

LB/DON/105/2011



ONLINE HOME ASSIGNMENT MANAGEMENT SYSTEM

FOR THE OPEN UNIVERSITY OF SRI LANKA

T.G.N.Kariyawasam

MSCIT/08/10001



University of Moratuwa, Sri Lanka.
Supervisor: Dr. G.D.S. Prasad Wimalaratne
www.lib.mrt.ac.lk Senior Lecturer

University of Colombo School of Computing

October 2008

004"08"

004(043)

University of Moratuwa



100846

This dissertation is submitted in partial fulfillment of the requirement of the Degree of M.Sc in Information Technology of the University of Moratuwa

100846



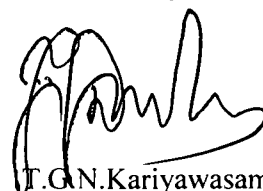
100846

Declaration

I hereby certify that this dissertation does not incorporate any material previously submitted for a degree or a diploma in any university to the best of my knowledge and belief. Further, it does not contain any material previously published or written by another person or myself except where due reference is made in the text.

I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loan and for the title and summary to be made available to outside organizations.

Date: 29/03/2011



T.G.N.Kariyawasam

This is to certify that the candidate himself carried out the work submitted herein. It is now approved for submission.



University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk

Supervisor



Dr G.D.S.Prasad Wimalaratne
Senior Lecturer,
University of Colombo School of Computing,
No: 35, Reid Avenue, Colombo 7,
Sri Lanka.

Acknowledgement

My heartfelt gratitude goes to the following persons who advised and assisted me to make this project a success.

Had it not been your proper guidance and support this project would not have been a great success. Therefore first and foremost I convey my sincere thanks to my supervisor, Senior Lecturer, Dr Prasad Wimalaratne, University of Colombo School of Computing.

Further, my next great appreciation goes to our Course Coordinator Senior Lecturer, Mr Saminda Premaratne, University of Moratuwa who gave me his greatest support in numerous ways to make my project a success.

Moreover, I must thank the Dean, Faculty of Information Technology, University of Moratuwa, who conducted two valuable lectures on “How to write a project report” amidst his busy schedule of academic work.

I greatly appreciate the support extended to me by the Vice Chancellor, Deputy Vice Chancellor and all Deans of the Open University of Sri Lanka and all officers of the Regional and Study Centres of the OUSL in completing this project.

Finally, I would be very thankful to all those who contributed in numerous ways to achieve my objectives.




University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk

Abstract

The Open University of Sri Lanka (OUSL) is a specifically created, academically autonomous national university in the country. The OUSL academic structure consists of four faculties which serve the nation with distant education programmes through Regional and Study Centres .

A major component of the distance learning programmes in the OUSL context is furnishing the students with the home assignments. The students have the facility to submit their home assignments to a centre convenient to them which are then sent to the relevant Course Coordinators who bear the responsibility to mark the assignments and send them back to the students. When this process is done manually all parties involved are faced with certain difficulties. As a result, students are unable to get their eligibility for the final examination and are penalized in numerous ways. With the intention of overcoming these obstacles and to streamline the process of handling submission of assignments as hard copies, I have implemented an Online Home Assignment Management System.

 The most obvious and significant advantages offered by Online Home Assignment Management System are that it prevents misplacement of assignments, offers faster assignment marks entering mechanisms, and provides quick message delivering methods regarding assignment events. The main users of this system are Receiving Officer, Course Coordinator and students. But the main role is played by Course Coordinators and Receiving officers. In this system Receiving Officers have been provided with a facility to accept the assignments from the students till the due date of assignment and to generate a letter to be sent with the assignments to the relevant Course Coordinator with the details of the assignments. After posting these assignment parcels, Receiving Officer sends required details to the relevant Course Coordinator along with postal registration number through the system. When receiving the assignments, Course Coordinator can view and check all the details pertaining to the assignments in the system. Further this system makes the role of the Course Coordinator easier and effective in preparing mark sheets. Finally, it is believed that the system developed provide many options to all the users to get their work done accurately and effectively.

University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk

Table of contents

Declaration.....	i
Acknowledgement	ii
Abstract.....	iii
Table of contents	iv
Table of figures	vii
List of acronyms and abbreviations	viii
Chapter 1 – Introduction.....	1
1.1 Introduction.....	1
1.2 Background and motivation.....	2
1.3 Problem in brief	3
1.4 Aims and objectives.....	3
1.5 Alternative option available.....	5
1.5.1 Solution one - online submission of assignments.....	5
1.5.2 Solution two - Online HAMS for submission of hard copies.....	6
1.6. The rest of the report is organized in the following order.....	7
Chapter 2. Similar areas of the system.....	8
2.1 Introduction.....	8
2.2 Commercial products in similar area	8
2.3 Course management systems	8
2.4 List of tasks.....	8
2.5 Learning management system.....	9
2.6 CMSs Products commercially available.....	10
2.7 A comparison of OUSL OHAMS with moodle.....	11
2.8 Summary.....	12
Chapter 3 Technologies adapted for development.....	13
3.1 Introduction.....	13
3.2 Usage of web technology	13
3.3 Implementation languages	13
3.4 Database handling.....	14
3.5 Mobile technology	14
3.5.1 GSM/GPRS Modem	14
3.5.2 The basic network structure of the SMS is depicted.....	15

