

**DEVELOPMENT OF E-LEARNING SYSTEM FOR
MULTIMEDIA SYSTEMS COURSE**

Thesis

**EFRIL E. MORTILLA
SARAH JANE D. PELINGON**

*College of Engineering and Information Technology
CAVITE STATE UNIVERSITY
Indang, Cavite*

Cavite State University



T4483

THESIS/SP 371.33 M84 2011

May 2011

**DEVELOPMENT OF E-LEARNING SYSTEM FOR MULTIMEDIA SYSTEMS
COURSE**

An Undergraduate Thesis Manuscript
Submitted to Department of Information Technology
Cavite State University
Indang, Cavite

In partial fulfillment of the
Requirements for the Degree of
Bachelor of Science in Information Technology

EFRIL E. MORTILLA
SARAH JANE D. PELINGON
May, 2011

ABSTRACT

EFRIL E. MORTILLA AND SARAH JANE D. PELINGON, Development of E-learning System for Multimedia Systems Course. Undergraduate Thesis Bachelor of Science in Information Technology, Cavite State University, Indang, Cavite May 2011, Adviser Ms. Vanessa G. Coronado.

The study was conducted to provide an E-learning system for the students of Cavite State University. The software developed has the following objectives: to entertain the students and to give them advance study about the subject. And this will lead to encourage the student in studying the lesson.

The system provides animated lessons presented for the students especially to those who have multimedia course. The report production can produce list of users and their corresponding score.

The rapid prototyping was used as the development methodology which has five phases: Requirements Gathering, followed by formal language representation, then automated generation of prototype, optimization and tuning and last is the completed software. The proponents used PHP (Hypertext Preprocessor) as programming language. MySQL used as the database technology for the data storage, Macromedia Flash as the base animation and scripting tool for the presentation of lessons and Microsoft Office Word for the documentation.

The system was evaluated by the respondents based on the given criteria: User-Interaction, Reliability, Consistency, Accuracy, Efficiency and Information in the program. Evaluators were composed of students taking up multimedia systems. The system passed all the given criteria in evaluation and met all the targeted features and functionality as well as the requirements and objective.

TABLE OF CONTENTS

	Page
TITLE PAGE.....	i
APPROVAL SHEET	ii
BIOGRAPHICAL DATA	iii
ACKNOWLEDGMENT.....	iv
ABSTRACT.....	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
LIST OF APPENDIX TABLES.....	xi
LIST OF APPENDIX FIGURES	xii
LIST OF APPENDICES.....	xiv
INTRODUCTION.....	1
Statement of the Problem	4
Theoretical Framework	5
Importance of the Study	9
Objectives of the Study	10
Time and Place of the Study	11
Scope and Limitation of the Study	11
Definition of Terms	14
REVIEW OF RELATED LITERATURE	16
Related Literature	16
E-learning	16
Multimedia	17
PHP	18

MySQL	18
Adobe Dreamweaver	19
Adobe Photoshop	20
Macromedia Flash	20
Fishbone Diagram	21
Related Systems	22
E-Learning on Multimedia Concepts	
Using Macromedia Flash MX.....	22
Online Computer Aided Instruction on Automotive Electricity	
and Electronics Using Multimedia.....	23
E-Learning in Digital Design	24
Comparison of Features of the Related Studies and the Proposed Study	25
MATERIALS AND METHODS	26
Materials	26
Methods	27
RESULTS AND DISCUSSION	30
SUMMARY, CONCLUSION AND RECOMMENDATION	52
Summary	52
Conclusion	54
Recommendation	55
BIBLIOGRAPHY	56
APPENDICES	59

LIST OF TABLES

Table

		Page
1	Comparison of Features of the Related Studies and the Proposed Study.....	25
2	User-Interactivity of the Software	46
3	Reliability of the Software.....	47
4	Consistency of Data of the Software.....	48
5	Accuracy of the Software	49
6	Evaluation Result for Efficiency	50
7	Information in the Program Presented of the Software	51

LIST OF FIGURES

Figure		Page
1	Population of BSIT students for the last 3 years	3
2	Theoretical Framework of E-learning System for Multimedia Systems Course	8
3	Rapid Prototyping (Hoffman & Margerum-Leys, 2004)	27
4	Sample Screen Layout of Login Page	33
5	Sample Screen Layout for Administrator Home Page	34
6	Sample Screen Layout for Topic List	35
7	Sample Screen Layout for Instructor's List Page	36
8	Sample Screen Layout for Instructor's Home Page	37
9	Sample Screen Layout for Instructor's Lessons List	38
10	Sample Screen Layout for Student's Home Page	39
11	Sample Screen Layout for Lessons Module	40
12	Sample Screen Layout for Multiple Choice Quiz	41
13	Sample Screen Layout for Forum Page	42
14	Sample Screen Layout for Student Report	43

LIST OF APPENDIX TABLES

Table

		Page
1	Gantt Chart	94
2	Frequency of Respondents Evaluation	100

LIST OF APPENDIX FIGURES

Figure

	Page
1	Fishbone Diagram for the first problem 70
2	Fishbone Diagram of the second problem 71
3	Fishbone Diagram of the third problem 72
4	Use-Case Diagram of User-Management Module Sub-system of E-learning System for Multimedia Systems Course..... 74
5	Use-Case Diagram of Communication Module Sub-system of E-learning System for Multimedia Systems Course..... 75
6	Use-Case Diagram of Report Module Sub-system of E-learning System for Multimedia Systems Course..... 76
7	Use-Case Diagram of Learning-Content Module Sub-system of E-learning System for Multimedia Systems Course..... 77
8	Use-Case Diagram of Learning-Content Module Sub-system of E-learning System for Multimedia Systems Course..... 78
9	Sequence Diagram of User Log-in (All Users) Subsystem of E-learning System for Multimedia Systems Course79
10	Sequence Diagram of Forum (Instructor and Student) Subsystem of E-learning System for Multimedia Systems Course 81
11	Sequence Diagram of Quiz Module (Student) Subsystem of E-learning System for Multimedia Systems Course82

12	Sequence Diagram of Learning Content (Student) Subsystem of E- learning System for Multimedia Systems Course	83
13	Sequence Diagram of Quiz Module (Instructor) Subsystem of E-learning System for Multimedia Systems Course	84
14	Class Diagram of E-learning System for Multimedia Systems Course.....	87

LIST OF APPENDICES

Appendix

	Page
A Course Syllabus.....	60
B Fishbone Diagram.....	69
C Use Case Diagram.....	73
D Sequence Diagram.....	80
E Class Diagram.....	86
F Use Case Specifications.....	88
G Gantt chart	93
H Unit Testing Case	95
I Function Testing Case.....	97
J Frequency of Respondents Evaluation	101
K Evaluation Form.....	103
L Sample Source Code.....	106

DEVELOPMENT OF E-LEARNING SYSTEM FOR MULTIMEDIA SYSTEMS COURSE

EFRIL E. MORTILLA

SARAH JANE D. PELINGON

¹/An undergraduate thesis manuscript submitted to the faculty of the Department of Information Technology, College of Engineering and Information Technology, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Information Technology. Contribution No.CEIT 2010-2011. Prepared under the supervision of Ms. Vanessa G. Coronado.

INTRODUCTION

E-learning uses the internet and digital technologies to create experiences that educate the human beings. It is an education and training delivered by an instructor or self-paced from curriculum database stored on the enterprise local area network. The electronic technology is used to deliver, enable or mediate the explicit purpose of learning. The concept of using technology and communication infrastructure to enable new forms of learning is well established. Although computers and networks are part of e-learning, they are medium, not the genesis of learning (Horton, 2001).

The growing interest in e-learning seems to be coming from several directions. These include organizations that have traditionally offered distance education programs either in a single, dual or mixed mode setting. E-learning is of interest to residential