor kids daily temperature thru the websites. Parents also able to view their kid’s current temperature through the Mykid’s Care Portfolio apps.

1.7 Project Significance

Mykid's Care Portfolio is an online application that creates in electronic stage for educator and android application for folks. It is another innovation in training which basically to help instructor to overhaul the advancement and data of the youngsters' to their guardians or gatekeeper through the sites and folks can see about their kids' reporting through our application. This framework is utilizing "Android Mysql" as the database to store all the data. The target clients are guardian with youngster examining in kindergarten, educators or teachers working in kindergarten and chairman to favor the enlistment for folks & instructors.

As the undertaking target is to build proficiency youngster nurture PERMATA, there were a few task noteworthiness to be thus and purposes from creating the framework. "Mykid's Care Portfolio" is intended to help educator in kindergarten/preschool to enter the every day advancement of the kids through a Web based framework. While on the other side, this application will overhaul folks and gatekeepers the advancement, execution, children body temperature study movement of their youngsters. Educator will enter the important data, for example, every day advance, execution, sustenance admission, and photograph of

© Universiti Teknikal Malaysia Melaka