3.6. Summary	16
Chapter 4 The approach to solution	17
4.1 Introduction.....	17
4.2 Users of the system	17
4.3 Justification for selected solution.....	18
4.3.1 Selection of web technology	18
4.3.2 Selection of PHP & MYSQL technologies.....	18
4.3.3 Selection of mobile technology	19
4.4 Input and output of the system.....	19
4.5 Summary	19
Chapter 5 Analysis and design of solution.....	20
5.1 Introduction.....	20
5.2 Requirement analysis	20
5.3 Problems encountered in the current manual system.....	20
5.3.1 Course Coordinators	20
5.3.2 Receiving Officer.....	21
5.3.3 Students.....	21
5.4. User requirement.....	22
5.4.1 Students.....	22
5.4.2 Receiving Officers	22
5.4.3 Course Coordinators	23
5.5 System requirements.....	24
5.6 Use case diagram	25
5.7 Top level architecture of the system	26
5.8 Use case specification.....	27
5.8.10 Summary.....	36
Chapter 6 Implementation.....	37
6.1 Introduction.....	37
6.2 User management module.....	37
6.3 Upload & download module	37
6.4 Messages delivering module	37
6.5 Reports viewing & printing module.....	38
6.6 Assignments accepting, posting, receiving and marks entering module	38
6.7 Few screen short of the system	39

6.7.1 Screen of login	39
6.7.2. Screen of add new user	40
6.7.3. Screen of upload assignment	40
6.7.4. Screen of change due date of assignment	41
6.7.5. Screen of entering marks to the assignments.....	41
6.7.6. Screen of view submitted assignments	42
6.7.7. Screen of accept assignments.....	42
6.7.8. Summary	43
Chapter 7 Evaluation.....	44
7.1. Introduction.....	44
7.2. Adding new user function.....	44
7.3. Upload assignment function	47
7.4. Accept assignment function.....	49
7.5. Post assignment function	51
Chapter 8 Conclusion & future work.....	55
8.1 Introduction.....	55
8.2 Achievement of objectives.....	55
8.4 Suggestions and future works	57
Chapter 9 References	58
Appendix A	59
Appendix B Questionnaires	60
Appendix C Database structure	62
Appendix D Flowcharts	63
Appendix E Test plan.....	67
Appendix F Test case and test result.....	72
Appendix G Installation Guidance.....	76



University of Moratuwa, Sri Lanka
 Electronic Theses & Dissertations
www.lib.mrt.ac.lk

Table of figures

Figure 1 Network structure of SMS	15
Figure 2 How web page operates	18
Figure 3 Use case diagram	25
Figure 4 Top level architecture of the system	26
Figure 5 Login screen.....	39
Figure 6 Add new user screen.....	40
Figure 7 Upload assignment screen.....	40
Figure 8 Change due date screen.....	41
Figure 9 Marks entering screen.....	41
Figure 10 View submitted assignment screen.....	42
Figure 11 Accept assignment screen.....	42
Figure 12 Usefulness of add new user function	45
Figure 13 Ease of use of add new user function.....	45
Figure 14 Ease of learning of add new user function.....	46
Figure 15 Satisfaction of add user function.....	46
Figure 16 Usefulness of upload assignment function.....	47
Figure 17 Satisfaction of upload assignment function	47
Figure 18 Ease of use of upload assignment function.....	48
Figure 19 Ease of learning of upload assignment function	48
Figure 20 Usefulness of accept assignment function	49
Figure 21 Ease of use accept assignment function.....	50
Figure 22 Ease of learning of accept assignment function.....	50
Figure 23 Satisfaction of accept assignment function.....	51
Figure 24 Usefulness of post assignment function.....	52
Figure 25 Ease of use of post assignment function	52
Figure 26 Ease of learning of post assignment function	53
Figure 27 Satisfaction of post assignment function	53
Figure 28 Database structure.....	62
Figure 29 Flowchart diagram for sending messages.....	63
Figure 30 Flowchart diagram for upload assignment.....	66

List of acronyms and abbreviations

1	OUSL	Open University of Sri Lanka
2	CMS	Course Management System
3	LMS	Learner Management System
4	PHP	Hypertext Pre-Processor
5	HAMS	Home Assignment Management System
6	ODBC	Open Database Connectivity
7	JDBC	Java Database Connectivity
8	GSM	Global System for Mobile Communication
9	GPRS	General Packet Radio Services
10	SMS	Short Message Service



University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk