# AN AUDIO VISUAL LEARN CARE FOR UUM

A Thesis submitted to the Faculty of Information Technology in partial Fulfillment of the requirement for the degree Master of Science (Intelligent System)

Universiti Utara Malaysia

By WAEL JUMAH ABDEL LATIF ALZYADAT



# KOLEJ SASTERA DAN SAINS (College of Arts and Sciences) Universiti Utara Malaysia

# PERAKUAN KERJA KERTAS PROJEK (Certificate of Project Paper)

Saya, yang bertandatangan, memperakukan bahawa (I, the undersigned, certify that)

# WAEL JUM'AH ABDEL LATIF ALZYADAT

calon untuk Ijazah (candidate for the degree of ) MSc. (Intelligent System)

telah mengemukakan kertas projek yang bertajuk (has presented his/her project paper of the following title)

# AN AUDIO VISUAL LEARN CARE SYSTEM FOR UUM

seperti yang tercatat di muka surat tajuk dan kulit kertas projek (as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan.

(that the project paper acceptable in form and content, and that a satisfactory knowledge of the field is covered by the project paper).

Nama Penyelia Utama (Name of Main Supervisor): MR. AHMAD HISHAM ZAINAL ABIDIN

Tandatangan (Signature)

Tarikh (Date)

25 MAY 2008

# PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the University Library may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor(s) or, in their absence by the Dean of Research and Post Graduate Studies. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Requests for permission to copy or to make other use of materials in this thesis, in whole or in part, should be addressed to

Dean of Research and Post Graduate Studies

College of Arts and Sciences

Universiti Utara Malaysia

06010 UUM Sintok

Kedah Darul Aman.

# **ABSTRACT**

Conducting study in a classroom has been an old method of teaching and learning process. In a typical way lecturer gives lecture and student takes notes and some times participate during class lecture. Essential time constraint, confinement of basic ideas and lack of interactive training aids make it bulky for students to cope up with new ideas being taught. Audio visual cyber Learning is relatively a new concept, involving on-line teacher and student interaction, information from related web-sites, and student-student chatting. Where the participants of diverse background can share different points of views on complex issues, coherent analysis and generates well-articulated and well-reasoned thoughts on core issues. Cyberspace interaction can surely help achieve the reformation, improvement and extension of quality education. This paper presents the technologies, infrastructure and will implement audio visual E-Learning learn care for UUM. Special emphasis will be on third world countries where economic constraint is the major hindrance in adopting technology. The online distance learning techniques or E- Learning, now in use worldwide, are presented together with a summary of their evaluation. The concept of ever-present computing oncampus and off-campus in the future is the motif of this paper. The paper gives an over view of basic parameters and limitation of typical higher-education distance learning and teaching schemes. The benefits and limits of distance learning approach for the basic services, lessons, seminars and tutoring will be discussed. Finally, new concept of learning will be discussed as to how a UUM student can learn interactively by being a student of UUM.

# **ACKNOWLEDGEMENT**

By the Name of Allah, the Most Gracious and the Most Merciful

First of all I thank to Allah for giving me the strength to complete my Master generally and this thesis specifically.

First, I would like to express my appreciation to Allah, the Most Merciful and, the Most Compassionate who has granted me the ability and willing to start and complete this study. I do pray to His Greatness to inspire and enable me to continue the work for the benefits of humanity.

My most profound thankfulness goes to my supervisor Mr.Ahmad Hisham for his scientifically proven and creativity encouraging guidance. Honestly, he has been all the time center of inspiration and guidance. I'm gratefully and deeply thank him for his support and cooperation as being equipped to provide his best help. My thanks also go to all the lecturers who helped me to collect my data during their classes. "May Allah bless all of them".

Last but not least, I wish to thank all my dearest family members, especially my Father, my Mother, and my lovely Brothers and Sister. I dedicate my admiration and thanks to all of them who have sacrificed their selves and supported me to the completion of the thesis. My demonstrative appreciations are to all my friends, colleagues, all FTM staff, and everyone who has put the hand either directly or indirectly to complete this thesis.

# **CHAPTER 1**

1.0 I	ntroducti	ion	1
1.1 E	Backgrou	nd	1
1.2 N	Motivatio	on	2
1.3 P	roblem S	Statements	.2
1.4 0	Objective	· · · · · · · · · · · · · · · · · · ·	3
1.5 S	cope		3
1.6 R	Research	Significance	3
		ogy	
	1.7.1	Selection and Planning	.4
	1.7.2	Requirement and Analysis	5
	1.7.3	System Design	.5
	1.7.4	Implementation	5
	1.7.5	Documentation	5
	1.8	Conclusion.	.5
	1.9 Or	ganization Of The Research Paper	.6
		CHAPTER 2	
			-
2.0 P	revious S	Studies And Related Work	7
2.1	IP-bas	sed video distribution solutions in education	.8
2.2	Histor	y Of Web-Base Technology	8

	2.2.1 Web-Base: Concept and Definition8
	2.2.2 Origins of the WEB9
	2.2.3 Basic Web Architecture
2.3	Web-Based Application11
2.4	Web Database Application12
2.5	Application & Tools Used To Build A Web12
	2.5.1 Hyper Text Markup Language (HTML)12
	2.5.2 Hyper Text Transfer Protocol (HTTP)
	2.5.3 My SQL13
	2.5.4 PHP Scripting Language
	2.5.5 Apache web server
2.6	Usability Testing14
	CHAPTER 3
	Total Control of the
3.1	Introduction16
3.2	Object-Oriented System Analysis And Design (OOSAD) Methodology17
	3.2.1 Project identification and selection

	3.2.2	Project Ini	itiation & Planning20	
		3.2.2.1	System Request20	
		3.2.2.2	The project sponsor21	
		3.2.2.3	The new system need	
		3.2.2.4	The functionality2	
		3.2.2.5	The expected value21	
		3.2.2.6	Identifying Value21	
3.3	System	n Daguiram	ents Analysis22	
3.3	3.3.1		: Requirements Gathering Techniques	
2.4	Constant	Davies		
3.4	1,500		23	
	3.4.1	Logical De	esign	
	3.4.2	Physical D	Design	
3.5	System Implementation			
3.6				
3.7				
3.8	System Documentation			
	3.8.1	Project Ide	entification and Selection27	
	3.8.2	Project Init	tiation and Planning27	

I I

I

I

	3.8.3	Analysis	27
	3.8.4	Design	27
	3.8.5	System testing phase	27
	3.8.6	Evaluation Phase	27
	3.8.7	Documentation	28
		CHAPTER 4	
4.1	Introd	duction	28
4.2	Analy	ysis	28
4.3	Tools	for design requirements	29
	4.3.1	Unified Modeling Language (UML)	29
	4.3.2	Rational Rose 2000	29
	4.3.3	Use case Diagram	30
4.4	Seque	ence Diagram	31
	4.4.1	Login	31
	4.4.2	Manage Profile	32
	4.4.3	Add User	33
	4.4.4	Edit User	34
	4.4.5	A/V Panel	35
4.5	Tools	s used to design web pages	35
	4.5.1	Asp.net	36

	4.5.2	My SQL server 2005	36	
	4.5.3	Adobe Photoshop	36	
	4.5.4	Macromedia Flash	37	
4.6	Guide	elines in designing a web page	37	
4.7	Desig	n Prototype	38	
	4.7.1	Login	38	
	4.7.2	Upload Page	39	
	4.7.3	A/v learning care	40	
	4.7.4	Participation	41	
	4.7.5	Administrator	42	
	4.7.6	Add Teacher	43	
	4.7.7	Add Teacher	44	
		CHAPTER 5		
5.0	Introd	uction	45	
5.1	Results Obtained From Questionnaires46			
5.2	Calculation of Mean and Standard deviation46			
5.3	Concl	usion	48	
	Refere	ence	49	

# List of figures

1. Figure 1.0: Web based e-Learning approach	4
2. Figure 3.1: Object-oriented System Analysis and Design (OOSAD)	18
3. Figure 4.1: Use case diagram	30
4. Figure 4.2: Sequence diagram for Login	31
5. Figure 4.3: Sequence diagram for Manage Profile	32
6. Figure 4.4: Sequence diagram for Add user	33
7. Figure 4.5: Sequence diagram for Edit user	34
8. Figure 4.6: Sequence diagram for A/V Panel	35
9. Figure 4.12: Login interface	38
10. Figure 4.13: upload page interface	39
11. Figure 4.14: A/v learning Interface	40
12. Figure 4.15: Participation Interface	41
13. Figure 4.16: Administrator Interface	42
14. Figure 4.17: Add teacher Interface	43
25. Figure 4.18: Edit user interface	44
Appendix 1	

# Chapter 1

### 1.0 INTRODUCTION

# 1.1 Background

The University Utara Malaysia was formally built-in on 16 February 1984, with the sole mission to provide academic superiority in the area of business management education, Information Technology and quality management. Faced with this Challenging task, the university has, since its beginning, ensured that its academic forte areas are focused on such disciplines as management, banking and finance, social development, human resources development and international affair management.

From its modest beginning in Tanah Merah, Jitra, in 1990, the university shifted to Sintok, 48 kilometers north of Alor setar, which is located on the state capital of Darul Aman and 10 kilometers east from Changlun, a small town on the north high way. The 1,061 hectares campus is surrounded by tropical rain forests set against a background of mountains. The Sintok and Badak rivers run through the campus creating a truly unique feature as well as making it on of the most beautiful campuses in Malaysia.

University Utara Malaysia welcomes all students from Malaysia and it is also open for all international students. Students become very much interested to study in this university because of academic excellence with the natural beauty. There is a university health center which offers medical with dental treatment at a very low cost.

"UUM welcomes international students, traditional and non-traditional, from all over the world to join us. We value our international students for the intellectual depth they bring into our academic community as well as to further enrich world cultural diversity".

# The contents of the thesis is for internal user only

# **5.3 CONCLUSION**

In this questionnaire give the result in must be developing the web site to increasing way help and need high modifying to relationship between student and lecture likewise to suggestion the media use to learn care you likely student the applying this map to easy learn and new technique so that give high result agree the idea and peer to peer student and lecture with high boundary the student to think.

### **BOOK REFERENCE**

Amir, A., Ponceleon, D., Blanchard, B., Petkovic, D., Srinivasan, S. and Cohen, G. (2000) Using audio time scale modification for video browsing. *Proceedings of HICCS* 2000, Maui, HI, pp. 3046-3052.

Armstrong, The Quarks of Object-Oriented Development. In descending order of popularity, the 'quarks' are: Inheritance, Object, Class, Encapsulation, Method, Polymorphism, Abstraction

Brotherton, J. and Abowd G. (2004) Lessons learned from eClass: Assessing automated capture and access in the classroom. *ACM ToCHI*, 11 (2), 121-155.

Brown, D.G., "A plan for the class of 2000". Multiuniversity (Spring 1997).

Bennett, Frederick Ph.D. "Computer as Tutors, solving the Crisis in Education".

Brown, D.G., "A plan for the class of 2000". Multiuniversity (Spring 1997).

Bennett, Frederick Ph.D. "Computer as Tutors, solving the Crisis in Education".

Bieber, M and Vitali, F. "Toward support for hypermedia on the World Wide Web". Computer (Jan. 1997).

Dede, Chris. The transformation of Distance Education to distributed learning. George Mason University (July 1995)

Detweiler, R.A., Mission: Ubiquity. Trusteeship special issue on IT (Oct 1996), Association of Governing Broads of US Colleges and Universities.

Girgensohn, A., Boreczky, J. and Wilcox, L. (2001) Keyframe-based user interfaces for digital video. *IEEE Computer*, **34** (9), 61-67.

H. Schulzrinne, J. Rosenberg, "The Session Initiation Protocol: Internet-Centric Signaling", IEEE Communications Magazine, October 2000

Hürst, W. and Müller, R. (1999) A synchronization model for recorded presentations and its relevance for information retrieval. *Proceedings of ACM Multimedia 1999*, Tampa, FL, pp. 333-342, ACM Press.

Hürst, W. and Götz, G. (2004) Interface issues for interactive navigation and browsing of recorded lectures and presentations. *Proceedings of ED-MEDIA 2004*, pp. 4464-4469, AACE Press.

Hürst, W., Götz, G. Lauer, T. (2004) New methods for visual information seeking through video browsing. *Proceedings of Information Visualisation 2004*, London, UK, pp. 450-455.

Hürst, W., Lauer, T. and Götz, G. (2004) Interactive manipulation of replay speed while listening to speech recordings. *Proceedings of ACM Multimedia 2004*, New York, NY, pp. 488-491, ACM Press.

Hürst, W., Lauer, T., Bürfent, C. and Götz, G. (2005) Forward and backward speech skimming with the elastic audio slider. *Proceedings of HCI 2005* vol. 1, Edinburgh, UK.

Hürst, W., Lauer, T. and Götz, G. (2004) An elastic audio slider for interactive speech skimming. *Proceedings of NordiCHI 2004*, Tampere, Finland, pp. 277-280.

H.O. Rafaelsen, F. Eliassen, . "Towards support for adhoc multimedia bindings", Workshop on Multimedia Middleware, October, 2001, Ottawa, Canada, ACM Press

H. Naguib, G. Coulouris, "Towards Automatically configurable multimedia applications", Workshop on Multimedia Middleware, October, 2001, Ottawa, Canada, ACM Press, New York

ill, J.P. "Distributed Recognition of patterns in Time Series Data". Communications (May 1998)

Müller, R. and Ottmann, T. (2000) The "Authoring of the Fly" system for automated recording and replay of (tele)presentations. *ACM/Springer Multimedia Systems*, 8 (3), 158-176.

Morgan, A. (1991). Research into student learning in distance education. Victoria, Australia University of South Australia, Underdale

Masui, T., Kashiwagi, K., Borden, G.R. IV (1995) Elastic graphical interfaces for precise data manipulation. *ACM CHI 1995* (conference companion), pp. 143-144, ACM Press.

Nielsen, J. and Mack, R.L. (eds.) (1994) *Usability Inspection Methods*, J. Wiley & Sons, New York, NY.

S.M. Holzer, "From Constructivism ... to Active Learning", The Innovator, No 2, Spring 1994,

Threlkeld, R., & Brzoska, K. (1994). "Research in distance education". In B. Willis (Ed.), Distance Education: Strategies and Tools. Englewood Cliffs, NJ: Educational Technology Publications, Inc.

The Digital Agora Project. Acadia University, Nova Scotia, Canada.

Weimin Ge and Yuefeng Chao (2005), Implementation of E-learning System for UNU-IIST

- Woodruff, M & Mosby, J. (1996). "A brief description of videoconferencing". Video conferencing in the classroom and library.
- Woodruff, M & Mosby, J. (1996). "A brief description of videoconferencing". Videoconferencing in the classroom and library.
- Watters, C. Dynamic links. In proceedings of the 2"d International Workshop on Incorporating

  Hypertext functionality into software system. Washington D.C.
- Weiser, Mark. "The future of ubiquitous computing on campus". Communications (Jan. 1998)
- S.B. Atallah, "Dynamic Configuration of Multimedia Applications", INRIA, SARDES Project
- V. Kahmann, L. Wolf, "A Proxy Architecture for Collaborative Media Streaming", Workshop on Multimedia Middleware, October, 2001, Ottawa, Canada, ACM Press
- J. Ayers, "Synchronized Multimedia Integration Language (SMIL) 2.0", World Wide Web Consortium Recommendation, Aug. 2001.
- A.P. Black, "Infopipes: An abstraction for multimedia streaming", Multimedia Systems 8:406 . 419 (2002)
- T. Yoshimura, "Mobile Streaming Media CDN Enabled by Dynamic SMIL", WWW2002, May 7-11, 2002, Honolulu, Hawaii, USA, ACM 1-58113-449-5/02/0005

ipdr.org: Service Specification - Streaming Media (SM), www.ipdr.org

M. Zimmermann, B. Althun, "Streaming Services: Specification and Implementation based on XML and JavaMediaFramework", in FIDJI'2003 Springer Proceedings, FIDJI 2003 Luxembourg, Luxembourg, 2003

Enterprise-reference architectures, Application integration frameworks and Interoperability profiles, Business Object Summit (BOS), 2000

- R. Rejaie., J. Kangasharju, "Mocha: A Quality Adaptive Multimedia Proxy Cache for Internet Streaming", In Proceedings of NOSSDAV 2001, 2001.
- R. Rejaie, H. Yu, M. Handley, and D. Estrin, "Multimedia Proxy Caching Mechanism for Quality Adaptive Streaming Applications in the Internet," In Proceedings of IN-FOCOM 2000, 2000.
- J. Kangasharju, F. Hartanto, M. Reisslein, and K.W. Ross, "Distributing Layered Encoded Video through Caches", In Proceedings of INFOCOM 2001, 2001
- Zupancic, B. and Horz, H. (2002) Lecture recording and its use in a traditional university course. Proceedings of ITiCSE 2002, Aarhus, Denmark, pp. 24-28, ACM Press.

## INTERNET REFERENCES

Attwell, 2004, E-Learning and Sustainability, retrieved on 20<sup>th</sup> January, 2008 http://lefo.net/lefo\_sustainability\_graham.htm

Attwell, 2004, How can ICT support learning leading to knowledge development, retrieved on 20<sup>th</sup> January, 2008

http://www.know-2.org/index.cfm

Schools Apply Technology and Video Knowledge to the Classroom retrieved on 23<sup>rd</sup> may 2008 from http://www.allbusiness.com/north-america/united-states- cali fornia-metro-areas/942608-1.htmlThierry Michel (W3C), Synchronized Multimedia Integration Language (SMIL 2.0) - [Second Edition] retrieved on 20<sup>th</sup> January, 2008

http://www.w3.org/TR/smil20/

SMIL: http://www.w3.org/TR/smil20/